Case study

# iStreamPlanet transforms live video streaming with HP Moonshot

## Accelerates video transcoding to handle more high-definition broadcast channels at lower cost per channel

**Industry**
Live video streaming

**Objective**
Improve performance, efficiency, and agility for delivering high-definition live video streaming from multiple broadcast channels to a wide range of end-user devices

**Approach**
Deploy HP Moonshot System with HP ProLiant m710 Servers in the HP Moonshot 1500 Chassis to run cloud-based live video streaming software as a service

**IT matters**

- Achieved a three to five times reduction in power consumption
- Reduced data center footprint to 1/10th the physical space of traditional blades
- Performed complete channel transcoding on a portion of one ProLiant m710 instead of multiple server blades

**Business matters**

- Handles more high-definition channels at a lower total cost per channel compared to traditional blades
- Scales capacity quickly and easily to support more customers and video content without large capital expenditure
- Delivers always-up services to meet customer reliability and quality expectations

iStreamPlanet®

**"The HP Moonshot System clearly represented a non-linear jump in our ability to provide high-quality live video streaming and lower power consumption in our cloud."**

– Mark VanAntwerp, Vice President of Engineering, iStreamPlanet

As an industry leader in live video streaming, iStreamPlanet is constantly looking for technology innovations to enhance performance and efficiency. By moving video transcoding processes from traditional blades to the HP Moonshot System, iStreamPlanet can now encode live video streams in 1/10th the data center space with a three to five times reduction in power consumption. This enables the company to handle more high-definition broadcast channels at lower cost per channel.

iStreamPlanet entered the live video streaming market more than 15 years ago, and the company continues to lead the industry in innovation. Consider the number of web and mobile devices that populate the world today—from Internet-enabled TVs and personal computers to smart phones, iPads, tablets, and a variety of hand-helds and wearables. Now imagine watching one of the biggest sporting events of the year on any of those devices live. Yes, live. That's what iStreamPlanet delivers, which is no small feat when you have high-definition broadcast signals setting the bar on quality.

The key to iStreamPlanet's ability to deliver live video streaming with HD quality is its cloud-based live video encoding and multiscreen packaging platform, Aventus. This software-as-a-service (SaaS) solution enables the world's leading sports, entertainment, and technology brands such as NBC Sports, Turner Broadcasting, Fox, AT&T, and Microsoft to stream live premium content to their viewers on practically any device, complete with ad insertion, slating, content protection and closed captioning. We're talking epic events, like the 2014 Winter Olympics in Sochi. Aventus helped NBC Sports Group deliver more than 10 million streams, running over 40 live channels 24/7 throughout the three weeks of coverage.

Historically, iStreamPlanet ran its own Aventus private cloud on traditional blades. But as video transcoding demands intensified, the company began exploring alternative infrastructures to improve performance and efficiency in the cloud.

Mark VanAntwerp, iStreamPlanet's vice president of engineering, comments, "Over the years, we've built the video expertise to know how to best transform broadcast quality source channels to match the playback capabilities of the latest devices. That's how we deliver the best possible experience for our customers. But we're always on the lookout for innovative ways to raise the bar in terms of streaming quality and value. The HP Moonshot System clearly represented a non-linear jump in our ability to provide high-quality live video streaming and lower power consumption in our cloud. We got very excited about that."

## New levels of performance and efficiency

For iStreamPlanet, a company known for working with the biggest media and entertainment brands in the industry, nothing less than state of the art will do. That makes HP Moonshot the ideal choice for its live video streaming cloud—specifically, the HP Moonshot 1500 Chassis loaded with 45 HP ProLiant m710 Servers. The ProLiant m710 is built on the Intel® Xeon® Processor E3-1284Lv3 with integrated Intel Iris™ Pro Graphics P5200 to accelerate high-quality video transcoding. In combination with shared components and 10 Gbps uplinks of the Moonshot 1500 Chassis, the solution enables iStreamPlanet to achieve performance and efficiency levels never before possible.

"The performance we're seeing from the ProLiant m710 is impressive," says VanAntwerp. "We typically convert input from a broadcast channel into seven or eight adaptive bitrates for multiple output formats, including encryption. That used to require multiple larger processors, but now we can accomplish the work needed for multiple entire channels on a single ProLiant m710."

Adaptive bitrate streaming is critical for managing live video quality over computer networks. iStreamPlanet encodes adaptive bitrates on HP Moonshot to optimize viewing quality for a variety of device types and network conditions, whether the user is streaming content on a stationary computer or a smart phone in a moving vehicle.

## Customer at a glance

**HP Moonshot System**
- HP ProLiant m710 Servers
- HP Moonshot 1500 Chassis

**Software**
- Microsoft Windows Server

**HP Services**
- HP Financial Services

**Our partners support**


## Runs leaner and greener

iStreamPlanet also runs much leaner and greener thanks to HP Moonshot's dense, low-power architecture. In fact, as many as nine Moonshot 1500 Chassis fit in less space than a typical 42U rack while consuming a fraction of the energy of traditional blade servers. This allows the company to handle a greater number of high-definition channels at a lower total cost per channel.

"The ProLiant m710 is very compelling in its ability to do power- and space-efficient video transcoding," notes VanAntwerp. "Compared to an equivalent number of blades, we've seen a three to five times reduction in power consumption on HP Moonshot in about one-tenth the space. With so much more HD content to process, Moonshot was really the only way to get the performance we need while saving space, power, and cost."

Jennifer Baisch, vice president of marketing at iStreamPlanet, adds, "Data center space is a precious commodity, which makes a dense infrastructure like HP Moonshot much more appealing for running our Aventus cloud than traditional blades. Content producers choose our SaaS offering instead of an on-premises solution because it delivers great performance with lower overhead. With Moonshot we can enhance the value they get even further."

## Setting the pace for the industry

While HP Moonshot conserves space, it also enables iStreamPlanet to respond quickly to growing customer demands. For example, in the agile Aventus cloud, iStreamPlanet customers can roll out new live channels in a matter of minutes, adding channels or content as needed. Therefore, it's essential to have an infrastructure like HP Moonshot that can scale quickly and easily.

"HP Moonshot provides that perfect combination of an open chassis with workload-specific server cartridges so we can build up capacity on the fly to match demand, which enables our customers to launch new channels more quickly," VanAntwerp observes. "Plus, the redundancies built into the chassis enable us to deliver the broadcast-level reliability our customers expect."

Baisch concludes, "We chose a cloud and SaaS strategy because we want to be on the right side of Moore's law. Working with innovators like HP and Intel really helps us to set the pace within our industry."

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