

# iTX Flex

## Cloud Orchestrated Payout



The cloud architecture of iTX Flex provides faster service launches, more agile business models and a lower total cost of ownership.

iTX Flex is the next generation of cloud orchestrated automation and payout from Grass Valley, a Belden Brand, combining the experience and evolution of automation workflow and payout from Grass Valley, with the flexibility of cloud computing technology and the commercial advantages of Software as a Service (SaaS).

iTX Flex provides broadcasters and media companies a simplified solution and efficient user experience for channel payout and control, offering new business models with more streamlined operations, providing a lower total cost of ownership and the ability to rapidly address evolving business needs.

The iTX Flex architecture leverages the advanced features of true cloud computing providing a highly resilient and scalable solution combined with a high reliability and CPU efficient software video engine. A key feature is the flexibility of deployment with support for cloud, private data center, on-premise or a hybrid combination of these.

With iTX Flex, all the complex business logic and channel management is handled through the cloud platform, reducing the complexity, effort and cost of deploying channels drastically.

The iTX Flex central cloud orchestration provides control of the Grass Valley software video engines, the most CPU efficient playback engines in the industry, without the reliance on external databases,

resulting in low cost of ownership, rock-solid reliability, total frame accuracy, simple installation and deployment.

The iTX Flex video engine can handle playback of both file-based (multiple file formats) and live content (SDI and IP, both compressed and uncompressed), with graphics layered. This includes the playback of still or animated logos and high-quality pre-rendered graphical sequences.

The engine also provides advanced audio handling capabilities including Dolby processing, along with closed caption insertion—all of which enable the final output packaging in transport stream format.

For media distribution with iTX Flex, users retain full control of the location and movement of their content on their network with the iTX Flex Media Gateway application, which is used to import content in the supported formats into the iTX Flex repository. With iTX Flex, users can choose where to site the payout in relation to the content; on-site, at a remotely controlled location, in a private data center or the public cloud.

iTX Flex is a global automation and payout solution deployed on the Microsoft Azure platform, with production deployments in the US, Europe and Asia, enabling users to access the benefits in all regions, offered as a SaaS application by Grass Valley.

## KEY FEATURES

- True cloud-based computing service based on the Microsoft Azure platform, resulting in on-demand scalability of computing resources
- Playout channels can be hosted on premise or in any other data center
- iTX Flex is provided as SaaS, resulting in lower up-front costs, greater flexibility and lower total cost of ownership
- iTX Flex uses best practice security standards for user authentication
- All interaction with iTX Flex is via a standard web-based client, ensuring new users can connect to the system with ease
- Locations of operational positions and controlled devices are completely flexible, resulting in lower operational costs and the possibility of new operational models
- Additional channels can be added within minutes and the amount of computing resources allocated to existing channels is scaled automatically depending on load
- All metadata used by iTX Flex is replicated within the local data center and automatically synchronized to a geo-redundant data center to ensure high availability
- Customer retains control of broadcast media storage; on-site or at a remotely-controlled location, private data center or public cloud
- Integrates to traffic systems using BXF or iXML interfaces
- Supports hierarchical schedule management to allow multiple levels of regional schedule variations and master-slave configurations
- Provides powerful schedule editing tools
- Can be used to control channel playout, regional insertion operations or a combinations of both
- Provides media and playout status monitoring together with live thumbnails for playout engines in any number of locations
- Architecture is optimized to provide low latency operations over remote links
- Works equally well with regionally deployed or network center-based playout engines and systems
- Full integration with iTX Flex platform using secure, open-standard web services protocols to provide playlist input, status updates, thumbnails and alerts to the end user
- Supports manual or playlist control of all display functions
- SCTE 104 splice trigger support to facilitate local channel variations
- Pulls broadcast media from a number of configured locations for maximum resilience and flexibility
- Will robustly continue to operate during temporary loss of connection to iTX Flex using previously downloaded playlists or “evergreen” material
- Provides frame accurate playback of clip media including video, multi-channel audio and ancillary data
- Supports live events including transitions and pass-through of video, audio and ancillary data
- Supports on-screen graphics layers with configurable z-order
- Display of still and animated logos with full key channel
- Display of full-screen, pre-rendered graphics sequences with near-zero load time and unlimited file size
- Built-in voiceover playback support
- Supports file-based media in multiple broadcast standard formats (see ‘Video File Format Support’ below)
- Full support for ancillary data with SMPTE ST 436 including subtitling, closed captioning and AFD
- All inputs and outputs support SD, HD and 4K UHD (625, 525, 1080i, 720p and 1080p at 50 and 59.94 frame rates)
- Dual video inputs for maximum flexibility

## SPECIFICATIONS

### Video File Format Support

Codec	File Format	Resolutions
XDCAM (IMX/D10)	.MXF (SMPTE RDD3), .MOV, GXF, LXF	SD
XDCAM HD422	.MXF (SMPTE RDD9), .MOV GXF, LXF	HD
XDCAM HD	.MXF (SMPTE RDD9), .MOV GXF, LXF	HD
MPEG-2 Program Stream	.MPG, .MPEG	SD/HD
MPEG-2 Transport Stream	.MPG, .MPEG, .TS	SD/HD
MXF (MPEG2)	.MXF (OP1A/OP1B), GXF, LXF	SD/HD
MXF AVC-Intra & Long GOP	.MXF, GXF, LXF	HD/UHD
DV (DV25)	.MOV, .MXF, GXF, LXF	SD
DVCPRO	.MOV, .MXF, GXF, LXF	SD
DVCPRO HD (50/100)	.MOV, .MXF, GXF, LXF	HD
Omneon Spectrum & Mediadeck	.MOV, .MXF (OP1A/OP1B)	SD/HD
DNxHD & DNxHR	.MXF, .MOV, .MOV REFERENCE	HD/4K UHD
XAVC	.MXF, .MP4	HD/4K UHD
ProRes (all profiles and resolutions)	.MOV	SD/ HD/4K UHD – Video Media
ProRes 4:4:4:4 plus Alpha	.MOV	HD/4K UHD – Graphics Playback Only
QuickTime Animation	.MOV	SD/HD – Graphics Playback Only

## ORDERING

### iTX Flex Channels

#### ITX-FLEX-CHL

**ITX Flex Player Instance:** Software video engine controlled via the iTX Flex Automation Platform

### iTX Flex Channel Options

#### Video

##### Included with ITX-FLEX-CHL:

**LIVE Events:** Ability to playback live sources

**2022-2 IP:** Input/output support for SMPTE ST 2022-2 IP

**AFD/ARC:** Insertion of AFD/ARC codes based on media metadata

#### ITX-FLEX-ENH-VIDEO

**TRANSITIONS:** Master control transitions

#### ITX-FLEX-ADV-VIDEO

**2022-6 IP:** Input/output support for SMPTE ST 2022-6 IP

#### ITX-FLEX-VIDEO-UHD

**UHD:** Support for playback of media in 4K UHD resolution

#### Audio

##### Included with ITX-FLEX-CHANNEL:

Passthrough of embedded audio

#### ITX-FLEX-AUDIO-ENH

**V/O:** Support for playback of voice over events as secondary events

**ALC:** Internal audio loudness correction using Grass Valley algorithm

#### ITX-FLEX-AUDIO-ADV

**AUDIO PROCESSING:** Support for audio upmix & downmix

#### ITX-FLEX-AUDIO-DOLBY

**DOLBY:** Support for Dolby audio handling & processing, supported Dolby formats — Dolby D, Dolby E & Dolby Digital Plus

#### Graphics

##### Included with ITX-FLEX-CHANNEL:

**LOGO GFX:** Insertion & playback of still or animated logos

##### Subtitles/Closed Captions

##### Included with ITX-FLEX-CHANNEL:

Pass-through of embedded closed captions/subtitles

##### Aux Data

##### Included with ITX-FLEX-CHANNEL:

**SCTE:** Support for insertion and reaction to SCTE triggers (SCTE 104 & SCTE 35)

#### ITX-FLEX-AUX-ENH

**VCHIP:** Support for insertion of V-chip codes

##### Schedule Control

##### Included with ITX-FLEX-CHANNEL:

**SCHEDULES:** Ability to create auto-looping schedules using event sequences

#### ITX-FLEX-SCHED-CTL-ENH:

**HIERARCHICAL SCHEDULES:** Support for subregion channel control using hierarchical channel schedule structure



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