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Thirdspace OVS for the SGI® Origin® 300 Server:
A Streaming Server for Broadband iTV and VOD Broadcast Systems

SGI Origin 300 Server and Storage Features:

- Fast Ethernet, Gigabit Ethernet, ATM, and DVB network interfaces
- Hot-pluggable disks
- RAID high-availability storage, with RAID implemented in software or hardware
- IRIX® 6.5 SVR4-compliant symmetric multiprocessing operating system

Thirdspace Open Video Server (OVS) is the world's most scalable and cost-effective video streaming software. OVS enables high-quality video streaming over broadband DSL, cable, fiber, and satellite networks. When combined with the modular, compact SGI Origin 300 servers, the solution provides a carrier-class system for delivering entertainment-quality streamed services on demand. The unique SGI® NUMAflex™ design approach of the Origin 300 system, in concert with the OVS software multitiered design, allows incremental scaling to meet increasing customer demand. Content is stored in Media Data Store (MDS), a real-time filesystem for storing and delivering uninterrupted video in real time. MDS implemented on an SGI® Total Performance storage subsystem scales to allow thousands of users to simultaneously access the same content.

OVS offers an open solution for video-on-demand (VOD), scheduled playout (NVOD and PPV applications), and scheduled capture (PVR and time-shifted TV applications) with real-time off-air content capture of hundreds of channels. Full-screen, full-motion video is delivered with industry-leading virtual VCR controls.

OVS runs on the full range of SGI® Origin® family hardware, providing enormous flexibility. OVS readily scales to support tens of thousands of simultaneous streams. When combined with the configuration flexibility of the Origin 300 server, it can be deployed in centralized or distributed environments.

To support the ultimate in scalability, an SGI Origin 300 server with a NUMAlink™ module allows users to combine up to eight Origin 300 servers or PCI expansion modules—up to 32 processors with 32GB of memory or up to 16 processors with as many as 56 PCI slots. This means a customer can start with a system that delivers 60 streams of entertainment-quality video and easily scale to more than 1,500 streams in a single 19-inch rack. With multiple storage subsystem offerings, including the SGI® TP900, SGI® TP9100, and SGI® TP9400, OVS on SGI allows customers to tailor their configurations for a minimum footprint to support smaller installations or provide a deep store of tens of thousands of hours of video content. Only SGI® systems provide this kind of configuration flexibility.

Summary

The Thirdspace OVS product suite offers an open solution for delivering streamed digital video over broadband networks. Thirdspace OVS does this in a scalable, cost-effective manner because it offers:

- Preintegration with leading iTV applications
- Scalability to tens of thousands of streams
- Simultaneous delivery from a single copy of content
- Real-time off-air content capture of hundreds of channels
- Support for multiple network capture and playout interfaces
- Full-screen, full-motion video with industry-leading VCR control
- Storage and retrieval of large content files in real time
- Reliable streaming of video across a potentially unreliable network
- Scheduled playout for NVOD/PPV applications
- Scheduled capture for PVR and time-shifted TV applications
- A GUI-based administration and management system
- Full integration with the Oracle® database for management and control
- Security via encrypted content and secure authentication mechanisms
- A full API suite to support integration with CA and application vendors
- Gathering of billing and usage information
- Integration with multiple application vendors via an extensive API set
- The ability to deploy in centralized or distributed environments

Thirdspace Ecosystem

Thirdspace Full-Service Providers have to provide their customers' digital entertainment, information, communication, and e-commerce solutions. With OVS and other third-party developers there is no need for customers to look elsewhere.

Thirdspace and SGI maintain a world-class developer program that is actively involved with ad insertion, asset management, and billing software developers. Many leading third-party providers of encoders, set-top boxes, and network equipment also work closely with SGI to extend the solution. Systems can be deployed worldwide through SGI Professional Services and broadcast and network systems integrators around the world.

Strategic developers include:
- Application developers
  - Orca Interactive
  - iMagicTV
  - Minerva Networks
- STB manufacturers
  - Acer
  - Samsung
  - Pace
  - Thomson
- Networking and headend
  - Alcatel
  - Minerva
  - Nextstream
  - Tandberg
  - Harmonic
  - NDS
  - Optibase
  - Thomson
- Content management and systems integrators
  - BBC Technology (global)
  - Lysis (global)
  - OnDemand Group (Europe)
  - Hwacom (Taiwan)
  - Media Cruise Solutions (Japan)

SGI Professional Services Integration

Integrating all the aspects of a VOD solution is a complex process. SGI Professional Services offers a full suite of services that can reduce integration risks and speed deployment by helping customers in these areas:
- Business and operational planning
- Implementation and planning assistance
- Server and software evaluation
- Pilot definition and setup
- Custom application and services deployment
- End-to-end software integration
- Performance analysis and capacity planning
- Documentation and training for business users

Global Customer Service

SGI Global Customer Service provides a comprehensive network of service and support throughout the world for both the SGI platform and Thirdspace OVS software.

Thirdspace OVS on SGI Origin 300 Certified Configurations for Easy Deployment (includes SGI hardware and software and Thirdspace OVS software):

Hardware description	Size	Streams	Data disks @ 3Mb/sec	Capacity in hours
SGI Origin 300 2x500 MHz, 1GB RAM, 18GB sys disk, 1 TP900 s/w RAID 5, 1 GbE	4RU	135	8x18GB 8x73GB	62 252
SGI Origin 300 4x500 MHz, 2GB RAM, 18GB sys disk, 1 TP900 s/w RAID 5, 2 GbE	4RU	300	10x18GB 10x73GB	73 328
SGI Origin 300 2+2x500 MHz, 1GB RAM, 18GB sys disk, 2 TP900 s/w RAID 5, 3 GbE	8RU	350	16x18GB 16x73GB	128 540
SGI Origin 300 8x500 MHz, 2GB RAM, 18GB sys disk, 2 TP900 s/w RAID 5, 4 GbE	8RU	600	20x18GB 20x73GB	150 625

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