

Satellite: Delivering the future of video streaming

Satellite has long played a key role in the distribution of broadcast content to millions of viewers thanks to the wide coverage beams provided in GEO. With the advent of LEO and MEO constellations, and the trend towards non-linear TV, viewing habits have changed; however, content demand can still be met via satellite.

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The global pandemic has caused unprecedented growth in the number of people utilizing streaming platforms, delving into TV boxsets and the latest films. Additionally, national lockdowns also impacted our working and social lives as we migrated considerably to life indoors. This shows no signs of slowing, as it is projected that subscription Over-The-Top (OTT) video service users will grow to 196.3 million by 2024 in western Europe.

Service providers must do their utmost to harness and leverage the new technologies at their disposal to reap the benefits for their subscribers. Looking past the traditional methods of providing unflinching and reliable broadband connectivity is of paramount importance, especially in areas where terrestrial infrastructure is unavailable or prohibitively expensive. Satellite broadband, not traditionally considered an option for Internet-based video streaming, is already connecting the most remote locations to content – and for good reason.

OTT for lockdown entertainment

The likes of Netflix, Apple TV, and Amazon Prime, have received extra attention across Europe, Africa, and the Middle East, and become a firm fixture on peoples' daily calendars over the past 18 months. In addition to these OTT services for video streaming, Microsoft Teams and Zoom have been utilised daily in order to stay connected with colleagues, friends, and family.

OTT services have also facilitated the migration of students and teachers to online learning, enabling them to continue with invaluable lessons and to keep educational services running throughout the pandemic. In addition to education, high-quality video is imperative to provide real-



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time information for personnel in a variety of industries including mobility, government, defence, and telemedicine.

Challenge for service providers

Every device in the home used for OTT streaming services can be viewed as a separate and individual stream and has a unique set of requirements. With end-user demands ever-growing, they expect to have the ability to play their video content on-the-move and at all times, with unflinching coverage. However, the likes of latency, Internet traffic and website demand can all be detrimental factors for seamless service delivery. If the network is overloaded, bandwidth strains may be more frequent and service blackouts may be experienced.

The live streaming market is set to be north of US\$245 billion by 2027, but the challenge of providing live content for sports, music or breaking news remains. For providers, they must be sure to provide high bandwidth, low latency, and impeccable traffic management to ensure no buffering, and uninterrupted, unflinching streaming. Customer experience has never been more important. In fact, customer tolerance averagely lasts around one minute and a half in relation to poorly performing streaming and therefore providers must be sure to address this in order to maintain customer confidence and prevent customer churn.

Satellite: The logical choice

Terrestrial networks can often experience spells of severe congestion, but this is eliminated by deploying a technology such as satellite. By utilizing the Content Distribution Network (CDN), the bandwidth is more optimally used and brings multiple copies of the same content to the subscriber. Improved Quality of Experience (QoE) is also delivered by distributing content spatially relative to the consumer as the CDN can secure increased availability and experience reduced buffer. Satellite has the ability to multicast and can reach all receivers in a network seamlessly and quickly.

Subsequently, coverage in harder-to-reach areas can be achieved with satellite as it scales considerably for additional receivers. Satellite is an economic option for service providers that wish to provide terrestrial connectivity to all places across the globe and keep people connected at all times.

Bandwidth for superyachts

Satellite can facilitate connectivity for a multitude of services and applications in a host of vertical markets. Markets such as maritime and aerospace can be benefitted significantly. For those in the superyacht industry, streaming video content is a must when passengers and crew members wish to experience streaming during downtime. Increased demand from customers, can place substantial pressure on a network's overall bandwidth, and this can have a damaging impact on passengers' overall experience.

This was the case for Isotropic Networks. To directly combat this issue, the satellite service provider developed a Digital Subscriber Management System to reduce the amount of bandwidth needed on the upstream side. Broadcasting a constant downstream feed of Netflix content, Isotropic Networks could facilitate subscriber requests, and implemented a caching server to ensure unlimited user permissions to access the content, anywhere, at any time of the day.

The iDirect Evolution® platform facilitated this by enabling multicasting, low latency, and increased efficiency of the

satellite link. The ability to multicast through caches ensured that the customer received content swiftly and experienced an efficient service. With the superyacht industry encompassing travel across a number of locations across North America and Europe, having access to a high QoE was a must. The use of satellite ensured all areas, even without a viable terrestrial broadband link, could be reached.

Therefore, the Evolution platform allowed Isotropic Networks to introduce various sized multicast streams, and this substantially reduced congestion and buffering times for passengers on board. Subsequently, Isotropic Networks was able to provide the speeds required to facilitate bandwidth-heavy applications and maintain a great customer experience.

A safe bet

In the current climate, subscribers need unfailing connectivity to stream video content in an array of industries, and service providers must be able to facilitate this to keep their customer base satisfied. With the skillset to provide remote access and multicasting, satellite races ahead as the technology of choice. Considered the ideal choice for OTT services, satellite can distribute an unparalleled amount of content and offer a superior customer experience. As video streaming continues to grow worldwide at a breakneck pace, one thing is clear, service providers must ensure they adopt satellite in order to reap the immense benefits on offer and remain on pace with their competitors.



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