

ORBIT · 2X

The Revolutionary Server System for On-Demand TV

Customers are demanding a personalized video experience. Give them extraordinarily reliable Video On-demand and Time-Shift TV services with unmatched cost efficiency!

The New Approach to Video Server Design

Rapidly growing demand for personalized TV services, such as time-shifted TV, VoD and nPVR, imposes a whole new challenge for Telco's and Cable MSOs. The exploding number of streams calls for a scalable deployment of on-demand servers, distributed throughout the network. A new breed of servers is needed, which means totally new requirements on reliability, density and power consumption.

Orbit 2x is the first streaming server to really meet these challenges by providing the only purpose designed network appliance that allows for maintenance-free distributed deployments. Edgware brings a new approach to server design, based on three unique technologies:

- Content storage in flash memory instead of hard disks.
- Streaming through custom hardware instead of software running on general purpose devices.
- Distributed content management pulling popular content into edge servers based on local decisions.

Unique Advantages

Orbit 2x is a network appliance specifically designed for hosting the most demanding of video on demand services. The Orbit 2x server system offers the following advantages for service providers:

- **Unmatched Price Performance and Total Cost of Ownership**
- **Best Scalability** – The system capacity can be seamlessly increased at low cost.
- **Highest Reliability** – Solid state flash memory and hardware assisted streaming make the Orbit 2x servers extremely reliable and the only servers really suited for unattended edge deployments in remote locations in the network.
- **Lowest Complexity** – Few high capacity servers with no need for load balancing, external firewalling or types of network equipment.

Fully Distributable and Truly Scalable

The Orbit 2x server covers a wide range of applications, based on its independent configurability of streaming capacity and storage. Being the only server that is fully distributable it also supports exceptional scalability through the use of hierarchical systems. To successfully build distributed streaming systems relies on efficient asset propagation to ensure that the most popular assets are always available in the edge servers. The Convoy™ Distributed Asset Propagation System, which is an integral part of the Orbit 2x platform, greatly simplifies the deployment of distributed architectures. Whether you are a Tier-1 Telco operator or a hospitality provider, requiring a distributed or a centralized system, Orbit 2x is your best choice.



Seamless Integration with Your IPTV Solution

Orbit 2x uses a clever separation of streaming functions in dedicated hardware from control and interface functions implemented in software on top of a standard Linux-based system. By using standard interfaces such as RTSP, FTP, SNMP, NETCONF and syslog, integration of Orbit 2x with other ecosystem components is guaranteed to be smooth.

The Origin™ Management system complements the Orbit 2x streaming servers by providing comprehensive configuration and monitoring tools.

The Orbit 2x represents a revolutionary leap in video server design, dramatically changing the way in which You as an operator can operate cost effective on-demand services.



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Technical Specification

Applications

- Video on Demand
- Subscribed TV on Demand
- Time Shift TV
- Network PVR
- Hospitality and Aviation VoD
- Playout of NVoD and barker channels
- Dynamic ad insertion

Bandwidth (sustained)

- 20 Gbps output streaming (configurable down to 2 Gbps)
- 1.7 Gbps input ingest/upload

Concurrent Streams

- Maximum 16 384 fully concurrent, e.g.
 - up to 2 500 HDTV streams @ 8.0¹ Mbps
 - up to 5 400 SDTV streams @ 3.7 Mbps
 - up to 16 384 SDTV streams @ 1.2 Mbps

Streaming Engine

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

Transmission Modes

- Transport stream over UDP
- Transport stream over RTP/ UDP
- VLAN IEEE 802.1Q

Stream Bitrates

- 96 kbps – 50 Mbps
- CBR, VBR

Video Formats

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

Content Storage

- 128 GBytes – 3 TBytes NAND Flash
 - 1850 h of video content @ 3.7 Mbps (SDTV)
 - 850 h of video content @ 8.0 Mbps (HDTV)
- 6 TBytes max config available Q4/2008

Stream Control

- RTSP/SDP (RFC2326, RFC2327)
- Four trick play speeds in each direction
 - Single asset trick play
 - 100% concurrency guaranteed

Content upload

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

Live Channel Ingest

- Direct snooping of UDP multicast
- 1.6 Gbps total ingest bandwidth
- 160 channels per 10GE interface
- Remote scheduling of recording

Management and Control

- Embedded Linux sub-system
- SNMP v3
- NETCONF v1.0
- syslog
- Origin™ Management system (optional)

Streaming Interfaces

- 10 Gigabit Ethernet, dual slots
- Optics (XFP):
 - 10GBASE-SR/LR/ER

Control Ports

- 10/100/1000BASE-T, RJ45
- RS-232, 9-pin D-Sub
- Using streaming interfaces

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)

Power

- -48 VDC
- Dual redundant DC inlets with front access
- 120/240 VAC, external AC/DC
- 85 W peak power consumption full configuration, max load

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
 - Heat flow rate: 289 BTU/h

Regulatory

- NEBS level 3
- FCC Part 15
- CE
- UL/EN 60950-1
- RoHS
- WEEE

Options

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

¹ Network bandwidth

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