

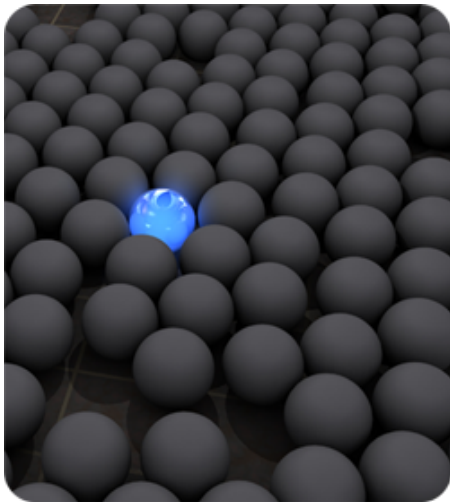


Peer5 Enterprise Live  
Whitepaper  
January 2018

## Enterprise Video Streaming

Video is becoming a crucial medium for leading global companies. Important business workflows such as training, marketing and collaboration are increasingly involving video. These companies invest time and effort in creating high quality video content which will empower their employees, save time and engage them in a more meaningful way. To create a fully engaging experience, enterprises must ensure high quality video delivery at all times. Employees are accustomed to flawless experiences from consumer video services such as YouTube and expect the same HD viewing experience in the office as well.

Companies are struggling to keep up with the pace of video growth as corporate networks are not designed to handle the load that video streams create. The common server-centric architecture that is used is not scalable - especially for large scale live video streaming. Moreover, the problem affects not only video, but other business mission critical services which are deployed on the same underlying network. Building a sustainable video solution which supports the capacity needs of live streaming would usually incur huge infrastructure upgrades, unless a more intelligent approach is employed.



## Enter Peer5 Enterprise Live

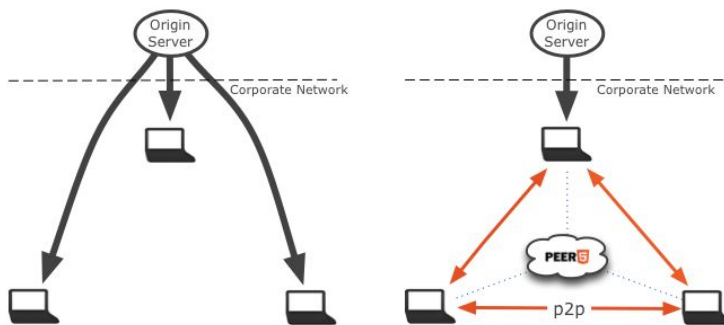
Enterprises can now easily scale and meet their growing video demands - by using computing resources that are already available in the network. **Peer5 Enterprise Live scales automatically with the demand. Every viewer that participates in the stream not only streams from the server but potentially from any other viewer.** This peer-assisted architecture is inherently more scalable and resilient during peak hours. By adding monitoring, analytics, security and management, Peer5 Enterprise Live ensures the best quality streaming.

## Congestion Relief

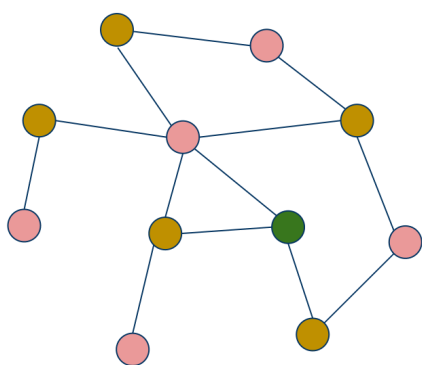
Peer5 Enterprise Live enables viewers to seamlessly share content and improve video quality.

*“Instead of relying solely on a centralized server, Peer5 decentralizes the traffic and distributes the load. Each participant of the stream contributes to the health of the stream by helping nearby peers”*

As opposed to a traditional solution (which is depicted on the left), the origin server is no longer the only source of video segments (figure on right). The network is relieved, and no congestion or bottlenecks will occur. By leveraging peers, **the solution gets more and more effective when more viewers join the stream.**



## WebRTC Mesh Broadcasting



The stream is multicasted using a state-of-the-art mesh network that is constructed on the fly once more than one user consumes the same content. Each additional user that joins the stream will be connected to the best users (peers) that can help. The mesh coordinator matches the peers using various parameters including latency, available resources, and buffer state aiming to optimize the overall performance for all users. The multicasting is not only dependent on the peers to sustain the demand, but uses the server to ensure UX even when peers are not sufficient.



## Pure SaaS - No Software or Hardware Changes

Peer5 Enterprise Live doesn't require additional hardware or software and makes deployment highly manageable and quick. By leveraging the standardized HTML5 WebRTC API, Peer5 runs seamlessly (no plug-ins or installs) on all major browser platforms, including Chrome, Firefox, Opera & Safari.

## Integration

Peer5 works on top of existing media servers and streaming protocols (HLS or DASH). An origin server or CDN can be used without any configuration changes. No special networking configuration is required. The system operates with standard HTTP and WebRTC only.

*Peer5, as opposed to ECDN or Multicasting solutions, requires no on-prem changes or equipment. The deployment is completely SaaS and provisioned from the cloud. It reduces the integration time to just a few hours.*

Integration only requires adding two lines of Javascript to the page where the video player resides.

**Inside the firewall** Peer5 enables viewers to fetch video segments from different sources. When possible, **Peer5 will use nearby peers from within the same local network / subnet.** When there are no available sources from within the network, the viewer will automatically fetch segments from the configured server, whether it's within the corporate network or outside. By enabling this hybrid P2P architecture, Peer5 Enterprise Live minimizes the load on the corporation's ISP connection.

## BYOD

Because only standard HTML5 APIs are used and no additional software is required, any employee, consultant or visitor with a modern browser can seamlessly participate in the video stream. With the increasing BYOD wave, it is critical to allow viewers to easily access to their video, instantly and seamlessly.

## Real Time Analytics

Monitor usage and quality metrics in real time using our advanced dashboard. Administrators can measure QoE and control the system from a powerful web interface.



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## Security

Peer5's solution uses no plug-ins or client software. It is a Javascript only service and is entirely browser based. This means it is a sandboxed solution whose security has been proofed by the major browser vendors. We do not use any proprietary, outdated software.

*WebRTC is the only solution that ensures reliability, is plug-in-free and provides a secure network stack that is completely sandboxed.*

All the data sent between users is encrypted end-to-end using the TLS protocol as per the WebRTC spec and all user metadata is transferred via a secured Websockets connection.

Peer5 ensures no leakage of the stream to sources outside of the enterprise.

We provide 3 levels of enforcement:

1. Basic - Private streams, accessible only to viewers with the URL.
2. Intermediate - Actively block handshakes between enterprise viewers and viewers outside the firewall. This is on top of basic security.
3. Advanced - The service is installed on premise and will not be reachable by the outside world. Moreover, Peer5 users within the firewall won't be able to reach the public Peer5 service.