Datasheet

Kasenna™ MediaBase XMP for the SGI® Origin® 300 Platform

SGI Origin 300 Server and Storage Features:

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

Kasenna MediaBase XMP (XMP) provides the core software platform for building and deploying video delivery (on-demand, live, distribution) applications. Built to manage the complexities of delivering broadband and broadcast-quality video, XMP is the only solution that integrates into one unit the core functions needed to implement an end-to-end workflow: video content acquisition management, metadata management, content distribution, and streaming delivery. When combined with the modular, compact SGI Origin 300 server hardware, it provides a carrier-class solution for deploying commercial-grade video over a variety of networks. The combination offers the SGI® NUMAflex™ approach to modular scalability in a compact, affordable design. The unique design of the Origin 300 system in concert with the MediaBase XMP software allows incremental scaling to meet increasing customer demand.

The eXtensible Media Platform: Extensible MPEG Platform for Standards-Based Streaming

XMP is the industry's first industrial-strength product that provides broad coverage for deployments in narrowband, broadband, and broadcast networks using standards-based streaming formats: MPEG-1, MPEG-2, and MPEG-4. Supporting bit rates from 64Kb per second MPEG-4 (ISMA Profile 0) to 11Mb per second MPEG-2 and beyond, XMP delivers video via unicast, scheduled multicast, or simulated multicast. XMP has the capability for live streaming with or without recording to disk and supports delivery over IP and ATM networks. XMP runs on the full range of SGI® Origin® family hardware, providing enormous flexibility. When combined with the configuration flexibility of the SGI Origin 300 server and SGI® Total Performance storage solutions, it can be deployed in centralized or distributed environments.

A Unique Approach to Scalability

To support the ultimate in scalability, an SGI Origin 300 server with a NUMAlink™ module allows users to combine up to eight base 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 20 streams of commercial-grade video and easily scale to more than 1,500 streams in a single 19-inch rack. With multiple storage subsystem offerings, XMP on SGI® hardware allows customers to tailor their configurations for minimum footprint to support smaller installations or to provide a deep store of tens of thousands of hours of video content. Only SGI hardware provides the customer with this kind of configuration flexibility.

Kasenna MediaBase XMP Key Features:

- Standards-based format support: MPEG-1, MPEG-2, and MPEG-4
- Streaming data rates to support narrowband, broadband, and broadcast-quality streaming
- Unicast, multicast, and simulated multicast delivery modes

- IP (UDP, RTP), ATM (CLIP, LANE, and native SVC/PVC)
- Integration with leading set-top boxes
- Bundled Windows® player, based on Microsoft® Direct Show, for MPEG-1 and MPEG-2 (with optional MPEG-2 software decoder)
- Integrated database and Web-based video content management tool
- Web-based server administration GUI
- Remote server management using scriptable programming interface
- Remote server monitoring using SNMP
- Security:
  - Robust Authentication, Authorization, and Access Control API for managing administrators and users through external databases
  - Bundling with LDAP database
  - Easy integration into existing billing and reporting systems via Accounting API
- RTSP and content management APIs for integration into vertical or horizontal applications
- Scheduled and on-demand content distribution through Kasenna VCD™ technology
- Network, bandwidth, and filesystem management for guaranteed quality of service

Video Content Management for Extensible Video Applications

XMP provides sophisticated video content management capabilities that enable integration of video-serving systems into business workflows. Efficient, Web-based content management tools enable video acquisition (from encoders, digital asset management systems, or independent applications), installation, management, tracking, monitoring, and distribution. Integrated with industrial-strength relational databases, XMP allows the creation of metadata for easy browsing and retrieval of a media file from large volumes of audio and video content.

Back-Office Integration Using New Authentication, Authorization, Access Control, and Accounting Service

XMP introduces a robust Authentication, Authorization, Access Control, and Accounting (A4) framework for integrating the video server into back-end accounting, billing, reporting, and security processes through a plug-in architecture. The A4 service secures the system and the content by validating user access via credentials (for example, username/password, etc.). For easy out-of-the-box usage, XMP is bundled with an LDAP authentication/authorization/access control plug-in along with an open source LDAP server. In addition to creating a stream of highly detailed usage data that can be fed directly into an external billing system, log data can also be captured in W3C-compliant log files to be read by standard reporting applications. APIs are available for developers to create custom plug-ins through the Kasenna Developer Program.

Multidimensional Scalability Using Video Content Distribution Architecture

The unique Kasenna VCD (Video Content Distribution) architecture can create a seamless video network by connecting distributed XMP servers. Kasenna VCD enables the deployment of architectures based on SGI Origin 300 and edge servers by using collections of small edge servers deployed closer to end users to address quality, bandwidth, and scalability constraints. Coupled with Kasenna's patent-pending video prefix caching™ technology, the VCD architecture allows the video network to scale cost-effectively by optimizing edge storage vs. network bandwidth. This is accomplished by distributing a mix of metadata and content between servers. Prefix caching enables partial storage of the video file at the edge servers and includes intelligent storage management functions to fetch the remaining content on demand.

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 Kasenna MediaBase XMP software.

Kasenna MediaBase XMP Certified Configurations on SGI Origin 300 Servers

Hardware Description	Size	Streams @ 3.5Mb/sec	Data Disks	Capacity in Hours
• SGI Origin 300 2x500 MHz, 1GB RAM, internal disk, 1 GbE	2RU	125	2x14GB* 2x69GB*	13 66
• SGI Origin 300 2x500 MHz, 1GB RAM, 18GB sys disk, 1 SGI® TP900 JBOD, 1 GbE	4RU	150	4x18GB 4x73GB	34 140
• SGI Origin 300 4x500 MHz, 1GB RAM, 18GB sys disk, 1 TP900 JBOD, 2 GbE	4RU	270	6x18GB 6x73GB	49 212
• SGI Origin 300 8x500 MHz, 4GB RAM, 18GB sys disk, 1 TP900 JBOD, 4 GbE	6RU	331	6x18GB 6x73GB	45 208
• SGI Origin 300 8x500 MHz, 4GB RAM, 18GB sys disk, 2 TP900 JBOD, 4 GbE	8RU	400	10x18GB 10x73GB	89 361

*System disk also used for data

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3283 (06/12/02)

JI4066