

H1: Unique Media Unites Wowza and Peer5 With Enterprise Webcast Solution

Through a custom enterprise streaming solution, Wowza and Peer5 help Unique Media deliver reliable, high-quality webcasts to thousands of employees around the world.

Case Study Snapshot

Industry: Enterprise, broadcast, streaming service provider

Solutions: Wowza Streaming Cloud, Wowza Player, Peer5

Use case: Enterprise webcasting solution for internal broadcasts

Internal webcasting is a serious business for large technology companies, and is a necessity for employees to stay informed and receive training. The Fortune 50 company profiled in this case study is of the largest consumer and enterprise tech companies in the world, sending broadcasts from their Palo Alto headquarters to nearly 200,000 employees, in offices across more than 100 countries.

[Unique Media TV](#) has been managing webcasts for this client since 2004, using a custom solution that leverages Wowza streaming products, including [Wowza Streaming Engine™](#) software and the [Wowza Streaming Cloud™](#) service. The company was keen to stay at the forefront of technology and deliver the best possible high-definition (HD) viewing experience.

A common problem when broadcasting internal events is that a large number of employees in a given office attempt to watch the broadcast at the same time, which can max out the office's internet bandwidth, resulting in a poor streaming experience—or no experience at all. What's more, even those users who aren't watching the webcast are unable to work, due to the bandwidth bottlenecks the live stream creates.

Unique Media and their client wanted to achieve multi-bitrate HD webcasting while avoiding last-mile bandwidth problems. By integrating services from Peer5 into their Wowza-based platform, Unique Media, the client and their trusted partners worked together to stay on the cutting edge—creating a flexible, reliable peer-assisted streaming solution.

H2: Avoiding Peak-Demand Problems

From all-hands meetings to training and education sessions, this huge tech company regularly needs to stream webcasts to offices around the globe. Even the strongest internet connection can become saturated when thousands of employees try to watch a HD video at the same time.

According to Huan Le, Vice President of Business Development at Peer5, the client needed to avoid a “peak demand problem.” This is similar to sitting in rush-hour traffic.

The freeway system is built to handle the *average* use case (that is, the non-rush hour volume of cars), not the *peak* use case. Similarly, traditional CDNs (content delivery networks) and office ISP connections are scaled to handle average internet usage—not the peak use case,

where every employee in the office is trying to watch the same 6 Mbps stream at once. When there are too many simultaneous viewers, just as when there are too many simultaneous cars, the result is widespread slowdowns and stoppages.

H2: Industry-Leading Streaming Technology Meets Peer-Assisted Delivery

Unique Media had a novel idea for avoiding their client's bandwidth problem. They already used the flexible, industry-leading technology of the Wowza Streaming Cloud service. So, to allow for even greater onsite bandwidth usage, Unique Media added Peer5's peer-assisted streaming technology—which leverages the power of the very users watching the stream to scale capacity.

“If you were a genie, you would solve the traffic problem by magically adding lanes during rush hour, and magically taking them away when traffic subsides. ... With a peer-to-peer architecture, that's exactly what we do. As more viewers join a stream, the capacity to deliver that stream grows proportionally. And when the demand goes away, that capacity also goes away. It's the most resource-efficient architecture for delivering large-scale video streams.” — *Huan Le, vice president of business development at Peer5*

Peer5 creates an elastic mesh network between viewers who are watching the same stream, enabling them to share the underlying video segments with each other instead of always fetching the segments from a server. Viewers who are physically close to one another tend to be the best peers. In an office setting, where every viewer is connected to the same high-throughput local area network (LAN), this peer-to-peer sharing is particularly effective and powerful.

Of course, for any of this to be possible, there must still be a primary streaming media server in place. The tech company's solution uses the Wowza Streaming Cloud service to ingest, process and deliver its corporate webcasts. When viewers begin watching a stream, the integrated Peer5 service then offloads a certain percentage of those viewer requests from the Wowza server to other viewers.



The Wowza Streaming Cloud / Peer5 workflow

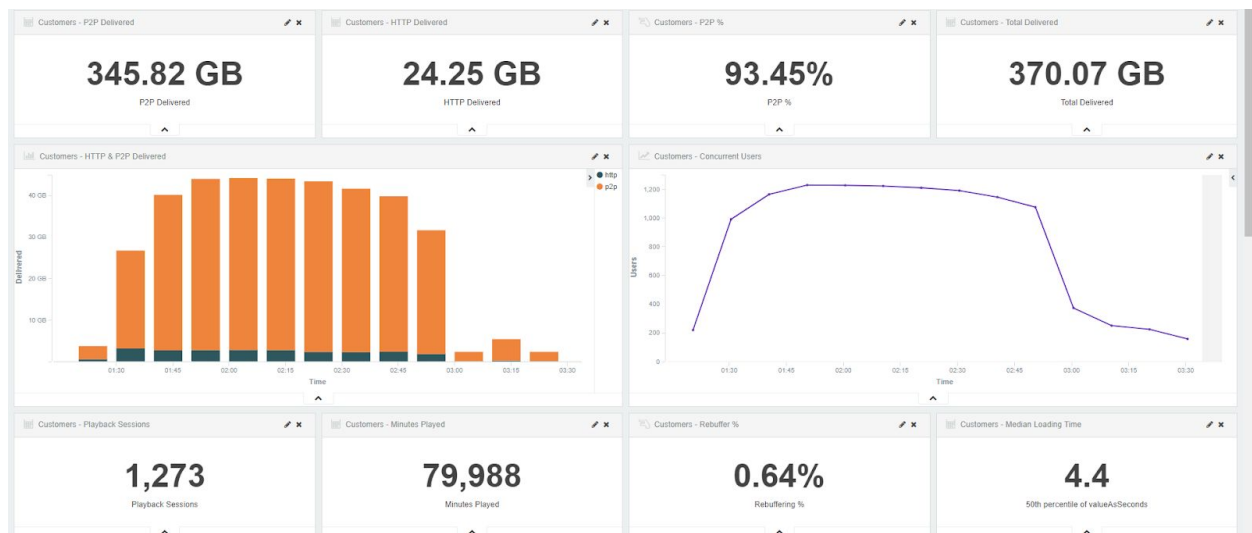
The solution also integrates Wowza Player for stream playback. According to Jon Stethridge, managing director at Unique Media, his team worked with the client to perform rigorous testing when evaluating potential technology for the custom solution. He says the choice to use Wowza

Player was easy: Not only is it built to work seamlessly with the Wowza Streaming Cloud service, but it also performed the best in HLS streaming tests, even in the face of network issues.

Unique Media has been a longtime user of Wowza technology because of its unmatched quality and reliability, says Stethridge.

“We chose Wowza because there’s nobody else that can deploy that kind of scale; that kind of delivery. Working with Wowza and Peer5 helps us keep our product on the cutting edge.”
—Jon Stethridge, managing director at Unique Media TV

On Sept. 5, 2017, Unique Media employed the joint Wowza/Peer5 solution to deliver a live broadcast to approximately 30 of the tech company’s offices in London, Paris, Eastern Europe, Russia and the Middle East. There was a two-hour broadcast window, and about 1,300 employees were connected to the stream at peak viewing time.



Viewership statistics from the Sept. 2017 Wowza/Peer5 broadcast

Over 370 GB of video was delivered to the viewers during the broadcast window. Of this, 93 percent was delivered via peer-to-peer streaming, while only 7 percent came from the server. This resulted in a twofold benefit:

- The internet bandwidth utilization across all offices viewing the stream was improved by 93 percent—with viewers receiving the vast majority of their video segments from coworkers within the same office.
- Only 7 percent of requests came from the server, freeing up 14 times more bandwidth for content delivered by Wowza Streaming Cloud.

H2: Wowza and Peer5 Offer Scalable, High-Quality Enterprise Webcasts

By building on Wowza and Peer5 technology, Unique Media's custom solution delivers many benefits to their client, including:

Unlimited Scalability

Traditional CDNs can become congested in the face of increased viewer traffic. But with peer-assisted delivery, the available bandwidth actually *increases* when more users join, since viewers can retrieve the underlying video segments that make up the stream from one another as well as from the server.

Worldwide Geographic Coverage

While streaming delivery can suffer in remote or limited-coverage areas, peer-assisted streaming turns every viewer into a server. This allows for much broader geographic coverage. This especially makes sense for an organization like this client, with more than 100 offices spread throughout the world.

High-Quality Streaming

Thanks to drastically reduced demand on both edge servers and office internet connections, customer's corporate webcasts are delivered in high quality, with fewer interruptions and downtime.

The flexibility and functional depth of Wowza Streaming Cloud and Wowza Player, combined with the scalable, affordable delivery of the Peer5 service, creates a high-quality, reliable solution for the tech client's large-scale broadcasts. Now reliable video streams can be delivered to any office—even those with low-bandwidth internet connections.

"Video is the linchpin for any organization that wants to keep its employees informed and trained. [The tech company] is getting improved quality and improved coverage, while reducing their content delivery costs—it's the triple whammy." —*Huan Le, vice president of business development at Peer5*