



Goodbye **Channel-in-a-Box**
Hello **Station-in-a-Box!**



Challenges Facing Broadcast Facilities

- **Racks of Single function Pizza Boxes**
- **Each with its own Vendors, Operating System, Support Contract, Upgrade procedure, refresh cycle, and more**
- **Complex Signal Chain of Equipment**

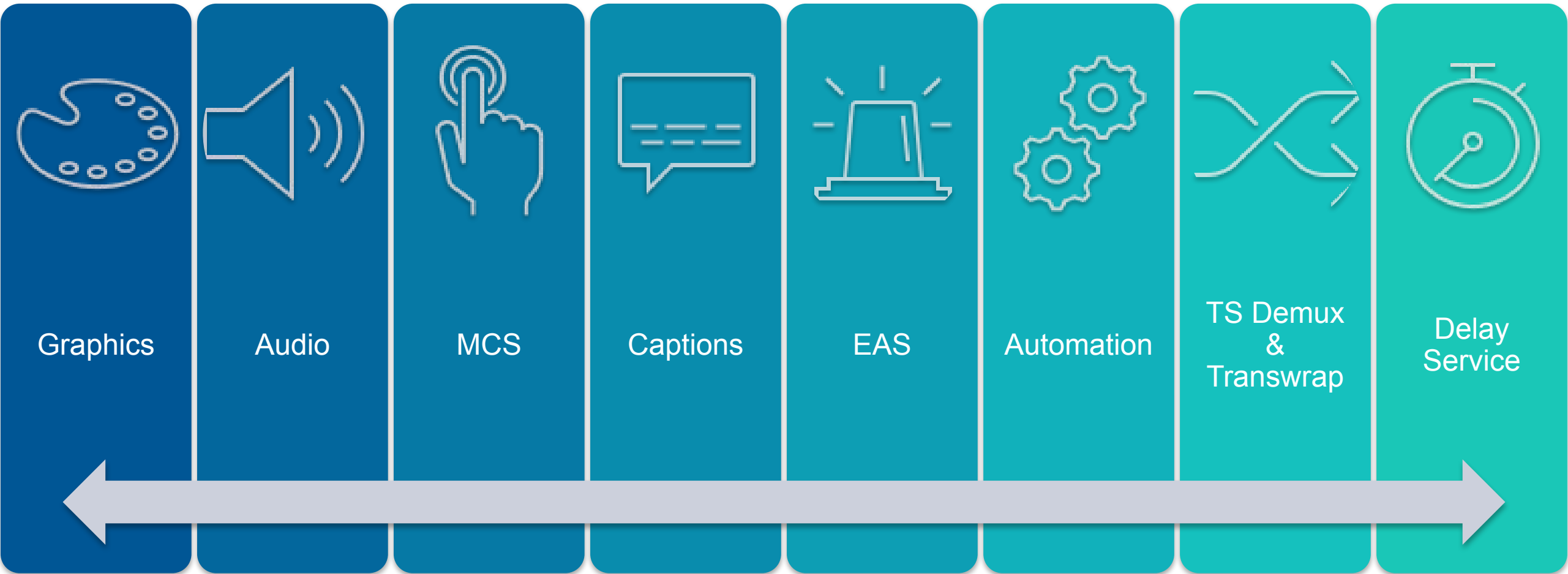




Channel-in-a-Box



WHAT IS A CHANNEL IN A BOX?



Graphics

Audio

MCS

Captions

EAS

Automation

TS Demux
&
Transwrap

Delay
Service

ONBOARD BASIC GRAPHICS

Integrated branding,
graphics and DVE

Graphics created with the
Adobe Creative Suite

Graphics controlled via
the Oxtel protocol



ONBOARD ADVANCED GRAPHICS

Up to 6 Video Inputs

- 2 Key/Fill pairs, plus 2 Live inputs OR 6 Live inputs

DVE INPUT 1 VIDEO

DVE INPUT 2 VIDEO

KEY/FILL PAIR

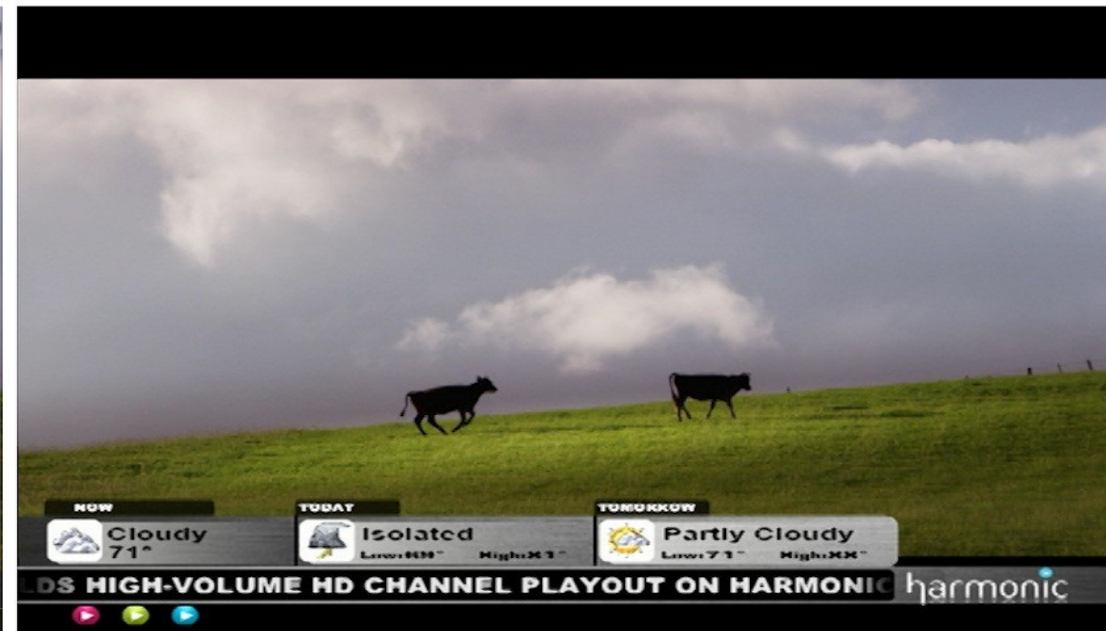
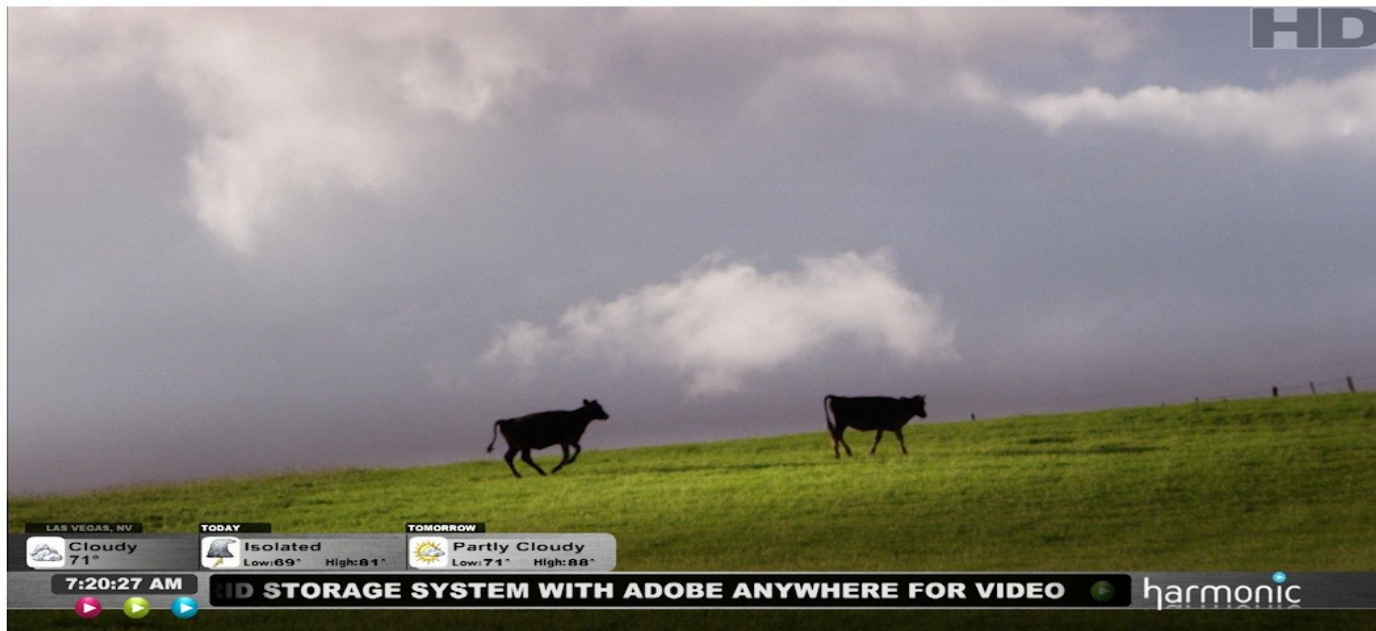
BACKGROUND GRAPHIC

ONBOARD GRAPHICS



ONBOARD INDEPENDENT BRANDING

- Different graphical assets applied for Independently Branded simulcast channels
- Video may be the same or different resolution on simulcast outputs



ONBOARD DIGITAL VIDEO EFFECT (DVE)



Player 1

Player 2

Background slate shows additional advertising

1

Supported Graphics Files

htm, html, webm, mp4, png, jpg, tga, gif, bmp, tif

2

Supported Audio Files

wav and aiff

3

Recommended Authoring Tools

Adobe Animate CC, Adobe Media Encoder CC, Google Web Designer



THIRD-PARTY GRAPHICS SERVICES

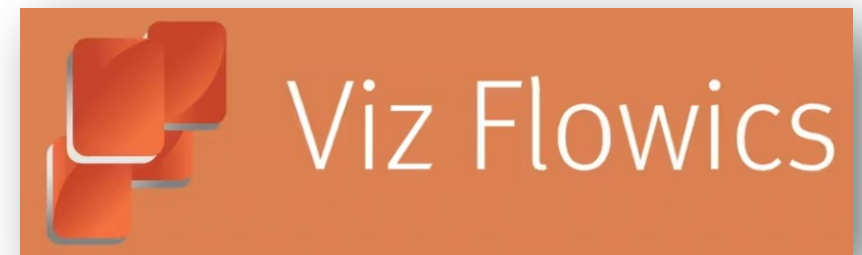


Management, control and automation of branding and ticker content, whether 3rd-party, manual, or viewer-generated

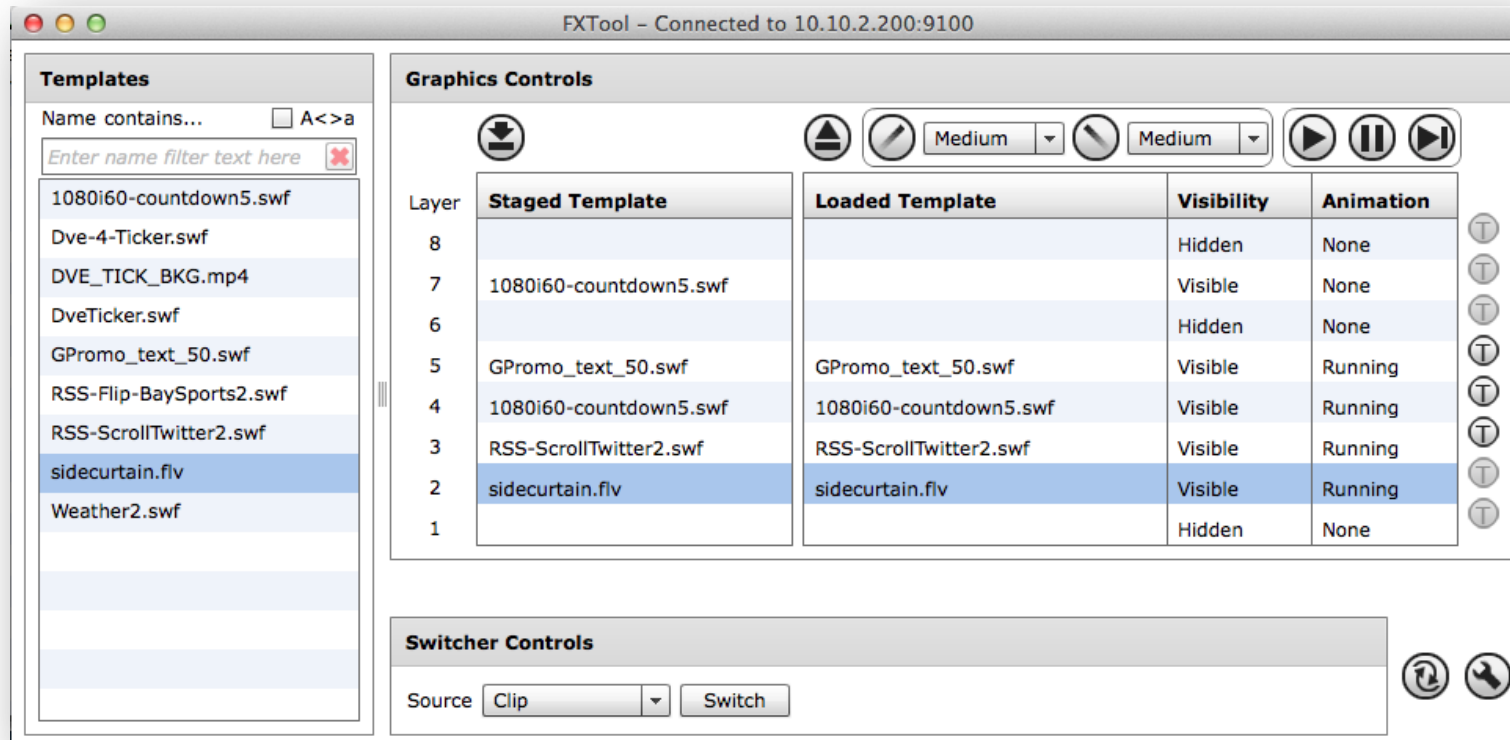
Tickers, Elections, and Closings in the Top US markets

Cloud service to create professional graphics, including template library, custom authoring UI, and more

Cloud-native HTML5-based graphics platform for broadcasters and content creators



FX TOOL FOR MANUAL GRAPHICS CONTROL



- Load, Unload, Fade Up, Fade Down any Layer
- Select Graphical Assets from a Folder, Drag and Drop to Staged Area
- Test dynamic text fields
- **No video playback**; use ClipTool or Spectrum Media Studio

ONBOARD AUDIO PROCESSING



- Audio shuffle, up/down-mix of the Primary, Live and Secondary audio content
- Duck, mix, gain, attenuate on individual audio channels
- Voice over as file or Live (AES Stereo Pair)
- DolbyE Encode and Decode
- Independent audio processing for Independent Branding simulcast paths
- Configure default settings for a site
- Dynamic, frame accurate, override of default is supported
- Audio Loudness Control
- Dynamically change Dolby Profiles





BROADCAST ENCODING



CONTINUOUS ENCODING INNOVATIONS

BEST VQ AT ANY DENSITY



ALL CODECS



EYEQ DFrE

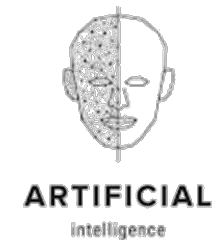
- AI BASED ADJUSTMENT
- More Resourced for Improved VQ
- Same VQ, 20% More Density



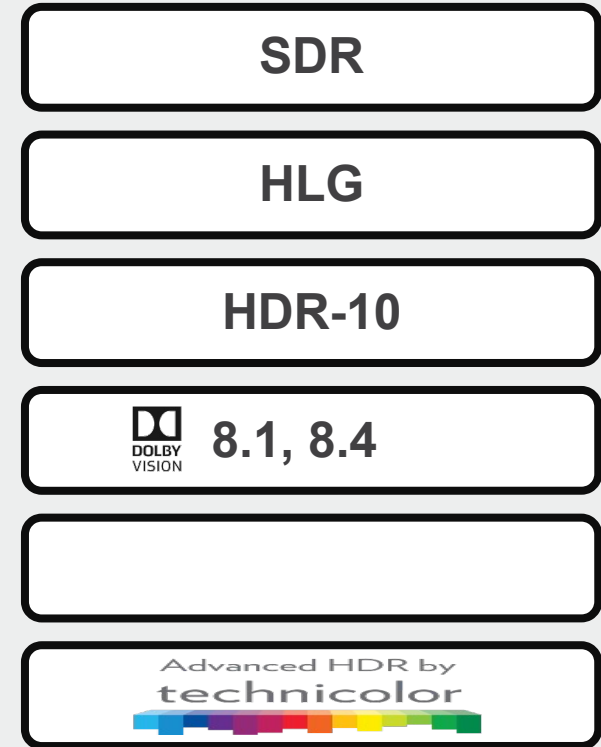
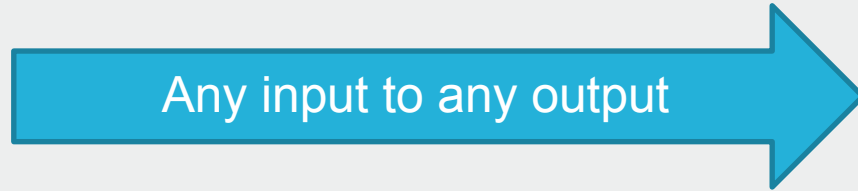
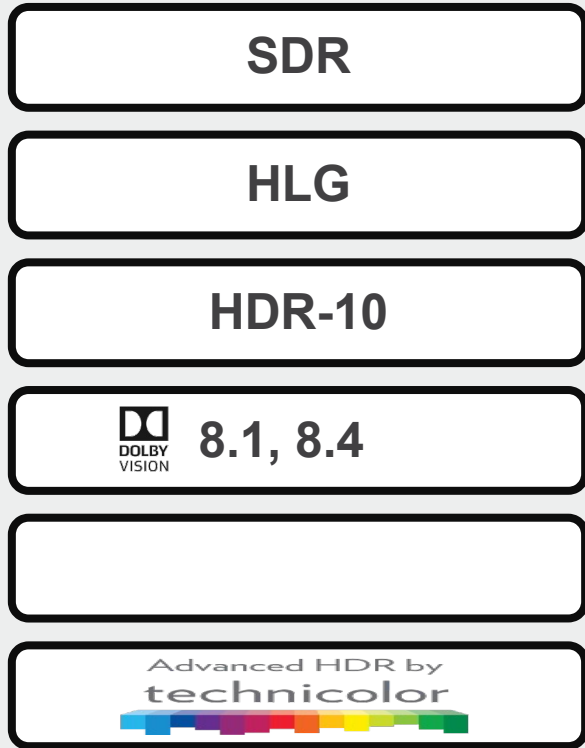
ADVANCED STATMUX

- Convergent Statmux
- DataTrack – Maximizing BW
- DiviTrack Regional Statmux

CONSTANT INNOVATION



HDR PROCESSING

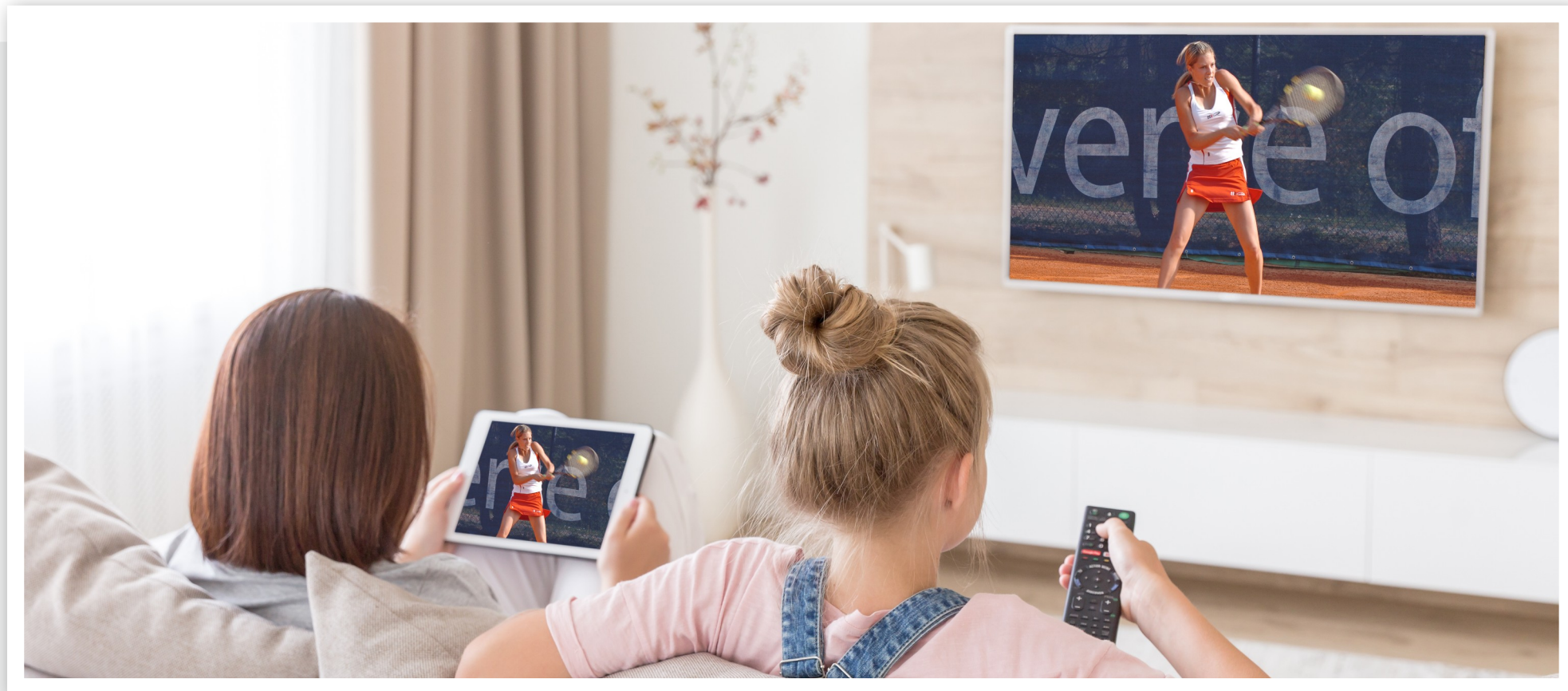


Simple Usage
(format detection,
self-adjusting algos)

Round trip
Conversions

Dynamic & Static
(3D-LUT PQ)
SDR <-> HDR
conversions

Adapt on the Fly
conversions to
source changes
SDR/HDR



TITANTV / Gracenote
Myers ProTrack

INSTANT SAVINGS!
No more PSIP Generators

INSTANT SAVINGS!
PSIP Editing & Rebranding

DOLBY CERTIFIED STEREO TO 5.1 AUDIO UPMIX



5.1

stereo

Dolby 5.1

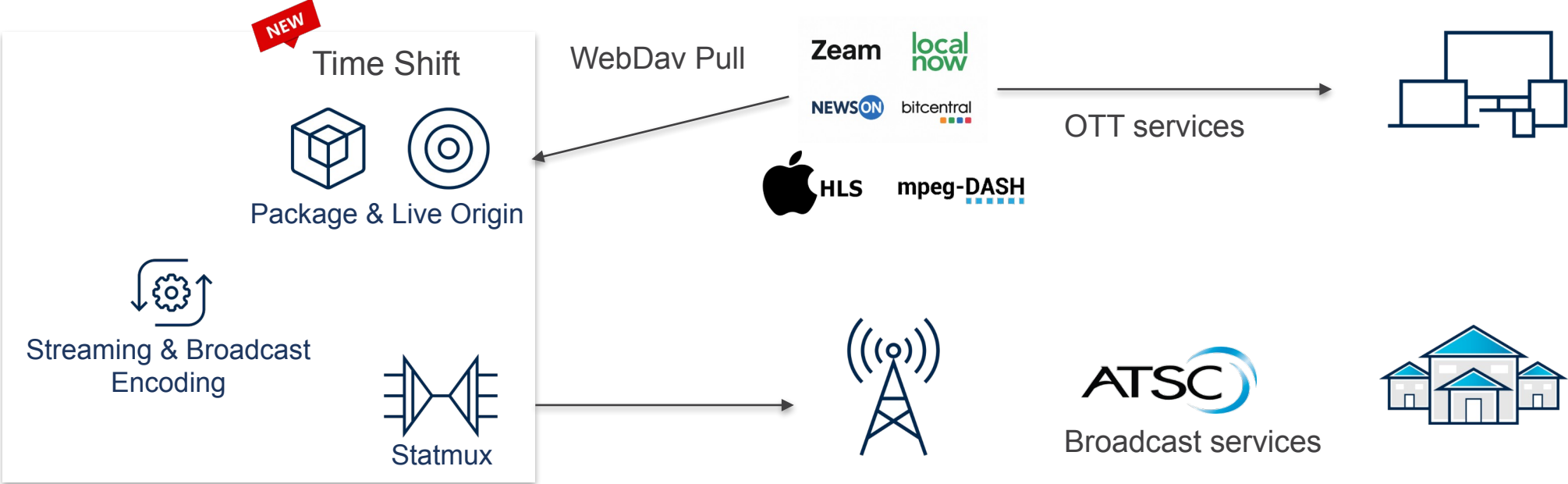
Dolby 5.1

2.0 to 5.1
5.1 to 5.1.4 Atmos

INSTANT SAVINGS!
DROP AUDIO PROCESSORS

SAP Audio Replacement
During ENG Only Ads

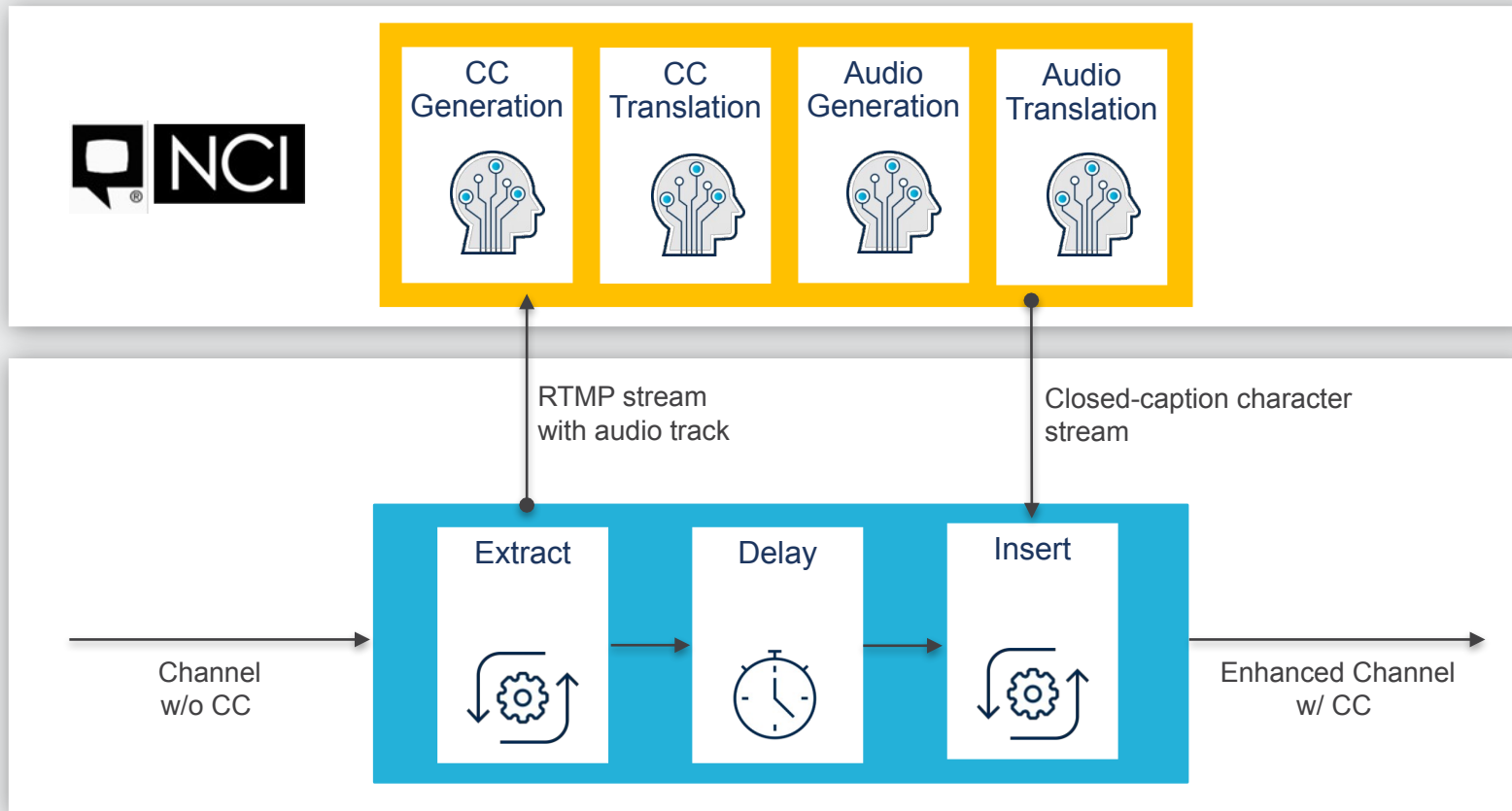
BUILT-IN ORIGIN



SIGNIFICANT VQ IMPROVEMENT
FROM INFERIOR OTT ENCODING +
ORIGIN PRODUCTS

INSTANT SAVINGS!
RACK SPACE, COOLING, POWER,
REDUCED WORKLOADS, etc.

AI CC, AUDIO, & TRANSLATION WORKFLOWS

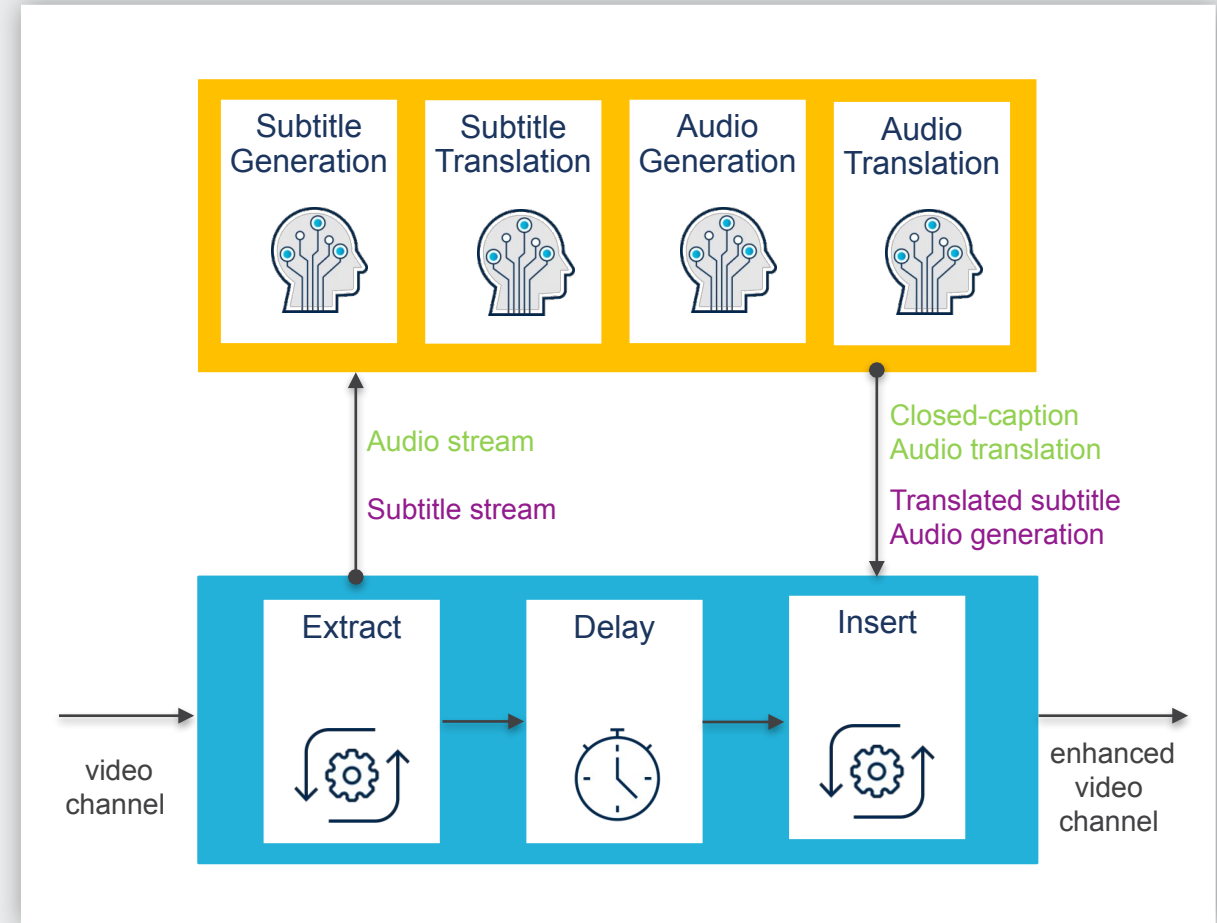
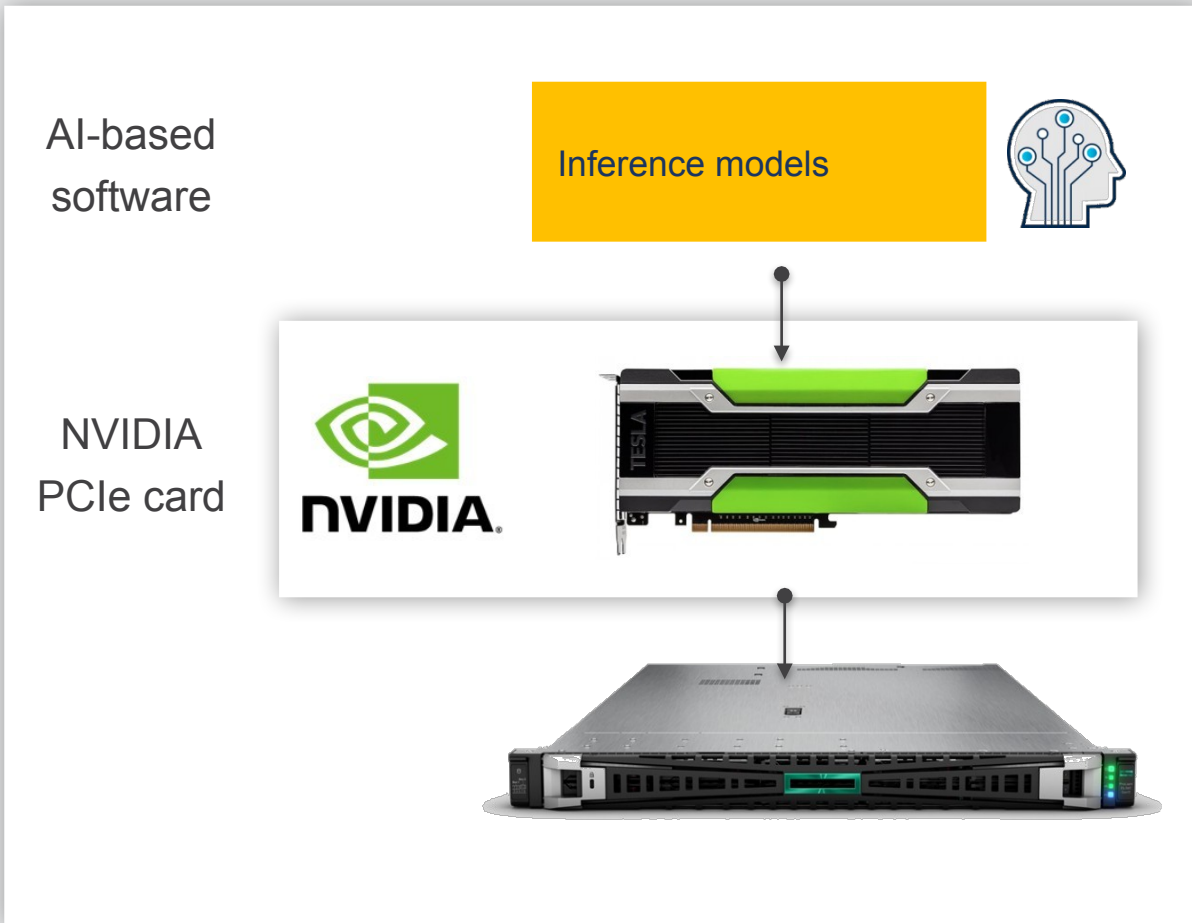


INSTANT SAVINGS!

**Drop CC Encoders
Full FCC Compliance**

**REAL TIME
MULTI LANGUAGE
OVERDUBBING / CLONING**

ON-PREM STANDALONE AI-BASED APPLICATIONS



Text crawl with external data source

Still Image or Animated logos

Direct Logo Scheduling within UI

EAS-NET INTEGRATION

\$\$\$-Saving EAS-NET Protocol

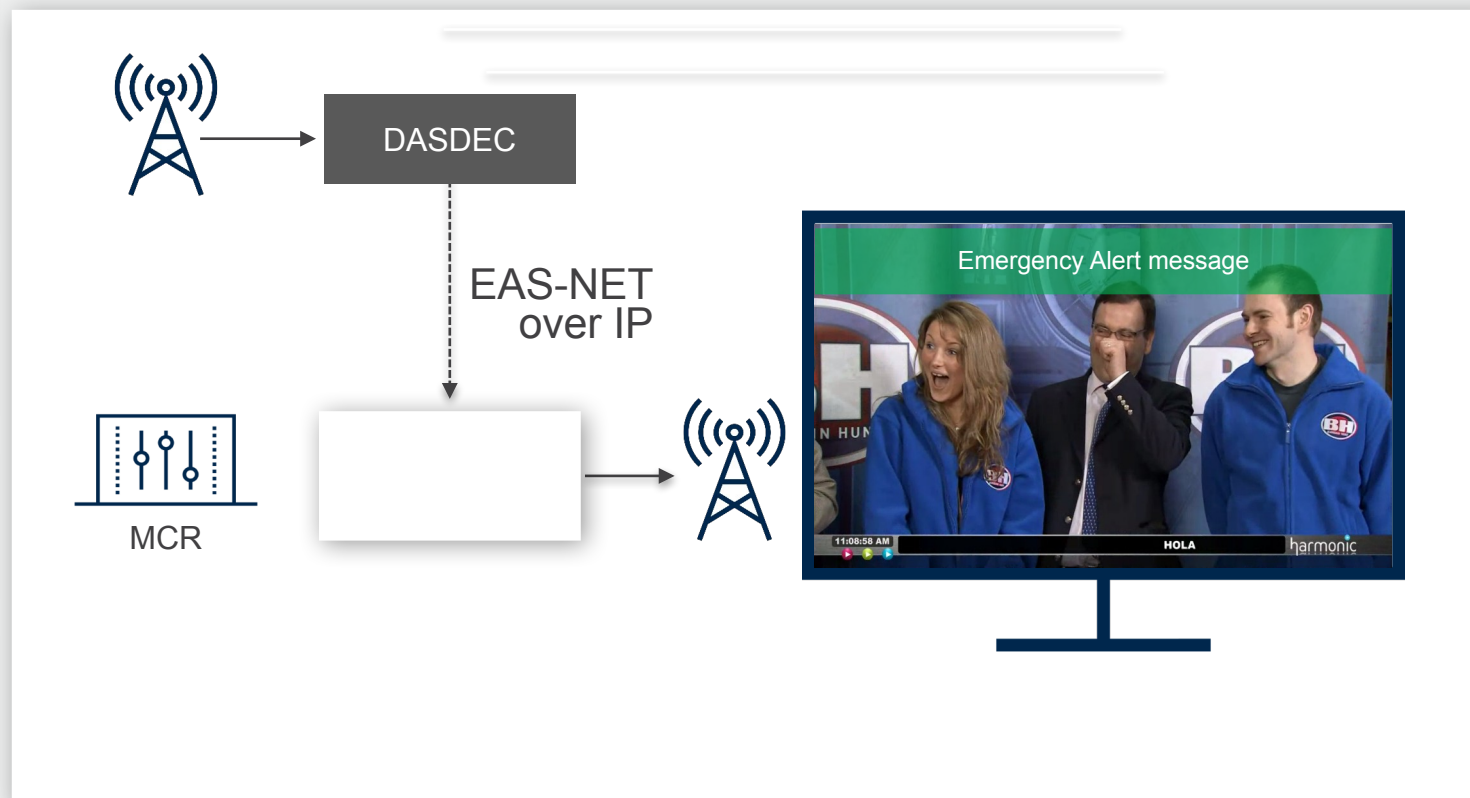
Direct EAS Crawl Text Insertion

Pre-Processed MP3 EAS Audio

Flexible EAS Event Scheduling

Simultaneous Multi-Station Support

Multilingual Support for ATSC 3.0



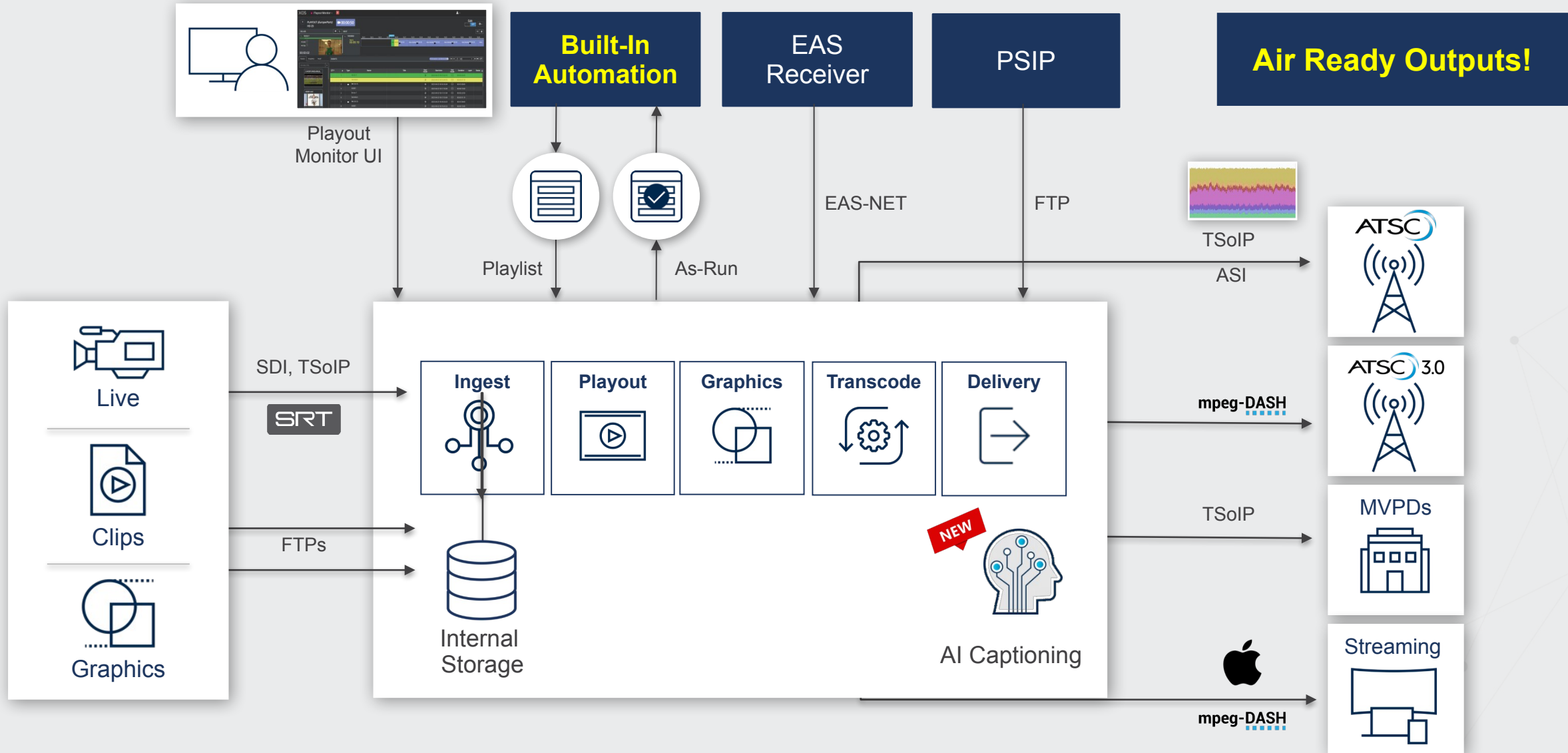
harmonic[®]

Meet **Station-in-a-Box!**



HELLO Station-in-a-Box !!!

AUTOMATION, PLYAOUT, ENCODING IN ONE CHASSIS!

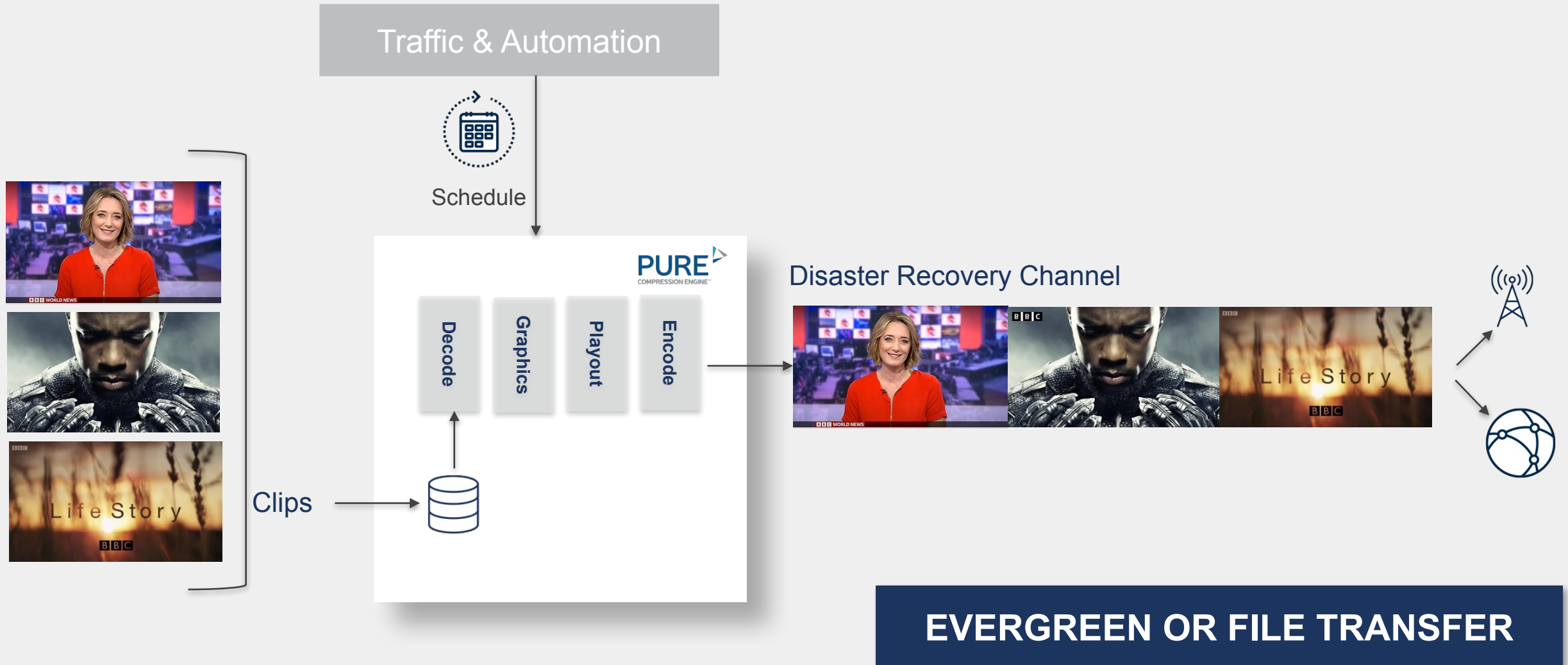




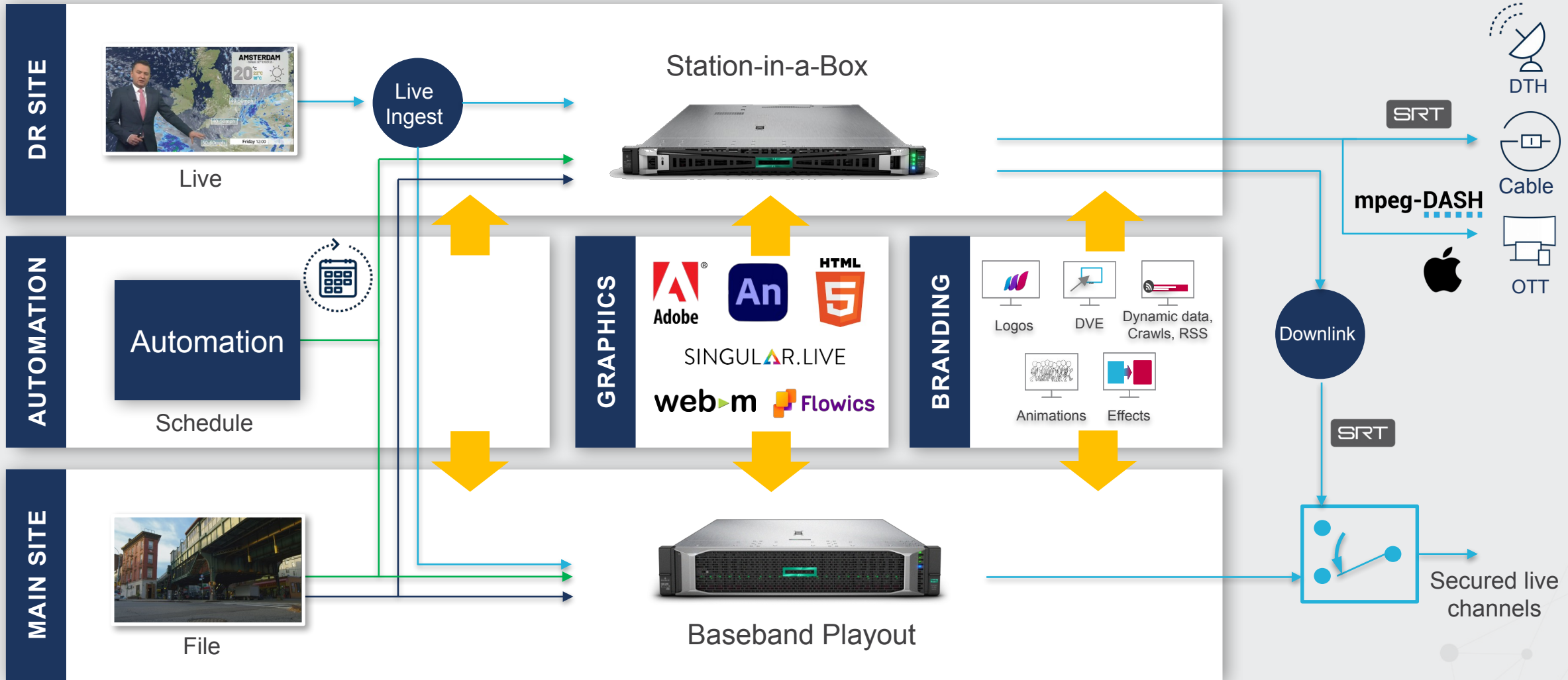
OTHER USECASES



ONE-BOX DISASTER RECOVERY



HYBRID PLAYOUT

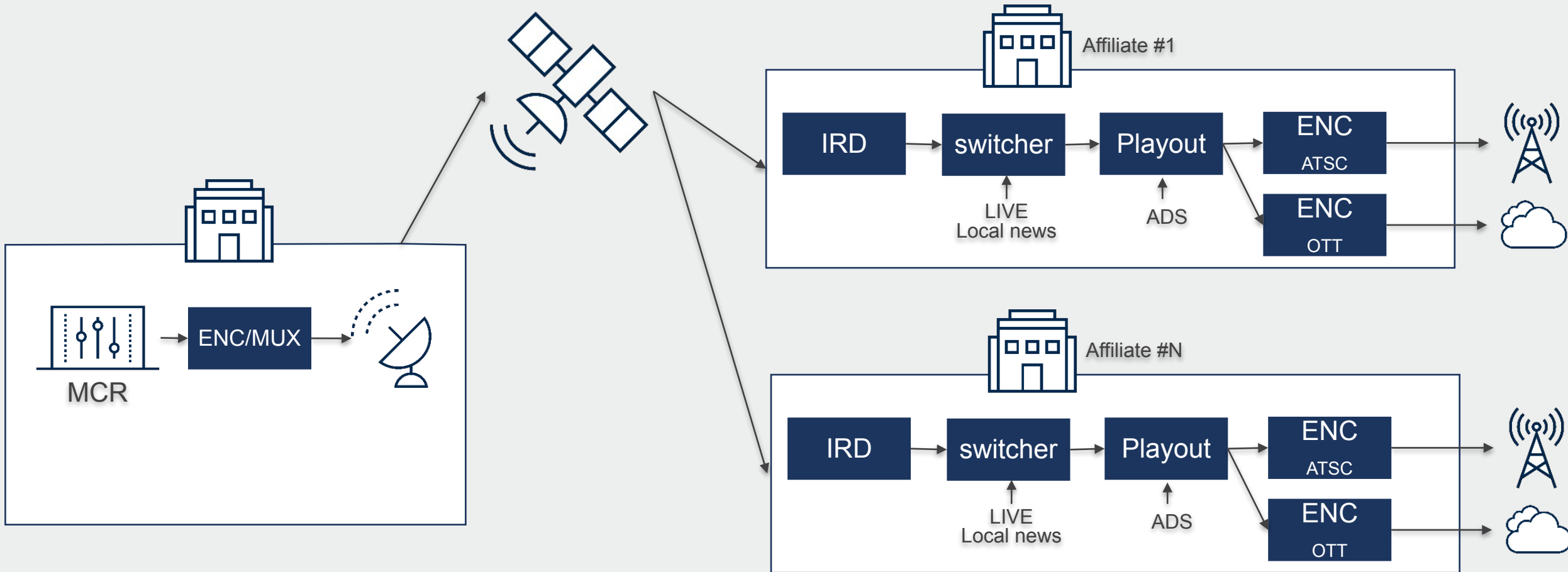


Same automation
Same Operation UI to drive all

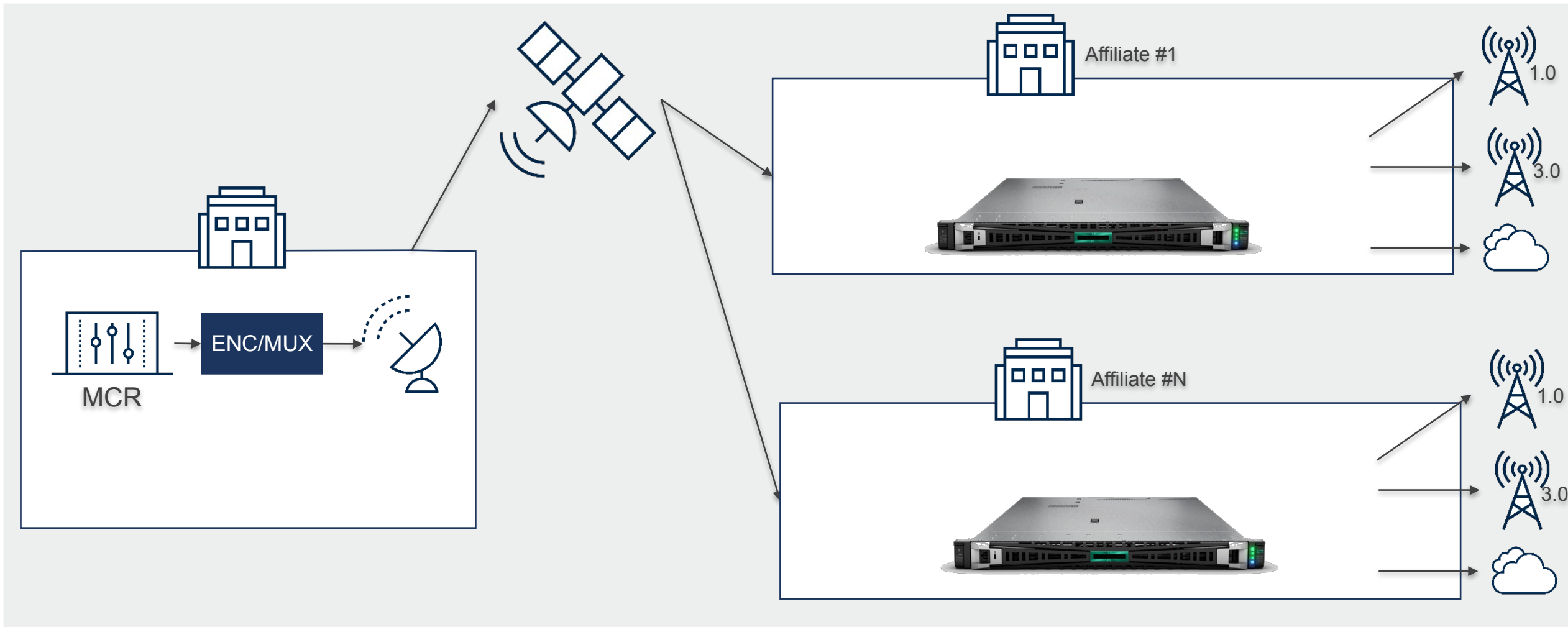
Same asset formats
MXF, MOV, MP4, DV, AVC-I, ..

Same GFX formats
HTML5, WebM, JPG, PNG, TGA

CURRENT DISTRIBUTION – AT LEAST 5 BOXES AT EDGE



NEXTGEN DISTRIBUTION – JUST ONE BOX





TRUST BASED MODEL



FLEXIBLE LICENSES BY DESIGN

Add new channel or features immediately anytime!

harmonic[®]

THANK YOU

