



## Purpose Built Appliances for Distributed Video Delivery

IF YOU ARE A NETWORK PROVIDER LOOKING TO DRAMATICALLY INCREASE THE PROFITABILITY OF YOUR VIDEO SERVICES BY OFFERING:

- RETAIL VIDEO AND ON-DEMAND TV SERVICES TO SUBSCRIBERS
- WHOLESALE (CONTENT DELIVERY NETWORKS OR CDN) SERVICES TO CONTENT PROVIDERS
- A UNIQUE AND UNSURPASSED QUALITY OF EXPERIENCE (QOE) TO YOUR VIEWERS

THEN EDGEWARE'S ORBIT 3020 DISTRIBUTED VIDEO PLATFORM PROVIDES THE KEYSTONE OF YOUR SOLUTION.

As an integral part of Edgware's Distributed Video Delivery Networks (D-VDN) architecture, Edgware's Orbit 3020 offers advanced capabilities for both retail and wholesale video and TV services across an operator's network, irrespective of topology and core network bandwidth.

The Orbit 3020 is the third generation of a range of servers purpose designed to build highly distributed delivery architectures, with minimal power consumption, small 1U half rack form factor and integrated Convoy asset propagation, session and fault tolerance management.

The servers can equally effectively be used in a centralized environment, dramatically increasing streaming capacity in a data center while reducing costs of power and cooling per stream by up to 90%.

### Key Benefits:

- Purpose built server design means simple operation and 20 Gbps sustained transmission performance
- Up to 32,000 concurrent unicast video streams per 1U server
- Up to 24 TB Content storage in rapidly accessible, non-volatile low power flash memory
- Just 85 W power consumption when fully configured, at 20 Gbps / 24 TB)
- Support for advanced linear TV functions such as fast channel change and retransmission to ensure high levels of quality of experience.
- Single asset, multi-speed trick play support (FWD / RWD)
- Specifications, form factor and packaging for the most demanding network applications and environments
- Autonomous asset propagation with centralized management and full reporting of viewing statistics which, along with Edgware's Convoy VDN Management system allows deployment as an integral part of a wholesale CDN offering
- Guaranteed performance even in situations with massive packet loss in the network



## Technical Data

### Applications

- Multiscreen Video Delivery
- HTTP Adaptive Bitrate Streaming
- Wholesale Video Delivery CDN
- Live Webcast
- Download
- Network PVR
- Catch-up TV
- Video on Demand
- Subscribed TV on Demand
- Time Shift TV
- Playout of NVoD and barker channels
- Fast Channel Change
- UDP Retransmission
- Dynamic Ad Insertion
- Hospitality

### Streaming Engine

- Hardware accelerated
- Guaranteed performance under all use cases
- Jitter-free streaming
- True PCR locking, supporting VBR

### Bandwidth and Sessions

- 20 Gbps output streaming/download (sustained, licensed range 2-20 Gbps)
- Max 32,768 fully concurrent sessions, e.g.
  - up to 2,500 streams @ 8.0<sup>1</sup> Mbps
  - up to 5,400 streams @ 3.7<sup>1</sup> Mbps
  - up to 16,384 streams @ 1.2<sup>1</sup> Mbps

1) Network bandwidth

### Streaming Video Formats

- RTSP/UDP/RTP (MPEG-2 TS)
  - MPEG-2
  - MPEG-4 AVC/H.264
- Microsoft® Smooth Streaming
- Apple HTTP Live Streaming
- Adobe® HTTP Dynamic Streaming
- Widevine® Adaptive Streaming

### Stream Bitrates

- 96 kbps – 50 Mbps
- CBR, VBR

### Progressive Download Video Formats

- Adobe® Flash® Video<sup>2</sup>
  - Microsoft® Windows Media® <sup>2</sup>
  - Apple QuickTime™ <sup>1</sup>
  - MPEG-4 AVC/H.264 <sup>1,2</sup>
  - MPEG-2 <sup>1</sup>
  - MPEG-1 <sup>1</sup>
- 1) Supporting bit rate detection / throttling  
 2) Supporting drag bar seek with Adobe® Flash® Player 9&10 (On2VP6), Microsoft® Silverlight® 2&3 (VC1, MPEG-4 AVC/H.264), HTML5 (MPEG-4 AVC/H.264)

### Security and Integrity

- Hardware classification/denial of service filter
- Hardware ingress packet rate policing
- Ingress/Egress bandwidth control
- VLAN traffic and control separation
- Linux Iptables/Netfilter firewalling

### Content Storage – Solid State

- 256 GBytes – 6 TBytes NAND Flash, e.g.
  - 3,700 h of video @ 3.7 Mbps (SDTV)
  - 1,700 h of video @ 8.0 Mbps (HDTV)

### Stream Control

- RTSP/SDP (RFC2326, RFC2327)
  - Four trick play speeds in each direction
  - Single asset trick play
  - 100% concurrency guaranteed
- HTTP
  - Content aware rate control
  - Partial download with seek (dragbar)
  - Fast start

### Content upload

- FTP, HTTP
- Convoy Asset propagation system (optional)
- IP multicast ingest (Time Shift TV)
- 2 Gbps total ingest bandwidth
- Automatic indexing for single asset trick play (RTSP)

### Live Channel Ingest

- Direct snooping of UDP multicast
- Up to 512 channels
- Remote scheduling of recordings

### Management and Control

- Origin and Convoy Management systems (optional)
- Web configuration GUI
- Embedded Linux
- SNMP v3
- NETCONF v1.0
- syslog

### Streaming / Line Interfaces

- 10 Gigabit Ethernet (10GE), dual SFP+ slots
- 1 Gigabit Ethernet (1GE), dual RJ45 slots
- 802.1Q VLAN

### Control Ports

- 10/100/1000BASE-T, dual RJ45 slots
- USB
- RS-232, 9-pin D-Sub
- Using streaming interfaces
- All control also over line interfaces
- 802.1Q VLAN

### Power and Heat

- 85 W peak power consumption full configuration, max load
- Heat flow rate: 289 BTU/h

### Power Connections

- -48 VDC or 100-240 VAC 50/60 Hz (factory option)
- Dual redundant power supplies

### Physical Dimensions

- 1RU/19"
- Height: 44 mm (1.73")
- Width: 448 mm (17.64")
- Depth: 250 mm (9.84")
- Weight: 5.1-6.0 kg (11.2-13.2 lbs)

### Environmental

- Operating:
  - 0 to 50° C (32 to 122° F)
  - 30 – 90% RH (non-condensing)
- Storage:
  - -20 to 70° C (-4 to 158° F)
  - 10 – 90% RH (non-condensing)
- Air flow:
  - 8 fans, high reliability. 4+4 redundancy
  - Front to rear air flow
  - Individual fan monitoring
  - Temperature monitoring

### Regulatory

- NEBS level 3 \*
  - FCC Part 15
  - CE
  - UL/EN 60950-1
  - RoHS
  - WEEE
- \* In progress

### Options

- 19" Rack mount brackets (Standard)
- 23" Rack mount brackets
- Front panel air filter

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