

AEG Digital Media

Entertainment, reinvented

**AEGDM**

AEG Digital Media Group

The World Is Watching™

AEG Digital Media

Los Angeles, California

www.aegdigitalmedia.com

Webcast management experts broadcast to the world using the Adobe® Flash® Platform, including Adobe Flash Media Server 4.5 software and HTTP Dynamic Streaming

Whether it's the royal wedding at Westminster Abbey or broadcasting from the red carpet at the Grammy Awards, AEG Digital Media (AEGDM) specializes in broadcasting high-profile events—live on the Internet. Among the world's largest presenters of live music and sports, AEGDM provides a seamless, broadcast-quality viewer experience that keeps audiences engaged across virtually any device. The company relies on the Adobe Flash Platform, including Adobe Flash Media Server 4.5 software, to deliver seamless, high-quality video experiences that engage users online and on mobile devices.

AEGDM enables the entire live streaming event—from production and video transmission to the viewer playback experience—all using the Adobe Flash Platform. "Today, with the Adobe Flash Platform combined with our own solutions, we're able to deliver HD quality, interactivity such as web submissions and tweets, and features like multiple camera feeds that take viewers behind the scenes, providing an experience that's richer and more fun than traditional 'lean back' broadcasting," says John Petrocelli, vice president of sales and business development for AEGDM.

AEGDM standardized on the Adobe Flash Platform, including Adobe Flash Media Server 4.5 and a custom player—AEGDM's Tremolo Player—based on Open Source Media Framework. The results are longer engagement times and happier audiences, advertisers, and sponsors.



Challenge

- Deliver broadcast-quality live streaming of the world's most prestigious popular events
- Reach viewers on virtually any device
- Provide unique, interactive experiences to keep audiences watching

Solution

Standardize on the Adobe Flash Platform, including Adobe Flash Media Server 4.5 and custom Tremolo Player based on Adobe Flash Player and Open Source Media Framework

Benefits

- Became trusted streaming provider for events such as the Oscars and the Royal Wedding
- Provided exceptional quality with features such as HTTP Dynamic Streaming
- More easily reached people on desktop and mobile devices
- Created "lean forward" experience with multiple camera feeds, interactivity, DVR functionality, and more

Toolkit

Adobe Flash Platform. Components used include:

- Adobe Flash Media Server 4.5
- Open Source Media Framework

Today, AEGDM has earned a reputation for delivering complete, turnkey, no-fail multimedia broadcast solutions to the biggest names in the industry—Live Earth, the MTV Video Music Awards, Farm Aid, The Grammys, and the People's Choice Awards to name a few. In August 2011, AEGDM streamed FOX's 2011 Teen Choice Awards. With the 2010 Awards eliciting 85 million votes from fans between 13 and 19 years old, Fox turned to AEGDM to deliver the ultimate online viewing experience for the event's far-reaching and technology-savvy fan base—many using mobile devices.

Triple-digit growth, widespread Internet delivery

AEGDM has built an infrastructure housed in a \$25 million facility that supports live streaming events with the broadcast viewing quality consumers have come to expect. AEGDM has seen massive company growth and 40% longer viewer engagement times in the last 18 to 24 months using a delivery model based on the Adobe Flash Platform.

"Adobe Flash Media Server 4.5 improves the stability of our streams, decreases load times, and helps us better manage encoding and bitrates for an improved end-user experience," says Ben Rolling, vice president of development for AEG Digital Media. "The end result is longer engagement times—our audiences, advertisers, and sponsors stay happier."

In the past, AEGDM faced limitations such as bandwidth constraints, codec challenges, and buffering that affected the company's ability to consistently deliver high-quality, live events. The company has tried other technologies for video content delivery, but now relies mostly on the Adobe Flash Platform.

"We found that the Adobe Flash Platform is the most stable and has the largest worldwide market adoption," says Joshua Lennox, senior director of products for AEG Digital Media. "The technology just works and Adobe Flash Player is already installed on about 98% of desktops and a range of mobile devices, so audiences can engage without cumbersome downloads or technical issues."

Reinventing broadcasting

AEGDM's live streaming events reach hundreds of thousands of people—with up to tens of thousands watching via mobile devices. "We approach everything from a broadcast perspective," says Michael Goldfine, president of AEG Digital Media. "With technologies based on the Adobe Flash Platform, we've matched the quality and reliability of television, while providing a unique, scalable, interactive experience for viewers."

Delivering broadcast-quality video over the Internet to massive audiences on desktop and mobile devices requires a robust technology infrastructure. AEGDM takes a true broadcast approach to its streaming media services with a completely redundant architecture—from transmission and encoding to failover at the player level.



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John Petrocelli
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Clients often set up feeds from multiple cameras to capture the events from various perspectives. For video distribution, the company downloads the feeds to Cisco Spinnaker live streaming appliances for encoding into multiple bit-rates. From there, origin servers running Adobe Flash Media Server prepare and transmux the content and cut it into chunks for sending to the industry's top CDNs for delivery to multiple devices—PC, Mac, iOS, and Android".

More control, higher quality

AEGDM is now adopting Flash Media Server 4.5 to further enhance the viewer experience and help ensure reliable delivery to multiple platforms. Advantages of Flash Media Server 4.5 include strong encoding—an important factor because the company deals with sensitive content; built-in support for HTTP Dynamic Streaming to provide quality delivery across varying Internet connections; and enhanced interoperability with ad serving networks.

With Flash Media Server 4.5, HTTP Dynamic Streaming is built in to reduce loading times and deliver noticeably higher video quality. And that, says Petrocelli, leads to larger audiences and longer viewer engagement. "Adaptive bit-rate streaming is huge for us," he says. "Any time you increase video quality, the viewer engagement time spikes significantly. We're also excited about enhanced DVR functionality, especially for sports events where people often want to stop and restart live video."

With Flash Media Server 4.5, AEGDM is taking on additional back-end processes to obtain even more control over video streams. For instance, the company is bringing HTTP Live Streaming (HLS) in-house to create HLS streams before handing them off to the CDNs for delivery. According to Lennox and Rolling, this will improve load times, make the streams faster, reach Apple devices such as the iPad, and smooth bit-rate and feed switching.

Flash Media Server 4.5 will also enable easier content monetization through the ability to insert and manipulate mid-roll ads. "Our goal is to deliver ads at a geo-targeted level, raise ad video quality and eliminate buffering so that people have a more seamless experience and are therefore less likely to click away," says Rolling.

"AEGDM has earned a reputation for being the place to go when you want a live streaming event to go off without a hitch. The Adobe Flash Platform deserves a large portion of the credit."

Michael Goldfine
President, AEG Digital Media



Built to engage

AEGDM also uses the Adobe Flash Platform for playback with a customized video player created using Adobe Flash technologies. The company's Tremolo Player was built using the Open Source Media Framework (OSMF), a resource that simplifies creation of media players by allowing developers to assemble components to create high-quality, full-featured video playback experiences. The Tremolo Player increases advertising options and revenue opportunities by creating a stable, high-quality viewing experience that translates into extended viewing times and more engaged viewers.

Tremolo is completely configurable to match the look and functionality to each client's specific event. It also captures statistics such as unique views, terabytes served, regional audience breakdowns, and engagement time, giving clients rich insights into the success of their events.

"Tremolo, built on OSMF, can handle nine live feeds—often incorporating multi-angle viewing," says Lennox. "It integrates well with ad serving platforms and other plug-ins to suit our clients' needs, whether they want RSS feeds or integrated social media interaction."

Innovation drives growth

The live media player is enhanced with the company's The Hawk social media aggregation tool, which combines messages about an event via Facebook, Twitter, text messaging, and web submission. The company also has a new viewer polling application dubbed eMCee—all of these technologies increase engagement and viewing time.

"We've standardized on the Adobe Flash Platform and created our own innovations. As a result, our business is exploding," says Petrocelli. "Content owners can see that we offer fast-loading, high-quality video delivered to multiple devices. That's the magic winning formula for them."

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For more information
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