MAY THE BEST STREAM WIN

With help from Clearleap, premium sports content is playing across more screens, in more ways, than ever.

A baseball axiom holds that playing third base - the so-called "hot corner" - is 90 percent boredom mixed with 10 percent terror. You never know when something alarming is going to happen. But when it does, it happens fast.

As live sports migrate to the multiscreen video field of play, a related truth is unfolding. Like almost no other type of premium video content, live sports revolve around unpredictable bursts of action demanding extremely agile video logistics support, plus the ability to scale quickly for an onslaught of activity.

Increasingly, sports content providers are rising to the challenge. Professional sports leagues including the National Basketball Association, the National Hockey League, the National Football League and others are transforming the action that happens on the field into an always-on parade of big hits, big shots and big plays available to multiscreen audiences with just a click or two.

Examples: Subscribers to the NHL's GameCenter Live online video service can watch highlights from ongoing games overlayed atop live-game screens on an Apple TV or an Android tablet. Mobile apps from ESPN let NBA fans see highlight reels over smartphones shortly after the final buzzer sounds. And the National Football League has aggressively embraced the new possibilities of multiscreen sports content. When New York Giants wide receiver Odell Beckham Jr., made a jaw-dropping touchdown catch in Week 12 of the 2014 season, fans armed with tablets and smartphones could watch the moment live on NFL Mobile or summon the clip minutes later via NFL Now, the league's new video-rich mobile media app.

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All of these applications are emblematic of a dramatic transformation in the way sports events are presented to fans via video devices. Today, the interval between a play on the field and a highlight on a device is measured in seconds and the screen where a game appears is just as likely to be a portable tablet or a smartphone as a fixed TV set. And the impact of sports content on the digital video ecosystem is impressive: According to the Video Monetization Report published by digital video monetization specialist FreeWheel, sports represented 82 percent of all live, ad-supported video views occurring over the Internet during the third quarter of 2014.

Getting sports video streams to appear on tablets, mobile smartphones and web-connected screens within moments of the real thing demands a highly detailed orchestration of people and process, backed by advanced technology. Clearleap, the Atlanta-based video logistics company, is among a new breed of enabling agents that are managing behind-the-scenes work for a growing number of sports leagues and rights-holders. By adapting and optimizing the same technologies and approaches that power advanced digital video initiatives for the likes of HBO, Sony Television and Scripps Networks, Clearleap has eased the transition into anywhere/anytime video for sports industry players that are keen to grow their businesses and satisfy fans across the digital field of play.

HIGH PERFORMANCE

The extreme demands of multiscreen sports video are exemplified by the type of work Clearleap performs for its premium sports content clients. In one case involving a prominent American sports league, for instance, the time span between the ingest of an edited highlight clip and the availability of the video content to end-users in multiple transcode formats and bitrate variations is measured in seconds. For this sports client, Clearleap routinely out-performs the time allotment spelled out in a service level agreement, with the average turnaround time for marking, transcoding and distributing an ingested clip to an origin server equal to just half the length of the asset. That makes it possible for fans to replay key plays over Internet-connected devices within moments of their live occurrence – a capability unimaginable only a few years ago.

Alternatively, in the case of live sports-event streams, it's now possible to summon real-time coverage of a game within seconds of pressing a button on a smartphone keypad from almost any location where a broadband network is in place. This is a capability Clearleap's Sports and Live TV Solution supports by ingesting live network feeds, transcoding to multiple formats, applying DRM wrappers and placing live video on an origin server for routing to media servers and Internet CDNs, again within seconds.

It's the sort of rapid workflow that's critical in an environment of rising expectations. "Digital opens an entirely new field of play for sports organizations. Today, fans expect to go on their phone and follow a game or even a favorite player immediately," says Dave Mowrey, Vice President, Product Management for Clearleap.

Just as important as speed is the ability to scale the process so that no amount of volume strains the system to the point where clip availability or live game streams are delayed, no matter how many games are happening simultaneously. Among keys to this dynamic scaling ability is the embrace of a cloud-based architecture that allows Clearleap to harness additional computing and processing resources on the fly, as games, big plays and video volume demands. "When activity spikes, you can auto-scale extremely rapidly," says Mowrey.

MONITORING, MANAGEMENT AND MORE

These same spikes in action produce a variety of challenges for sports-video providers. One of them is keeping tabs on a flurry of logistics activity – like the coupling of live streams and studio-produced content playlists with the barrage of clips and highlights being created and published simultaneously. To help manage what can be a flood of simultaneous video events, Clearleap has worked with major sports rights holders to develop a cloud-based dashboard that lets clients know exactly where, when and how their content is being managed in real-time. The dashboard provides a comprehensive view of the total range of video activity ongoing at any moment, with the ability to isolate a single piece of content and determine where it is in the content processing lifecycle. Screens can be arranged as clients prefer so that editors can see at a glance, for instance, a current live playlist coupled with real-time status of clips available for publication. Simultaneously, the platform also provides built-in diagnostics and quality control procedures that enable editors and managers to identify any errors and make on-the-spot adjustments as needed.

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Beyond client management tools, a fundamental ingredient in the multiscreen sports video equation is availability of content. Because of the premium placed on immediacy and the fan expectations for instant access, having content at the ready for quick playout is critical. Although all premium video providers (rightly) demand uptime certainty, for sports in particular assured and immediate access to requested streams and clips is the economic lifeblood for any monetization model. Without it, the entire value proposition of live and on-demand sports is compromised. Thus, a key infrastructure component is an always-on, enterprise-level Network Operations Center (NOC) that has full visibility across vital video file preparation and distribution activities, with the ability to engage backup and

redundancy resources as required to ensure constant availability. In Clearleap's case, the NOC supporting live- and on-demand sports content operates at five-nines reliability, meaning the system, video content and video playback is available 99.999 percent of the time.

These assurance levels are vital for all providers in order to ensure quality experiences for users – and establish monetization possibilities for the multiscreen premium sports video category at large.   Whether rights-holders are delivering subscription-based video applications (like NFL Now), authenticated/TVE-style sports events (like NBCU's 2014 Winter Olympics coverage from Sochi, Russia) or advertising-supported live game video (like the National Basketball Association's TNT Overtime digital video product), the ability to ingest, transcode, process and distribute video in real-time or near real-time, with nearly 100 percent availability, is critical. After all, the entire appeal of televised sports is live (or in the case of highlights, nearly live) action. These are highly perishable events requiring extremely adroit and agile video management.

MULTISCREEN SPORTS VIDEO LOGISTICS: KEY PLAYERS

The Clearleap playbook for superior sports-video logistics includes:

- **Highlight management - highlight clipping integration, near real-time highlight processing and metadata management**

- **Intelligent scalability for content spikes**

- **Multi-variant playlist and Adaptive Bit Rate support to enable seamless publishing/playback of content**

- **Advertising insertion and playlist support via VOD stitching capability**

- **Live streaming management - multi–channel game enablement and near real-time playback**

- **Service Level Management, including 99.999 availability; 24/7 NOC support for live and VOD; dashboard and detailed level visibility for each step in the video supply chain; and state-of-the-art monitoring tools for real-time troubleshooting**