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An Amagi POV

Choosing the right live sports orchestration solution

Looking to dazzle fans with live sports broadcasting?

Get the right cloud-architected solution.

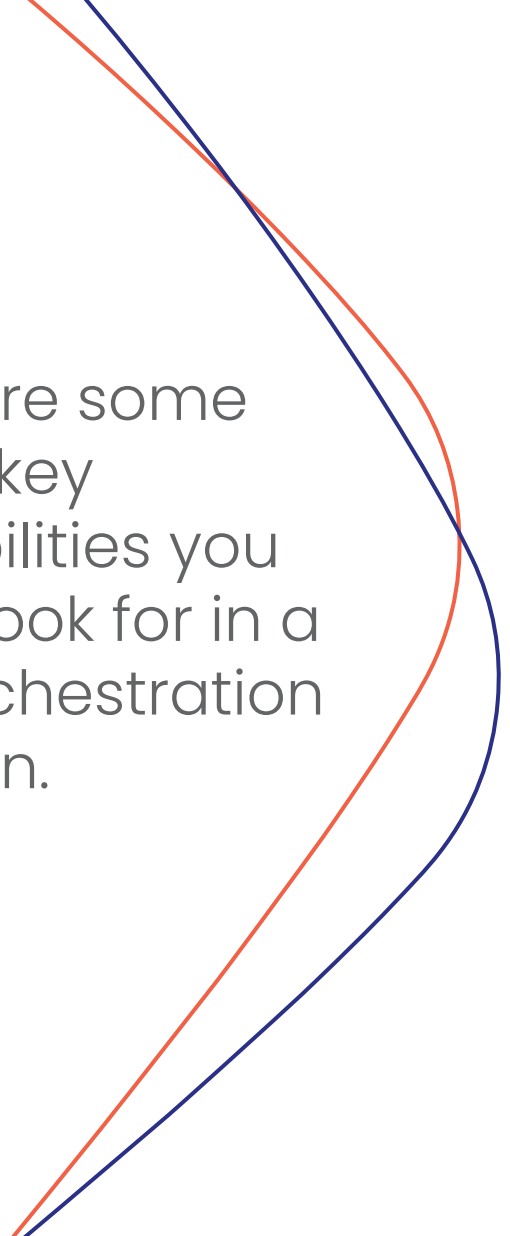## Live sports continues to be a blockbuster.

If there's a content genre, apart from the news that audiences still prefer watching live, it is, without a doubt - sports.

For sports broadcasters, now is an opportune time to leverage cloud technology to revive the splendor of sports. Not merely on cable and satellite but also across connected TV including the rising star of OTT - '**Free Ad Supported Streaming TV' (FAST)**.

Grab the moment; give sports the cloud power.

Running a linear channel with live programming, rich graphics and a flawless, low latency viewing experience can be a challenging task for sports broadcasters. Let's change that by choosing and implementing the right cloud-architected live solution.

To ace your live sports broadcasting, choose a versatile, cloud-based live sports orchestration platform that helps you spin-up live channels instantly and orchestrate broadcast-grade live content on the go.

Here are some of the key capabilities you must look for in a live orchestration solution.

Scalability & flexibility

In sports broadcasting, a downtime of just a few seconds can lead to a potential loss of thousands of dollars. An ideal cloud-based solution, therefore, needs to provide the flexibility to scale infrastructure resources up and down based on your needs. You can power up your channel only for a certain required time and bring it down once done, thus driving cost savings.

Unified experience for TV & OTT

More and more broadcasters choose to expand their offerings to OTT and Free Ad-Supported Streaming TV (FAST) platforms beyond the traditional broadcast and cable TV ecosystem. This calls for a reliable cloud solution that offers unified workflows for global-scale, premium events, graphics and ads.

Go for a solution that powers a unified experience by delivering the playout to both OTT and satellite channels, in multiple formats as specified by the platform.

Improved viewing experience

Sports fans want to see the recorded versions of their favorite games as soon as possible. Traditionally, with separate workflows, the time from when the live event is over to when it becomes available for VOD was much longer.

Let your viewers experience the power of now. Go for a solution that supports segmented mode and lets you make the on-demand recorded versions of the live games available easily and quickly.

Low latency for a great QoE

Low latency between input & output streams, while delivering content in real time is one of the most challenging asks in sports broadcasting. You need a solution that ensures very low latencies, thus delivering excellent viewing experience for audiences. This is especially important for eSports and betting channels where delays in relaying scores and information can be a deal breaker between you and your audiences. The solution should be able to support the latest low-latency enabling protocols like ST-2110-XS.

Support for multiple ingestion and delivery formats

Live event feeds could come from multiple different sources, warranting multi-protocol ingest support. Look for a live orchestration product that can support a variety of popular formats such as NDI IP standard, RTP, RTMP, HLS, Zixi, LTN, SMPTE 2110 and more.

4K UHD with rich audio-video experience

Go for a solution that offers UHD cloud playout capabilities, along with support for the latest audio formats such as Dolby Atmos 10 channel audio. With these, you will be finely equipped to dazzle your audiences with a rich 4K experience with immersive sound that add up to a near-live experience at home.

> Read case study: NBC Olympics engages with Amagi for UHD cloud playout

Switch between primary & secondary streams

In the case of high ROI sporting events, there can be a need for primary and secondary stream ingest with option to switch between streams, manually or automatically. You need a robust solution that supports primary and secondary ingest sources for a live event, and the option to configure the system for auto-switching or manual-control to switch between primary and secondary streams, seamlessly.

Effectively manage events with multiple input sources

Sporting events often require support for on-ground as well as studio feeds. Therefore, the live orchestration solution must be able to support multiple sources for a single event. It must offer operator or SCTE controls that enable the playout engine to seamlessly switch over from one source to another.

Versatile operation modes

Some of the best live solutions have the provision to trigger breaks based on SCTE-35 markers. They enable SCTE-35 descriptors to take care of specialized graphics actions. The right solution should also allow you to opt for either a SCTE-35 or UI-based mode of operation.

The solution must have the capability to effortlessly switch from programmed to live mode, if needed. This can be either driven by wall-clock (automatically) or managed by an operator (manually). Both options to switch on a live event and turn it off must be controlled independently.

In case of live sports events, manual intervention in terms of operations is indispensable. Anything can change at any point, and you need to be able to attend to these dynamic changes promptly.

Operators should be able to decide ad-break positions, trigger graphics messages, switch between sources, and edit or add breaks in real-time. A robust solution will support a managed mode for orchestrating live events, and offer a comprehensive UI for operators to manually manage the event.

You need capabilities to manage various operating scenarios:

- Ganged controls
  - Single operator controlling multiple feeds (1: N): This is especially relevant in the case of Over the Air (OTA), where channels can have a singular national feed and multiple station-specific feeds.
  - Single operator controlling and editing a 'dominant' feed, which in turn also controls 'follower feeds' (1: K)
- Operator controlling and editing a single feed and its associated breaks (1:1)

The solution must also enable the following:

Live-live
Ingest a live feed and play it immediately.

Live playback/deferred live
Manage intentional delays while broadcasting live events. There can be situations where multiple events are happening together. To run smoothly, you need to schedule the latter event from the start, so that it plays once the former is completed. The solution you choose must support this situation with a 'deferred live mode'. Here, an event is recorded and kept ready for playback, a few minutes prior to the start of that event.

Live recording
Most live events need to be recorded for consumption in the future as Video on Demand (VOD) assets. An effective live solution will be able to record the incoming stream as well as the rendered playout stream.
It would dynamically bring up event recorders for a particular event as needed, and produce resilient recordings, while taking care of all in-stream network disconnections and other potential issues.

Real time control over breaks & graphics

Live sports is probably one of the most dynamic content genres, involving unique challenges. For instance, there can be an unusual delay caused by some weather conditions anytime. Operators must therefore be able to add new breaks, modify assets in the breaks and use revised secondary graphics on-the-go. They must be able to trigger emergency tickers/graphics elements to communicate the situation to their audience.
The live solution must enable operators to add/delete/edit breaks a few seconds prior to the start of asset play in a break.

It must also support extensive secondary graphics capabilities by enabling real time rendering of:

Ticker texts

Countdown timers

Picture In Picture (PIP) and

HTML5 graphics for creating scorecards, player names and game status information

Rich HDR graphics with DVE effects & HTML graphics

Rich secondary graphics can bring your live sports channel to life. Therefore, your solution must power exceptional broadcast-grade graphics overlays that complement your channel programming. The solution must support advanced dynamic graphics and provide an automated way of publishing them using templates. Templatization ensures that a single dynamic graphic can be used any number of times, saving time and effort.

The solution must enable:
• Multilayered graphics rendering with high automation and simplified graphics playout
• Rich animated sequences that can be played as static or template-driven graphics

Read more: Delivering custom HTML5 graphics for live sports, news and weather channels
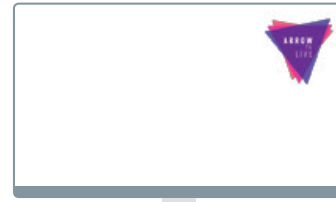
Logos/Bugs
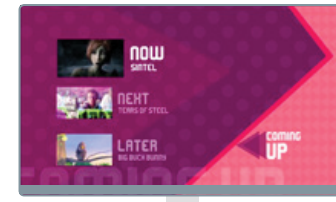

Lower-third banners

Promos
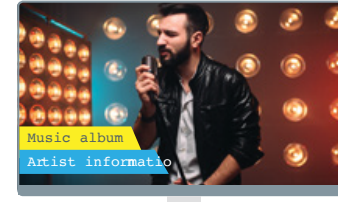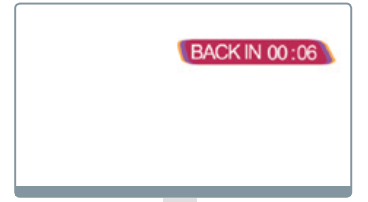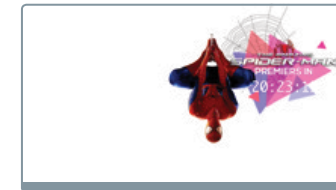

Full screen cards

Channel bumper

Full screen Now / Next / Later

Music album / artist information

'Back in' counter

Countdown

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Real-time closed captioning

Broadcasters have a legal mandate to make content accessible to everyone across platforms and this makes real-time captioning a key element. The live solution you pick must be able to enable the use of services such as Google's Speech to Text (GS2T) service that converts audio from a live stream into captions just before the playout and then sends it along with the stream. Or look for a solution that has a dedicated captioning service integrated with it, and supports both single and multi-source live events.

> Read more: Make your content more accessible with Amagi's closed captioning service

High quality at low cost with only CPUs and no GPUs

While both CPUs and GPUs are critical computing engines, the latter are believed to be better. GPUs have lightning-fast, advanced processing capabilities and multiple cores, enabling parallel processing to reduce operations time. However, a major drawback that comes with these advantages is the cost factor.

It therefore makes sense to choose a cloud solution that leverages normal off-the-shelf CPU processors instead of high-end GPUs for processing visuals. This way, you can achieve cost savings without compromising on high quality visuals.

Smart hitless switching for greater reliability

For high stakes, global events such as Olympics, your solution must be able to insure you against disruptions with smart hitless switching combined with multi region redundant streams. This will protect your live linear channels against major geographical outages. Viewers will thus enjoy a seamless experience since the end output is hitless, thanks to your solution that has a smart switcher residing on cloud.

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Redefine live sports orchestration with innovative design thinking

Some factors that make live sports playout complex are:

• Dependency on heavy physical infrastructure
• Skills of the playout operators
• Sports experts to orchestrate seamless shifts from live feed to ads and back

However, you can simplify these operations through cloud-based playout systems and highly intuitive User Experience (UX) design.

Choose a solution with a powerful UX that helps simplify live sports playout:

Assigning its own event-specific ad template to each sport: Different sporting events have their own peculiar distinctions when it comes to live playout. For instance, in cricket, there's an ad break after each legitimate over. Soccer, on the other hand tends to have a break after half time. These sport-specific unique features help create custom templates for each, thus streamlining overall event scheduling.

Delivering a personalized UX for different user roles: This user-centric design approach towards different broadcast functions such as event programming, scheduling, and managing live control ensures a seamless operation flow. This works well for large sports channels.

Providing a super user dashboard: This approach works well for medium and small sports channels where one super user oversees all functions.

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Looking to hit the ball out of the park with a proven cloud-based live orchestration solution?

Reach out to us to at
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