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APPLICATION NOTE

Live Event Management for Premium Broadcast Distribution

Frame-Accurate Monetisation and Regional
Tailoring, On Demand

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Premium live sports and events remain the heart of television broadcasting. They deliver peak audiences, drive advertising revenue, and command substantial rights fees. Yet the way these events reach viewers is changing. Rights holders and distributors must increasingly support direct-to-fan streaming alongside traditional broadcasters, deliver tailored feeds for different regions and platforms, and maximise monetisation during unpredictable breaks, all while keeping operational costs and complexity under control.



Live Event Management is Evolving

Live sports frequently top the charts as the most-watched programming across the globe. Global sports rights fees exceed \$60 billion annually, and more than half of top rights owners now operate their own direct-to-fan streaming services. At the same time, audience expectations and distribution models continue to shift.

With the need to serve takers throughout the world, broadcasters and distributors need feeds that match regional standards and audience tiers, the ability to insert their own commercials with frame accuracy, and tools for regional slates, promos, and rights-compliant blackouts.

The Live Event Workflow is Fluid



Unlike scheduled linear channels, live events move with the action on the field or court. There are no fixed end times or predictable breaks. Gallery producers call slates, promos, and ad opportunities in real time. Each regional taker expects a version of the feed customised to their market, rights window, and technical requirements.

The fluid nature of live events creates real operational challenges. Traditional approaches often involve stitching together separate playout systems, dedicated SCTE-35 inserters, and hardware format converters for every channel and region. The result is high cost, multiple control surfaces, and limited agility for short-lived event channels.

Addressing the Challenges of Modern Event Management

With content typically being transient in nature, classical always-available hardware implementations are a poor match for live events.

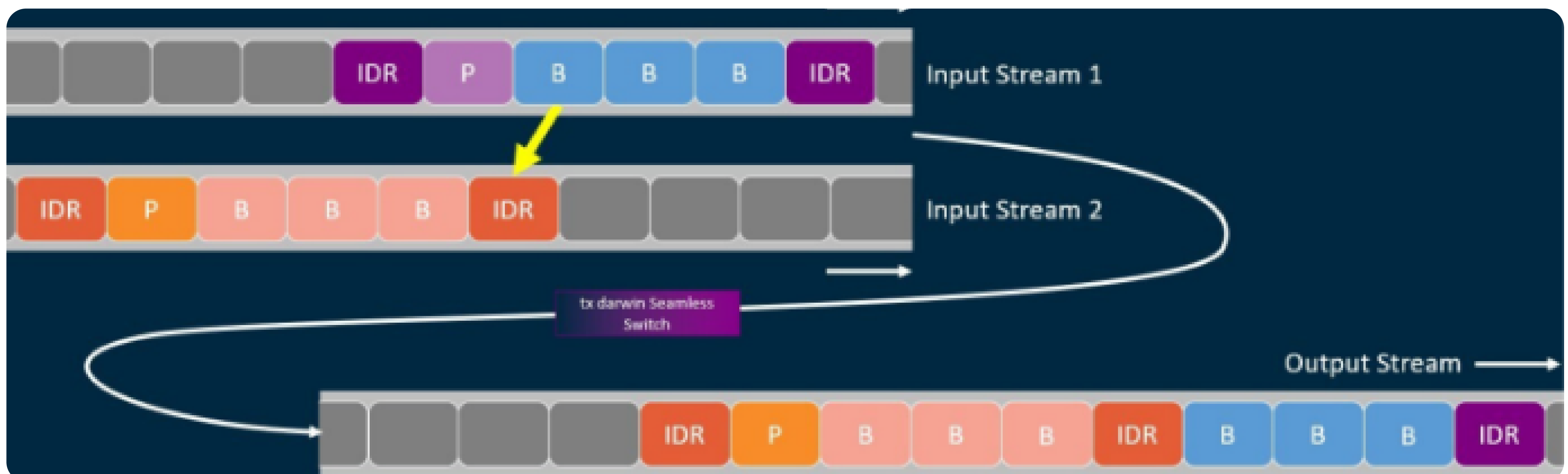
Software solutions implemented as Infrastructure as Code provide a better fit. The solution can scale as required and be provisioned almost instantaneously in the cloud or on-premise on readily available CPU compute resources.

Software distribution platforms reach greater processing efficiencies when operating in the compressed domain. Video quality is preserved by passing through a minimum of compression stages and deliver better cost discipline.

Operator-Driven Source Switching

A clean host feed is usually the starting point, but operators may need to switch in alternative content, or break content on cue. tx darwin supports seamless splicing in the transport stream domain with minimal latency. This gives gallery teams responsive control, whether through software-based control surfaces or API-driven automation, without the weight of a full playout system.

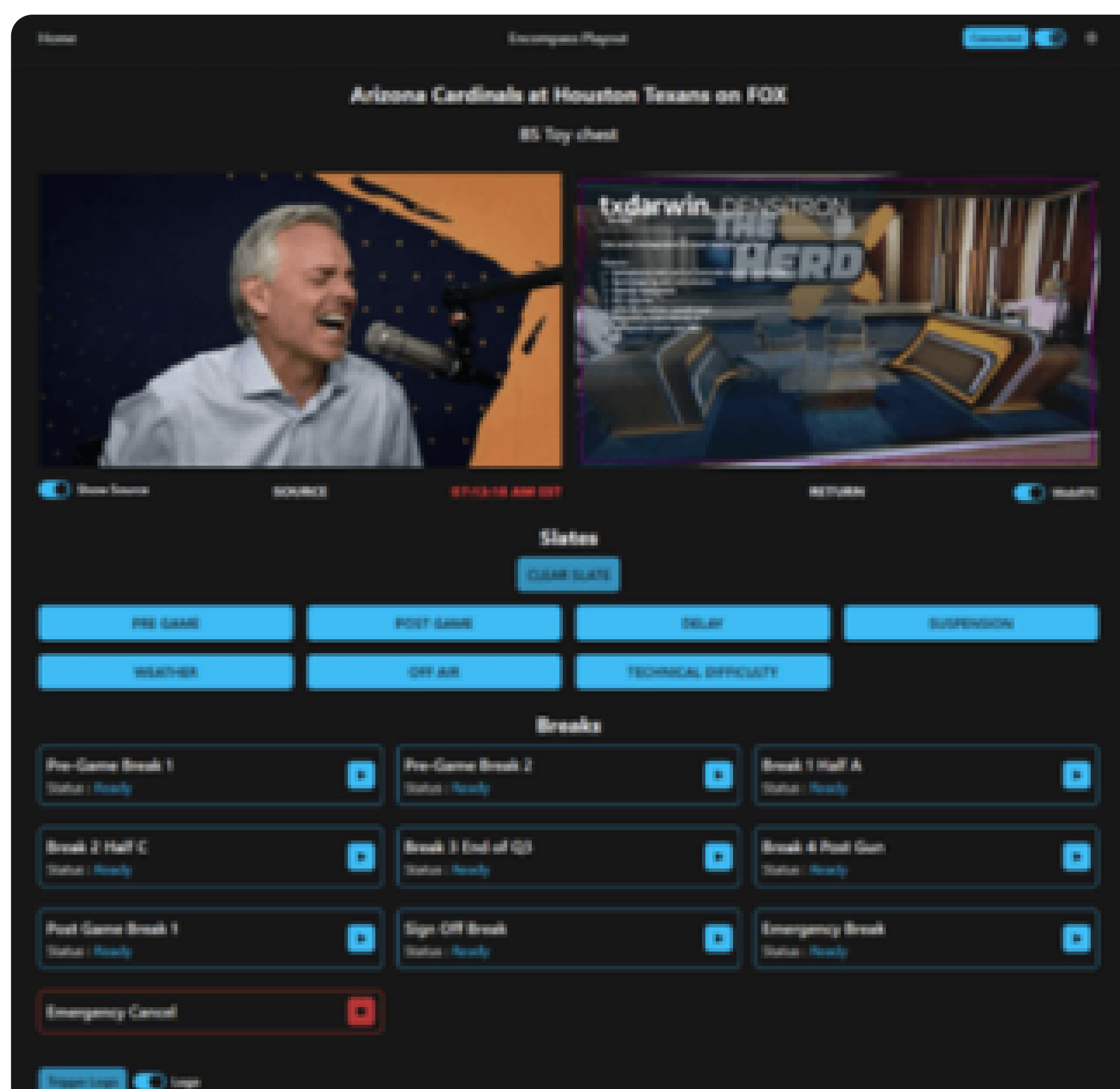
Figure 1: Achieving a Seamless Switch - Stream Manipulation



Frame-Accurate SCTE-35 Signalling

Monetisation depends on precise ad-break and clip markers. tx darwin allows operators, or integrated systems via ESAM, Kafka, or its own API, to insert SCTE-35 messages with accurate PTS placement. Advanced logic blocks handle custom rules without the need to initiate custom development projects, and each downstream taker can receive its own tailored signalling profile.

Figure 2: Encompass Payout - Arizona Cardinals at Houston Texans on Fox



Promo, Slate and Regional Insertions



Pre-configured break content, whether for stoppages, half-time, or end-of-game, can be switched in smoothly. Regional inserts, localised promos, and rights-restricted blackouts become straightforward, helping every taker receive relevant material while protecting contractual obligations.

Premium Format Conversion for the Edge

Regional platforms often require different resolutions, frame rates, interlaced or progressive scanning, and codecs. tx darwin's fully motion-compensated standards conversion delivers tier-1 quality in software, sharing the same workflow as switching and SCTE processing. This eliminates the need for dedicated rack-bound converters and supports per-event economics rather than 24/7 hardware commitments.

Ensuring Reliability and Operational Simplicity

Live events demand rock-solid delivery. tx darwin maintains content in the compressed domain wherever possible to minimise latency and preserve quality. It supports proven SRT transport protocols and SMPTE 2022-7 redundancy to provide robust connectivity suited to contribution and distribution paths. A modular architecture with total observability gives operators clear visibility across concurrent services and all end-points, while API-driven orchestration integrates with systems like DataMiner, VideoPath, or others already in use.

Meeting Today's Live Event Needs with tx darwin

tx darwin is purpose-built for live event management. It brings together source switching, SCTE-35 insertion, promo/slate management, per-region tailoring, format conversion, and automation in a single configurable platform.

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The Challenge



- Fluid, operator-driven workflows with unpredictable breaks
- Need for bespoke feeds per region and taker
- Frame-accurate monetisation without complex custom integrations
- Format and standards matching for global distribution
- Cost-effective, elastic operations for transient event channels

The tx darwin Solution

- Seamless splicing and real-time break insertion
- On-demand SCTE-35 with custom logic and per-taker profiles
- Pre-configured promos, slates, and regional content
- Premium fully motion-compensated format conversion
- API-first automation and modular scalability
- Cloud, on-prem, or hybrid deployment with per-event flexibility

Whether supporting a major international tournament with dozens of regional feeds or recurring league coverage, tx darwin simplifies the operator experience and delivers greater operational efficiency whilst providing the technical precision broadcasters expect.

Conclusion

Live events will always be unpredictable, but the technology used to manage and distribute them does not have to be. Techex's tx darwin platform lets rights holders and distributors handle switching, monetisation, regional tailoring, and format conversion in one coherent workflow. It supports the agility and cost-effectiveness needed for today's event-driven landscape, without compromising the quality and reliability audiences and partners depend on.

This approach helps broadcasters focus on the game and the story, confident that the technical side is handled cleanly and efficiently.

For more information

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