



CASE STUDY

Location

Global

Challenge

Pixellot helps semi-pro and amateur sports organizations create stunning live coverage from their venues without a single camera operator. Their automated sports production solution needed technology to uplink and distribute HD video broadcasts over the internet from a variety of sports venues despite the unpredictable quality-of-service and limited bandwidth at each location.

Solution

Pixellot included a Zixi Feeder with its on-premise server solution, and implemented Zixi Broadcaster in the cloud to securely deliver broadcast-tier HD video over unmanaged internet connections at each venue.

Benefit

With unmatched bandwidth optimization, quality of service (QoS), and security protection for live video delivery.

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Pixellot Makes Small Sporting Events Big with the Zixi Platform

Sports production is among the most compelling live-event coverage for fans everywhere. Sweeping pans across the pitch follow the thrilling play of a soccer match. Instant replays of exciting shots in a basketball game keep fans tuned in and engaged. And tight zooms capture the moment-to-moment action of athletes at their best.

These live productions require significant infrastructure and manpower to create—including high-quality cameras, full production teams, and outside broadcast (OB) trucks with satellite uplinks working a single event. As a result, live sports coverage has traditionally been the realm of the largest media companies and top pro-sports teams. But one company, with the help of Zixi, is changing everything.

Pixellot is the world's leading provider of automated sports production solutions. Its mission is "making millions of small events big." Pixellot helps semi-pro, collegiate, youth, and amateur sports teams capture and broadcast their sporting events with outstanding production value—without a single cameraman.

Pixellot offers a fixed multi-camera device that captures gameplay on the entire field in ultra-high-resolution panorama. During the game, Pixellot's on-site server

automatically produces the event in real time, complete with pans, zooms, ad-breaks, and replays. The produced content is streamed over the venue's standard internet connection to Amazon cloud-based virtual machines where it is broadcast live across Amazon's CDN, CloudFront.

Thousands of Venues, Thousands of QoS Issues

Pixellot works with a wide variety of organizations and venues around the world. Whether it is a high school gymnasium or a semi-professional football stadium, the network conditions at each venue present major challenges for broadcast. Overall bandwidth may be low. Crowd swells in an arena may overwhelm the network with additional traffic. School network bandwidth fluctuates as students use the internet across campus. The result is a series of networks that are far from ideal for broadcast standards.

Initially, Pixellot solutions experienced quality-of-service issues commensurate with the network conditions at each location. Packet loss and jitter due to network unpredictability made live broadcasts virtually unwatchable. To provide a more consistent experience for



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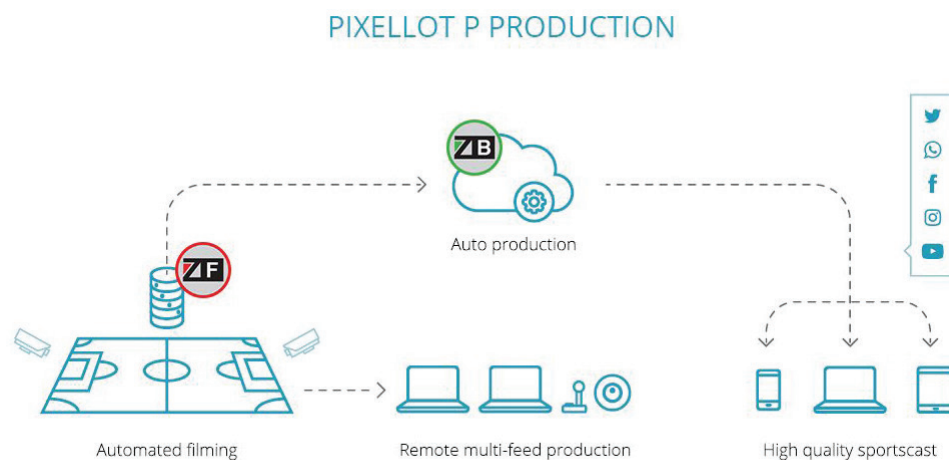
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customers, Pixellot sought a technology that would deliver HD video over unmanaged internet connections, regardless of underlying network conditions.

Putting the Zixi Platform Into the Game

Because the Zixi Platform is a flexible software solution, it can run on most existing server hardware found in broadcast environments. Pixellot simply implemented Zixi Feeder software on the Pixellot server at the venue and sent the output to Zixi Broadcaster running on a Pixellot virtual machine in the cloud. With Zixi’s full-featured API, Zixi Broadcaster seamlessly integrates with the Pixellot cloud platform and offers fully automated control.

The Zixi Transport Stream between Zixi edge points provides best-in-class error correction, packet-loss recovery, and bandwidth optimization through network-and-video-aware protected streaming. The Zixi Platform can provide extremely resilient and reliable broadcast quality-of-service despite changing network conditions. And at venues where multiple network connections exist, the Zixi Platform can intelligently maximize all available bandwidth through network bonding, giving even greater stability to the feed.



“The greatest challenge we face is that our customers each have their own networks with varying degrees of network quality, which makes it extremely difficult to provide a consistent service with our product,” said Dov Brand, VP of Product, Pixellot. “With Zixi on premise and in the cloud, we noticed a difference in quality immediately. At Pixellot, we help our customers create broadcast-quality sports production automatically, and with Zixi, we can offer broadcast-tier quality-of-service as well.”

With Zixi Feeder providing a flawless stream from the source, Zixi Broadcaster in the cloud prepares the content for distribution. Zixi Broadcaster supports multi-bit-rate and multi-format transcoding to ensure downstream quality and compatibility for viewers. The Zixi Broadcaster instance on Pixellot virtual machines creates multiple streams at different bitrates that are then pushed to CloudFront—or other major CDN—where the games are available live or on-demand for fans, players, and coaches.

Zixifying Gameplay is a Slam Dunk

Within four months of implementing the Zixi Platform, Pixellot saw a dramatic improvement in service quality. For customers—from youth leagues all the way to semi-professional



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teams—Pixellot can now provide pristine quality video regardless of the network conditions at the teams’ venues. The company has begun shipping 100% of all solutions with the Zixi Platform. As a result, customer feedback has been outstanding, and the Pixellot support team receives far fewer complaints regarding picture quality and downtime.

For coaches and scouts, Pixellot broadcasts are a revolutionary new way to review player performance. The Pixellot mobile app allows viewers to access games on demand and zoom in on any individual player to observe their performance. Players can watch games, create custom highlights of their plays, and instantly post to social media. For organizations with small budgets, Pixellot with the Zixi Platform offers an all-new way to broadcast games to fans anywhere in the world. All without the need for costly production services and expensive fiber networks.

“Broadcast quality with Zixi isn’t good. It’s great,” concluded Brand. “It creates a much more stable connection with rock solid output. Our customers are thrilled to make even their smallest sporting events feel huge with fully produced, live tv-quality broadcasts. With Zixi, we’re able to support them better than ever before.”

For more information, contact our sales team at info@zixi.com



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