

Delivering world-class VoD experiences

Scale profitably to growing audiences and offer more high-quality content with Lumen® Mesh Delivery

Viewers are more demanding than ever, expecting expansive content libraries and immersive multi-screen video. Meanwhile, revenue per subscriber increasingly struggles to keep pace with the cost of users' habits: binge watching, on-the-go viewing, and a growing appetite for 4K.

Lumen Mesh Delivery helps video platforms scale profitably by increasing the quality of online video while reducing the cost of delivery. This case study examines how Mesh Delivery works for video on demand, including SVoD, AVoD, popular series, catch-up TV and user-generated content.



How it works: hybrid video delivery for VOD platforms

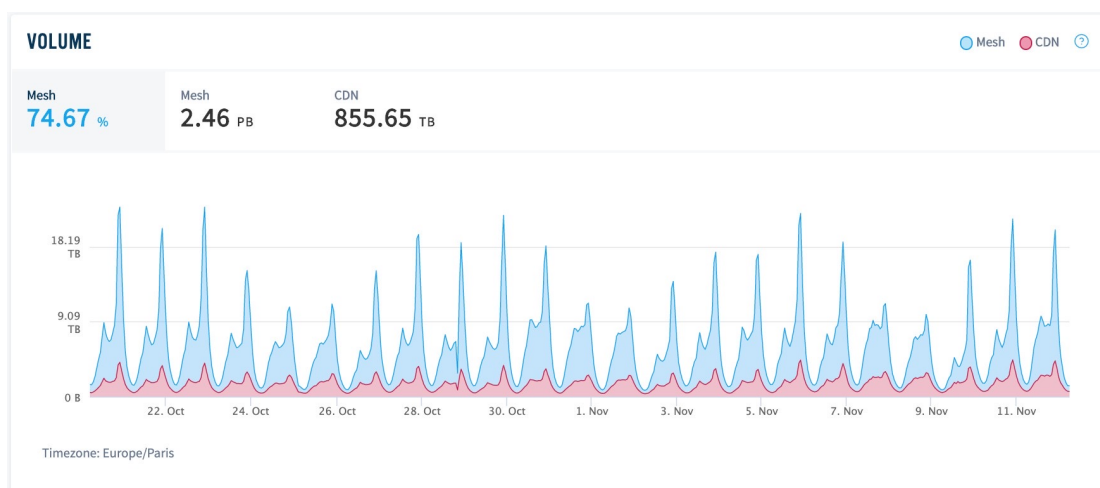
A peer-assisted delivery solution, Lumen Mesh Delivery intelligently multi-sources content delivery. Working in tandem with your current CDN infrastructure, Lumen Mesh Delivery dynamically routes video segments to the source that can provide them most quickly: either your CDN provider(s) or a mesh network of devices viewing the same content at the same time.

As more viewers tune in, the Mesh Delivery distributed network grows stronger, minimizing the risk of server saturation and quality issues associated with congested delivery.

Peer-to-peer for VoD content

Lumen Mesh Delivery is a powerful solution for SVoD, AVoD, popular series, catch-up TV, movies, and user-generated content. Delivering content via a mesh network across one's video service can provide the flexible scale that VoD platforms need, particularly when they face unexpected success on a series or when a piece of content goes viral.

When used on major television networks and VoD platforms, Mesh Delivery has delivered 75% of customers' VoD traffic on average across a variety of countries, content and bitrate profiles.



This European VOD platform has daily traffic spikes in the evening, driven by popular series. 75% of its traffic is delivered via the Lumen mesh network.

Drilling down into an individual stream allows us to better understand how peer-to-peer systems can be effective for VOD content.

Weekly releases often see large numbers of viewers tune in during the hours shortly after the episode is published, with a significant decline in viewership over the following days.



87% of this VOD stream was delivered via mesh, with a peak of 11,000 viewers tuning in the evening of the release.

Effective delivery for blockbusters and niche content alike

While the benefits of Mesh Delivery are most pronounced at scale, this technology is also highly effective with small audiences. From 40 to over 95% of CDN offload can be achieved with as few as 15 simultaneous viewers per stream, depending on users' geographic location, ISPs, number of bitrates offered, etc. The flexibility offered by Mesh Delivery represents a major advantage in delivering quality across all traffic levels.

TYPE	VIEWERS	%MESH	MESH BANDWIDTH	CDN BANDWIDTH
VOD	15	82%	15.73 Mbps	3.63 Mbps
VOD	15	97%	27.22 Mbps	933.60 Kbps
VOD	15	40%	4.39 Mbps	6.83 Mbps
VOD	15	77%	15.27 Mbps	4.77 Mbps
VOD	15	70%	11.05 Mbps	4.75 Mbps
VOD	15	79%	8.81 Mbps	2.45 Mbps
VOD	15	78%	8.22 Mbps	2.33 Mbps
VOD	15	81%	22.82 Mbps	5.46 Mbps

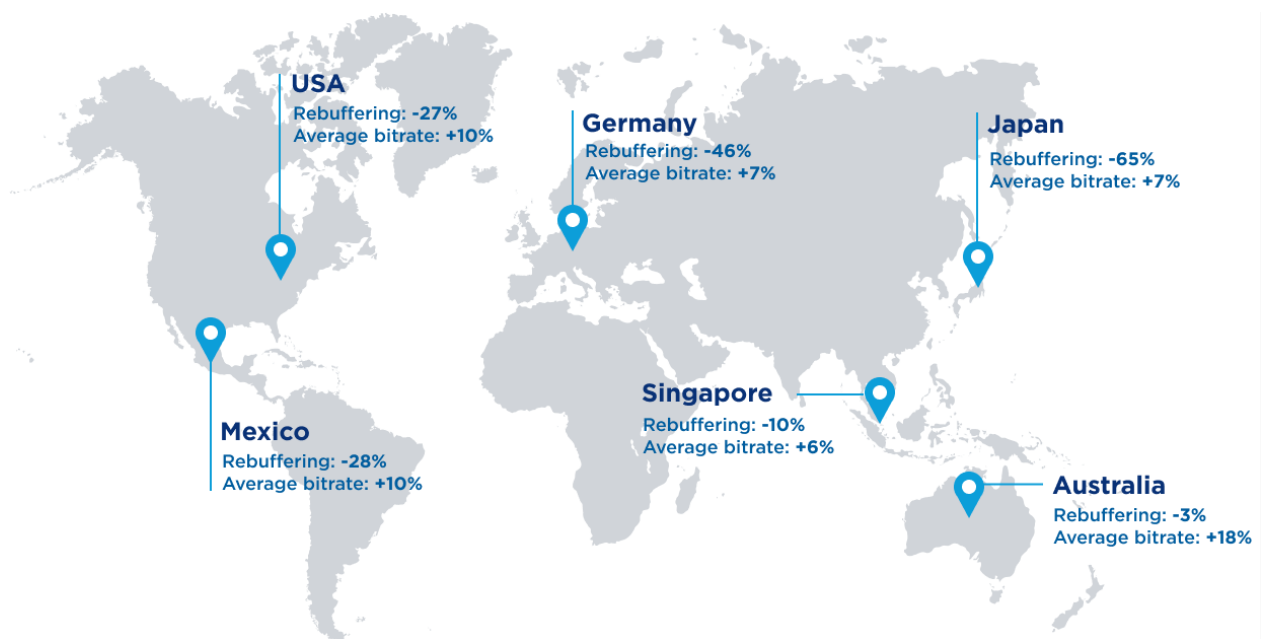
Long-tail content may only have a few simultaneous viewers. Mesh Delivery nevertheless delivers from 40 to 95% of the traffic on these multi-bitrate streams.

Platforms with very large content libraries in which only one or two viewers may tune in at a time may configure Mesh Delivery to be activated once a certain audience threshold per stream is met.

QoS improvements over CDN-only delivery

In addition to offering flexible scale, sourcing segments from a local mesh network can also have major advantages when it comes to quality. Bringing the edge up to the device, Mesh Delivery leverages user location, ISP, as well as network topology, device, type of content and bitrate profiles to determine the fastest connections.

In areas where CDN coverage is lacking, Mesh Delivery can make up for infrastructure shortcomings, providing reliable and high-quality video even where CDNs have fewer points of presence. Viewers across the world can thereby enjoy up to three times less rebuffering and higher bitrates compared to CDN-only delivery.



Get started today

To learn more about how Mesh Delivery can help your VoD platform deliver high quality to growing audiences, reach out to us for an assessment or for a trial of our peer-assist technology in production on your platform.

Map: improvements by customer and by country for selected Mesh Delivery customers, November 2020.

lumen.com | application.delivery@lumen.com

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