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ORBIT · 2X Densest video server in the industry

ORBIT 2G Scales even further into the network

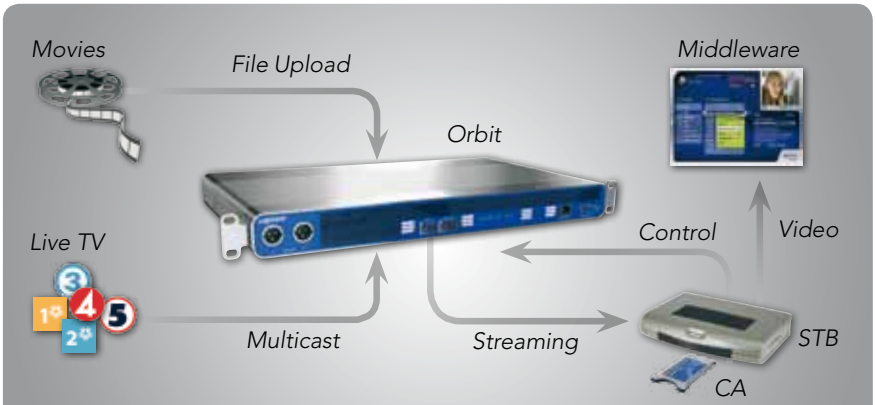
If you are a Telco or Cable Provider looking to make leaps in video or TV streaming cost effectiveness or monetize the demand from your subscribers for on-demand TV and video services such as time shift TV, nPVR and VOD, the Edgeware Orbit server platform provides the keystone of your solution.

Edgeware´s IPTV based On-Demand and Linear TV and Video Solution

Edgeware´s disruptive video server systems Orbit-2X and Orbit-2G offer advanced capabilities for video and TV services across an operator´s network, irrespective of topology and core network bandwidth.

The Orbit servers are purpose designed to build highly distributed delivery architectures, with minimal power consumption, small 1U half rack form factor and integrated asset propagation, session and fault tolerance management. This allows rapid deployment of a distributed on-demand video and TV service without the need to dramatically expand core network bandwidth. 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%.

The Orbit-2X/2G combines an advanced and highly integrated network device with a complete on-demand TV and video delivery platform that includes modular built-in solid state flash storage hosting up to 6 TB of content. In contrast to generic servers, the Edgeware Orbit family is purpose built for the operator environment offering a step-change in cost effectiveness. Target customers are telco and cable providers, offering video-on-demand (VOD) or TV on-demand services.



Orbit in a VoD and Time Shift TV configuration

The Orbit platform can also be used to enhance Quality of Experience of linear TV services through sophisticated features such as fast channel change and retransmission. The Orbit servers are designed to work as a distributed cache anywhere in a network and is integrated with many of the most common back office and middleware systems, ensuring a seamless fit into complex environments as well as a full set of self contained functionality for smaller networks.

The Edgeware Advantages

The Orbit-2X and Orbit-2G servers offer distinct advantages over traditional server architectures by fully utilizing core Edgeware technology:

- Purpose built server design means simple operation and 20 Gbps sustained transmission performance
- Up to 16,000 concurrent unicast video streams per 1U server
- Up to 6 TB Content storage in rapidly accessible, non-volatile low power flash memory
- Just 85 W power consumption (Orbit-2X) when fully configured, at 20 Gbps / 6 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)
- Full set of integrated functionality precluding the need for additional network devices such as firewalls and load balancers.
- 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
- Guaranteed performance even in situations with massive packet loss in the network

Revolutionary Servers for On-Demand TV

A4 Rev 17, Feb 2011

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ORBIT · 2X
ORBIT 2G

Technical Specification

Applications
- Video on Demand
- Subscribed TV on Demand
- Time Shift TV
- Network PVR
- Fast Channel Change
- Retransmission
- Hospitality and Aviation VoD
- Playout of NVoD and barker channels
- Dynamic Ad Insertion

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

Transmission Modes
- Transport stream over UDP
- Transport stream over RTP/ UDP

Stream Bitrates
- 96 kbps – 50 Mbps
- CBR, VBR

Video Formats
- MPEG-1
- MPEG-2
- MPEG-4 AVC/H.264

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

Content upload
- FTP, SSL
- Convoy Asset propagation system (optional)
- IP multicast ingest (Time Shift)
- Automatic indexing for single asset trick play

Live Channel Ingest
- Direct snooping of UDP multicast
- 1.2 Gbps total ingest bandwidth
- 320 channels
- Remote scheduling of recording

Management and Control
- Embedded Web Interface
- Origin Management system (optional)
- SNMP v3
- NETCONF v1.0
- syslog

Control Ports
- 10/100/1000BASE-T, RJ45
- RS-232, 9-pin D-Sub
- Using streaming interfaces
- 802.1Q VLAN

Power Connections
- -48 VDC
- Dual redundant DC inlets
- 120/240 VAC external AC/DC

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

Orbit-2X specifics

Bandwidth
- 20 Gbps output streaming (sustained) (licensed range 2-20 Gbps)
- Maximum 16 384 fully concurrent, e.g.
  - up to 2 500 streams @ 8.0[1] Mbps
  - up to 5 400 streams @ 3.7[1] Mbps
  - up to 16 384 streams @ 1.2[1] Mbps

Streaming Interfaces
- 10 Gigabit Ethernet (10GE), dual slots
- Optics (XFP): 10GBASE-SR/LR/ER
- 802.1Q VLAN

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

Orbit-2G specifics

Bandwidth
- 2 Gbps output streaming (sustained)
- Maximum 16 384 fully concurrent, e.g.
  - up to 250 streams @ 8.0[1] Mbps
  - up to 540 streams @ 3.7[1] Mbps
  - up to 16 384 streams @ 120[1] Kbps

Streaming Interfaces
- Gigabit Ethernet, dual SFP slots
  - 100/1000BASE-T, RJ45
  - 1000BASE-SX/LX, optics

Power and Heat
- 68 W peak power consumption full configuration, max load
- Heat flow rate: 231 BTU/h

1) Network bandwidth

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