

# CASE STUDY: ISOTROPIC NETWORKS GOES OVER-THE-TOP WITH ST ENGINEERING IDIRECT TECHNOLOGY


## The Challenge

In 2020, it was reported that nearly 800 million people worldwide were subscribed to an over-the top (OTT) service. This counts as any on-demand service that is solely accessed via an internet connection, such as major streaming platforms Netflix, Amazon Prime and Disney Plus. As Internet Protocol (IP) video is increasingly becoming the new normal for entertainment seekers, factors such as website demand, internet traffic and latency can affect service delivery. Therefore, it is imperative that the streaming platform maintains a high level of quality video reception for all users.

This demand will only increase with time. It was estimated that by 2022, 82% of all internet traffic will result from video streaming, and as the technology landscape continues to evolve, so does the expectation for a fast,

high-quality service. Latency issues and congestion can also be caused by the provider's authentication system, which puts even more pressure on the overall network. This can cause frustration for the viewer. With an average customer tolerance duration of 90 seconds when subjected to low-quality streaming, this can have a detrimental effect and eventually result in customer churn.

Today, demand for streamed content is not restricted to the living room. It's popular wherever the user goes, yet the same, uninterrupted viewer experience is expected no matter where content is consumed. The superyacht community is a prime user of Netflix as passengers relax on board. Wisconsin-based satellite service provider, Isotropic Networks, noticed that the demand from its superyacht customers was putting extreme pressure on available bandwidth and passengers were experiencing a degraded experience.



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**Hank Zbierski, Chief Catalyst  
Isotropic Networks**

"Streaming is part of everyday life, and so is Netflix," explains Hank Zbierski, Chief Catalyst at Isotropic Networks. "This doesn't change when out at sea. We have maritime clients that expect us to enable their way of life, and this includes providing ultra-fast, ultra-reliable connectivity that supports a top user experience. To meet this demand, we needed a solution that would enable us to provide Netflix for superyacht passengers. Netflix is very bandwidth intensive; it will use everything you have available."

## The Solution

To address the pressure on bandwidth, Isotropic Networks developed a Digital Subscriber Management System which enables authentication for use on a timed basis. This greatly reduces the bandwidth required on the upstream side. Isotropic broadcasts a constant downstream feed of Netflix content, either by subscriber request or when there is additional bandwidth available, and the top 10 trending features are broadcast. Use of a caching server allows unlimited access and unlimited users permissions to view the content. The system is run over the iDirect Evolution® platform which increases the performance and efficiency of the satellite link, reduces latency and enables multicasting. The most popular content is multicasted through caches, directly to the user automatically, resulting in a fast and efficient service. The use of satellite extends

the geographical reach of the service into areas without a strong terrestrial broadband link, ensuring Quality of Experience (QoE) for Isotropic customers in the U.S. and Europe.

## The Results

The content delivery network (CDN) helps to tackle present as well as future issues that may arise for OTT providers. The sophisticated technology works to the edge of the network, ensuring increased QoE for viewers using the Isotropic solution and enabling them to watch their favorite shows uninterrupted. Due to the Evolution platform's innovative technology and multicasting capabilities, Isotropic was able to reduce latency, congestion and buffering times for its customers. In addition, it also significantly alleviated pressure from its service. This improved its QoE and ensured that Isotropic was confident with its future service. Isotropic's experience with the Evolution solution showcases the full benefits of satellite connectivity and how it can be optimally deployed to reduce bandwidth, backhaul and latency issues for OTT providers. This comprehensively signals an effective solution for the future of IP video and content distribution. Isotropic was able to do something special to satisfy the stringent Netflix requirements for subscriber management and content protection. The satellite return link also makes the use of CDN analytics and specific content requests.

"Speed is everything when it comes to user experience," Hank concludes. "ST Engineering iDirect enables Isotropic to provide the speeds needed for high-demand networks and for bandwidth-heavy applications and streaming. The ability to introduce various sized multicast streams into the standard downstream carrier makes for very efficient use of the Evolution platform and not seen from other technologies."



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Evolution platform in our  
product brochure**

**Learn more on Isotropic  
Networks in our partner profile  
and on [www.isotropic.network](http://www.isotropic.network)**



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