WEBINAR

Seamless Migration to IP Transport

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Seamless Migration to IP Transport

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Moderator and SVP Marketing and Alliances, Zixi

Tim Baldwin
Head of Product, Zixi

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Senior Product Manager, Synamedia
Agenda

- Synamedia & Zixi Introduction
- Synamedia Product Offering with Zixi Integration
- Product Demonstration
- Use Case Example
- Key Takeaways & Questions
Introduction

Jordi Sander
Senior Product Manager
30+ years of Experience in Video

**Scientific Atlanta**
Leading global provider of set-top boxes, end-to-end video distribution networks and video systems integration

**Cisco**
Cisco is the worldwide leader in networking that transforms how people connect, communicate, and collaborate. Our technology is changing the nature of work and the way we live.

**BARCO**
Founded in 1934 as a radio manufacturer, Barco became a pioneer in European color TV in 1949. Leader in visualization solutions

**NDS**
NDS developed software designed to create pay TV video offerings for service providers that enable subscribers to view, search and navigate digital content on any device. Its products included set-top/DVR, program guide and digital-content software, and video headend systems.

**Inlet Technologies**
Leading provider of Adaptive Bit Rate (ABR) digital media processing platforms.

**Arroyo**
Provider of next-gen solutions for on-demand television and consumer services.

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What we deliver

Video Experiences and Cloud DVR
Platform solutions for managing, cloud recording, viewing content, and subscriber analytics.

Video Security
Critical technology to ensure the security of content throughout the video value chain.

Video Network
Content encoding, transcoding, management, and orchestration solutions for live content and VOD on any screen.
Network Transport Receiver to securely distribute over any link (satellite, direct IP connection, Internet and CDN). IP ABR to TS conversion for distribution to traditional end-points.

Control PowerVu video, audio, data, and other ancillary services of your uplink. Configure and control your PowerVu network devices. Monitoring of IP connected IRDs using PowerVu Insight.
The industry’s most mature microservices-based video application for encoding, transcoding, packaging, encrypting, statmuxing, and other mission-critical operations for both live and VOD workflows.

Broadcast quality encoding and transcoding platform to support various applications from content contribution and production; primary and secondary distribution.

Management and monitoring platform to simplify media workflow operations. Support for Synamedia’s Digital Content Manager, Virtual Digital Content Manager, Encoder D9036, and Integrated Receiver Decoder D9800.
Open and flexible CDN platform to multi-screen experience to all managed and unmanaged consumer devices. Supports Live/ VOD/TSTV/cDVR unicast ABR streaming services.

Cost-effective and scalable solution for streaming HTTP adaptive bit rate live video to the in-home primary screen using network IP multicast.
Introduction

Tim Baldwin
Head of Product
What We Do

Software-Defined Video Platform that enables broadcast-quality video transport over all IP

• Employed by traditional broadcasters, OTT broadcast services, service providers
• To source, manage, and distribute live events and 24/7 linear channels over IP
• Through the tight integration of **four crucial elements**:
  1. ZEN Master
  2. Zixi Video Solutions Stack
  3. Zixi Protocol
  4. Zixi Enabled Network
Enabling the Largest Global Ecosystem for Live Video

Zixi provides a scalable platform to easily, quickly and cost effectively interconnect the world’s leading media companies, their cloud and service providers, and thousands of edge devices around the world.
Bringing 10+ Disparate Hardware & Software Solutions All Under 1 Platform

Protocols
- Zixi Protocol: Best protocol in the market, DTLS, FEC, multicast, encoder backpressure, ABR, bonding, business impact analytics, etc.
- 10 Integrated protocols
- Protocol switching

Zixi Video Solutions Stack
- Hitless failover
- 99.999%+ reliability
- Any cloud - public or private
- Any IP network type
- Transcoding & repackageing
- ML based ePSNR
- Recording
- Time shifted delivery
- Auto-slatting
- Network analytics
- Transport analytics
- Content and encoder quality analytics

ZEN Master
- Provisioning
- Deployment
- Orchestration
- Monitoring
- Multi-party supply chain
- Telemetry visualization
- Workflow visualization
- Alerting
- History
- Automation
- Scheduling
- Reporting
- Root cause analysis

Zixi Enabled Network
- Any edge device
- Interoperability
- Cross supply chain
- 100+ tech partners
- 500+ customers
- 100+ countries

Multi-Point Aggregation/Distribution
Multi-Channel Delivery
The Only Software-Defined Video Platform Designed for the Future of Media Transport

Zixi is the only flexible, interoperable platform to combine all these elements and is the safe future proof choice.

✓ All IP and HYBRID NETWORKS
✓ MULTI-PROTOCOL
✓ INTERGRATED WITH ALL MAJOR CLOUD PROVIDERS
✓ EMBEDDED IN 100s OF EDGE DEVICES
## 5 Major Use Cases & Growing

<table>
<thead>
<tr>
<th>Satellite Rationalization</th>
<th>Cost-Effective Content Exchange</th>
<th>Centralized Management &amp; Monitoring</th>
<th>Enable New Revenue Sources</th>
<th>Cloud/Virtualization Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Drivers</strong></td>
<td>Customers are moving from satellite because they want flexible cost rather than high fixed cost</td>
<td>Facilitating cost effective content exchange for both content owners and content acquirers</td>
<td>ZEN Master provides a single centralized virtual Control Plane to efficiently monitor and manage content over any and all IP</td>
<td>Drive to monetize more content and content formats across new platforms</td>
</tr>
<tr>
<td><strong>Customer Examples</strong></td>
<td><img src="image" alt="NBC Universal" /> <img src="image" alt="univision" /> <img src="image" alt="SES" /> <img src="image" alt="X" /> <img src="image" alt="prime video" /> <img src="image" alt="PlayStation Vue" /> <img src="image" alt="hulu" /> <img src="image" alt="verizon" /> <img src="image" alt="streaming services" /> <img src="image" alt="Bloomberg" /> <img src="image" alt="aws elemental" /> <img src="image" alt="Microsoft Azure" /> <img src="image" alt="Google Cloud" /> <img src="image" alt="WARNER MEDIA" /> <img src="image" alt="Bloomberg" /></td>
<td><img src="image" alt="sling" /> <img src="image" alt="fuboTV" /> <img src="image" alt="Disney streaming services" /></td>
<td><img src="image" alt="FOX" /> <img src="image" alt="NBC Universal" /> <img src="image" alt="IMAX" /></td>
<td></td>
</tr>
</tbody>
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Professional Receiver (D9800) and SW DCM

Overview
### Synamedia and Zixi offering

**PowerVu Professional Receiver (D9800)**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Ingest**               | • Supports Satellite, MPEGoIP, HLS and Zixi Reception concurrently  
                          • Supports Disaster Recovery between various input flavors.                                                                                  |
| **Content Protection**   | • Supports PowerVu, DVB-CAS, BISS and Zixi decryption  
                          • Supports Fingerprinting                                                                                                                  |
| **xCode**                | • Support HEVC/AVC/MPEG2 decoding  
                          • Supports HEVC/AVC HD-SD transcoding to AVC/MPEG2 HD-SD                                                                                   |
| **Processing**           | • SDI/HDMI/Analog output options  
                          • ASI and MPEGoIP TS output options.                                                                                                          |
| **Management**           | • PowerVu Network Center: Control&Monitoring of ProlRD(D9800)  
                          • Zixi Zenmaster certified.                                                                                                                  |
Synamedia and Zixi offering PowerVu Professional Receiver (D9800)

<table>
<thead>
<tr>
<th>Product Variant</th>
<th>D9800 SS R4.25</th>
<th>D9800 MS R4.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport mode</td>
<td>Push/Pull</td>
<td>Push/Pull</td>
</tr>
<tr>
<td>Zixi FEC</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Zixi Encryption</td>
<td>AES128/196/256</td>
<td>AES128/196/256</td>
</tr>
<tr>
<td>Zixi DTLS</td>
<td>Supported (3.75 and up)</td>
<td>Supported (3.75 and up)</td>
</tr>
<tr>
<td>Zixi ZENMASTER</td>
<td>Supported (4.75 and up)</td>
<td>Supported (4.75 and up)</td>
</tr>
<tr>
<td>Zixi input Stream Redundancy</td>
<td>Supported(2)</td>
<td>Supported(2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max safe TS rate</th>
<th>Tested with 15% packet loss</th>
<th>Tested with 15% packet loss</th>
</tr>
</thead>
</table>
| No AES                           | **80 Mbps** - single Zixi instance (75 Mbps content) | **160 Mbps** - 2 Zixi instances at **80 Mbps** each. |}

**NOTE:** Zixi supports both SPTS and MPTS. The combined bitrate in the case of MPTS should be below the suggested max rate above.
### Synamedia and Zixi offering

**SW Digital Content Manager (vDCM)**

<table>
<thead>
<tr>
<th>xCode</th>
<th>Packaging / Origin</th>
<th>Content Protection</th>
<th>Ad Insertion</th>
<th>Processing</th>
<th>Management</th>
</tr>
</thead>
</table>
| • HEVC/AVC/MPEG2 encoding  
• AVS+/HEVC/AVC/MPEG2 transcoding to AVC/MPEG2  
• SDI, IP, SMPTE 2022-6, SMPTE 2110 input support  
• ABR encoding and transcoding | • Full Packaging support (HLS, DASH)  
• Origin support. | • DVB CSA Scrambling support  
• DRM support  
• Headend-Watermarking | • MPEG2/AVC/HEVC Live Linear Splicing  
• Manifest Manipulation | • Reliable Transport of Internet support with Zixi input and output  
• Full TS processing and Monitoring | • VSM: Single Platform for both Streaming and Broadcast delivery  
• E2E workflow management for Streaming (incl DRM)  
• Rich API, integrating with other Systems |
## Synamedia and Zixi offering SW Digital Content Manager (vDCM)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport mode</td>
<td>Pull/ Push(from AWS MC)</td>
</tr>
<tr>
<td>Zixi FEC</td>
<td>Supported</td>
</tr>
<tr>
<td>Zixi Encryption</td>
<td>AES128/196/256</td>
</tr>
<tr>
<td>Zixi DTLS</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Zixi input Stream</td>
<td>Supported</td>
</tr>
<tr>
<td>Redundancy</td>
<td></td>
</tr>
<tr>
<td>Zixi number of inputs</td>
<td>No restrictions</td>
</tr>
<tr>
<td>Zixi BW limit per input</td>
<td>No limit</td>
</tr>
</tbody>
</table>
D9800 / PowerVu Insight / Zixi ZEN Master

Demo
Demo with D9800 Zixi configuration: D9800/PowerVu Insight/Zixi ZEN Master
Use Case

Service Provider Distribution
Migration from Satellite to IP distribution
Use-case CP to SP distribution: Regional Sports

Content Provider Uplink
- DCM Encode
- DCM Statmux
- DCM Xcrypt
- Modulate

DCM Mux Switcher
- Internet
- D9800 ProIRD with Zixi Pull
- Zixi Broadcaster
- Zixi AES128

Service Provider HE
- IRD

Use-case CP to SP distribution: Regional Sports

2 transponders
12 channels
100 SP locations
Key Takeaways

• Synamedia and Zixi’s joint delivery solution will allow programmers to gracefully migrate any programming from satellite to terrestrial distribution methods by providing secure, reliable, error-free video transport over IP

• Synamedia’s devices integrated with Zixi:
  • Virtual digital Content Manager (vDCM)
  • PowerVu Professional Receiver (D9800)

• Integrated monitoring and reporting with Zixi’s ZEN Master control plane
• Zixi functionality is enabled on Synamedia devices through a license
Any Questions?

John Wastcoat  
Moderator and SVP  
Marketing and Alliances

Tim Baldwin  
Head of Product

Jordi Sander  
Senior Product Manager

Synamedia
Thank you!