

WHITEPAPER: Global Acquisition and Distribution Powered by iStreamPlanet

The strategic co-location of iStreamPlanet's Broadcast Operations Centers within the largest data centers in the US and Europe provides content owners a flexible solution for IP backhaul, enabling high quality, live streaming from practically any corner of the globe.

Summary

The first step in powering a live, online streaming broadcast is acquiring content sources from the event location to be processed for delivery to a variety of connected devices. Acquiring content can be a challenge: dedicated fiber networks to event locations aren't ubiquitous, and satellite uplink and satellite time can be expensive. iStreamPlanet in partnership with Interxion in London and Switch in Las Vegas, provides a unique and cost-effective alternative for acquiring live content via IP backhaul, due to the co-location of iStreamPlanet's Broadcast Operations Centers and the multitude of carriers within these large data centers.

By co-locating their BOCs within these data centers, iStreamPlanet can cross-connect with over 70 leading carriers to enable IP backhauling of content from nearly any venue in the world, the venue only needs access to just one of these carriers. Once the feeds are acquired they are pushed to iStreamPlanet's BOC for media processing, publishing and distribution via one or multiple CDNs, also located within the data centers.

This solution provides the ability to process more feeds, often with time and cost savings, ultimately driving a high quality, live, video experience from practically any corner of the US and Europe.

Strategic Partnerships Provide Global Connections

Content owners are connecting to their audiences with live content in record numbers. It's now routine to have hundreds of thousands, if not millions of global viewers connecting to live video events, a recent example being the London 2012 Olympics. This growth has been spurred on by the proliferation of connected devices: PCs, tablets, smartphones, connected TVs and gaming consoles. The increase in demand is driving content owners to offer more



and more of their live events online, including sports, concerts, and keynotes and conferences. Each of these live streaming events is powered by a live video workflow in which the first step is acquisition or acquiring the broadcast feeds which then go through media processing. The feeds are published and then distributed by a content delivery network to those millions of Internet connected devices.

Satellite is the most common route for acquiring live content. In the US satellite transmission is mostly commoditized market providing stable, low costs for content owners. In Europe satellite and satellite time are more expensive due to fragmentation of the European market. Satellite transmission can be vulnerable to interferences, such as weather so for premium events content owners often have, or contemplate, a backup solution in place in case the satellite transmission goes down.

Another complementary or alternate solution for acquisition is video fiber, however the build out of video fiber networks, direct to the venue is still in a growing phase and many live event venues don't have dedicated video fiber access. If the event venue isn't on these networks the content owner must find another option.

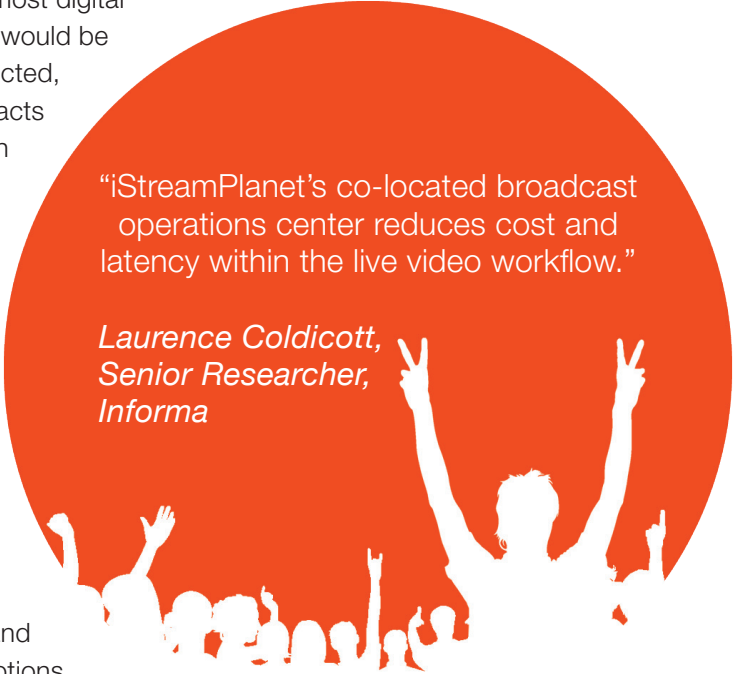
This is why IP backhaul is a good solution for content owners. This method of transmission uses the local exchange carrier in delivering the broadcast to an internet exchange where it can then be pushed to a larger carrier who delivers it to a facility for media processing and web delivery to connected devices.

Benefits of Co-Located Acquisition, Media Processing and Distribution

IP backhaul opens up the possibility of global acquisition, enabling content owners to provide live, streaming broadcasts from nearly any venue in the world and often at a cost savings to alternative transmission.

So why isn't this transport used more often? The hurdles that most digital media companies would face when using this transport option would be large lead times in getting circuits provisioned and cross connected, securing the first and last mile delivery, without long term contracts and associated costs for one time usage. By co-locating within the leading data centers, iStreamPlanet has unique abilities in provisioning IP backhaul transport from any of the carriers inside the facility.

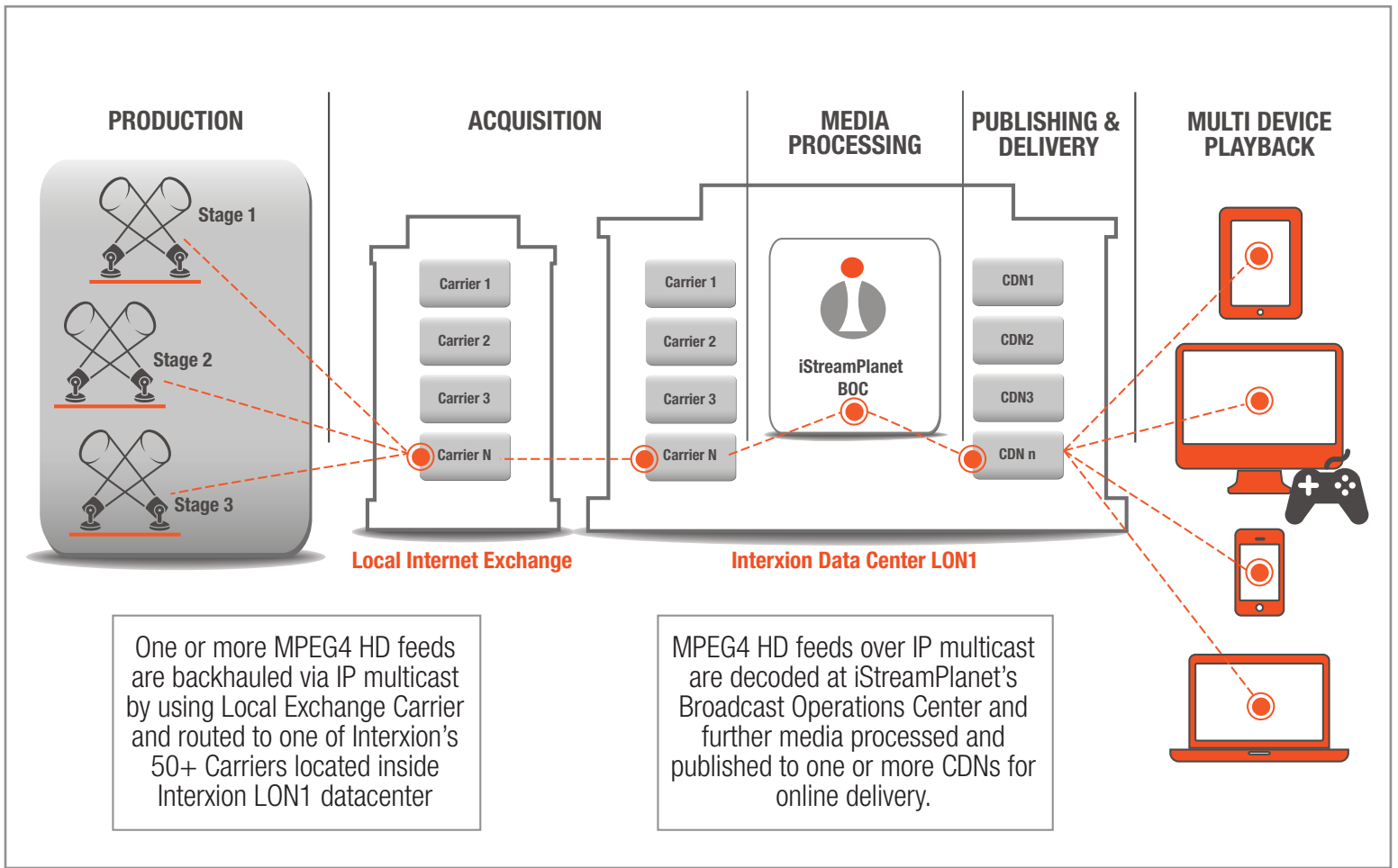
iStreamPlanet's London-based Broadcast Operations Center (BOC) is located within Interxion's London data center and home to over 50 of Europe's leading networking providers, ISPs and CDNs. iStreamPlanet's Las Vegas-based BOC is located within two miles of Switch's SuperNAP data center with access to over 20 leading carriers and CDNs. This opens up opportunities for cross-connect arrangements that can be quickly implemented, enabling content owners to optimize routing for lower latency and reduced cost. Not only does iStreamPlanet have a myriad of options for IP backhaul, major content delivery networks (CDNs) also reside in these data centers, enabling publishing within the same building. When the publishing point is co-located with the encoding facilities it minimizes the latency between media processing and publishing to the CDN. It is like publishing to LAN versus a public network, and all of the issues associated with transport over the public internet: latency, number of network hops and security for example.



"iStreamPlanet's co-located broadcast operations center reduces cost and latency within the live video workflow."

*Laurence Coldicott,
Senior Researcher,
Informa*

"As the demand for live, online video grows, content owners are seeking the most efficient and scalable paths for content acquisition, processing and delivery," said Laurence Coldicott, Senior Researcher for Informa. "iStreamPlanet's co-located broadcast operations centers reduce cost and latency within the live video workflow."



IP Backhaul Process

Because the BOC is co-located with the data center, iStreamPlanet can take advantage of accessibility to all the carriers and CDNs, plus the power and security that these leading data centers provide, as well as access to leading cloud providers.

“The carrier neutral data center is emerging as a critical component in the rapidly evolving, end-to-end, online media workflow,” said Jonathan Wood, Director of Marketing and Business Development for Interxion. “By co-locating their Broadcast Operations Center within our London data center iStreamPlanet is guaranteed the highest levels of security and platform uptime. Crucially, iStreamPlanet has direct access to all leading carriers and CDNs, ensuring the highest performance, redundant connectivity between their platform and the viewing audience, across a wide range of connected devices.”

Case Study: European Music Festival

A recent live event provides a good example of how content owners rely on iStreamPlanet's Interxion-based BOC for global acquisition and delivery.

The content owners were producing a large music festival that they wanted to provide live, to online audiences on multiple devices. This was a very large production with production taking place across three stages, for five days. The festival was taking place outside, in a remote location, so clearly video fiber was not going to be an option. Satellite proved to be cost prohibitive;

because the event was taking place on multiple stages and the organizers wanted the online audience to be able to choose which stage they wanted to watch, the cost to rent the satellite space required for the multiple feeds was very high.

As the managed broadcast services provider for the event, iStreamPlanet recommended IP backhaul to transport the content to Interxion's data center via a local carrier. Once the content was in the data center it was simply a matter of cross linking the IP video feeds from the carrier to iStreamPlanet's BOC iStreamPlanet encoded, transcoded and then published the multiple streams in multiple formats. The streams were published within the same building reducing the latency and providing the best possible downstream viewing experience.

Utilizing cost effective IP backhaul, the content owners were able to achieve the multi-stage viewing experience that they'd intended and without the cost effective IP backhaul solution, wouldn't have been possible.

Conclusion

For content owners who want to take advantage of the growing audience for live, online video iStreamPlanet's IP backhaul solution offers a cost effective, and scalable model to acquire a number of media feeds, efficiently process and publish those feeds, and provide a high quality, live video experience to connected devices around the world.

Interxion LON 1 Carriers and CDNs

7 Ticks/Interactive Data	GEO	Viatel
Abovenet	Hibernia Atlantic	Virgin Media (formerly NTL)
Algospan	Internap	Cablecom Networking
British Telecom	Interoute Telecommunications	CFN Services
Cable & Wireless	IPC Networks	DNS Europe
Centric Telecom	KPN EuroRings	Griffin Information Systems Ltd
Cogent Communications	Level 3	Grupo Dialoga
Colt	LINX (London Internet Exchange)	Hyperoptic Ltd
Connexions for London	LONAP	Iconnyx
Datahop	Metadigm	Interfusion Networks
EasyNet	SSE Telecoms	IP-Only Telecommunication AB
Entanet	Options Technology	Reliance Globalcom (Vanco)
Epsilon	GTT (formerly Packet Exchange)	Savvis
EU Networks	IX Reach	Tel XL
Exponential-e	Perseus Telecom LTD	Trunk Networks
Fibrespan	Telecom 2	Xtraordinary
Financial Network of Norway	TeliaSonera (formerly Telia)	Networks Ltd
Fixnetix Ltd	Verizon	

Switch Carriers and CDNs

Sprint	Zayo	NTT America
Lever (3)	TelePacific	American
AT&T	Inteliquent	Verizon
CenturyLink	XO	Qwest
Host.net	Communications	AboveNet
Wilshire Connect	Limelight	360networks
Time Warner	Networks	Cogent
Cable	Tinet	
Integra Telecom	Cox	

About iStreamPlanet

iStreamPlanet is a multi-platform managed broadcast solutions provider committed to bringing high quality video experiences to connected audiences around the world. With over a decade of managed broadcast experience iStreamPlanet has built a comprehensive offering of video workflow and content management products and services. iStreamPlanet's innovative approach has been chosen by the world's leading sports, entertainment and technology brands including NBC, Turner Broadcasting, AMC Networks, the US Olympics Committee, AT&T, Microsoft and others. Founded in 2000, the privately held company is headquartered in Las Vegas with offices in Redmond, Washington and London, UK. More information can be found at <http://www.istreamplanet.com>.

iStreamPlanet Managed Broadcast Services

Onsite and offsite acquisition	Satellite Fiber IP
Encoding	Adobe Flash and HTTP Streaming Apple HLS Microsoft Windows Media Microsoft IIS Smooth Streaming Multi-camera angles Still or animated on screen graphics
Publishing	Origin services Multiple platforms and devices: PCs, Macs, iOS, Android, game consoles, connected devices, and OTT devices including Apple TV, Google TV, Roku and Boxee Tightly partnered with all leading CDNs
Custom Player and App development	Custom video players and applications Silverlight SD/HD players for Live video content, Flash and HTML 5 players Full DVR controls Data visualizations, overlays and metadata Custom applications for iPad, iPhone, XBox LIVE, Sony PlayStation and other platforms



For more information on
delivering live, live linear
or on demand video to
multiple platforms, visit
www.iStreamPlanet.com.