Sun™ Storage 7000 Unified Storage Systems:

Open Storage for MySQL Enterprise™ Backup and Recovery with Zmanda™

The challenge

MySQL™ software, whether used for Web management, analytics, development and quality testing, or other Web applications, is facing ever more complexity and is of critical importance to the enterprise. With data sets growing from 58% to 100% every year, organizations around the world are under increasing pressure to deliver innovation and to protect data cost-effectively and on schedule — often without added resources. Today's modern IT environments, consisting of hundreds of multicore processors, provide ever more availability to Web application servers, but conventional, disk-based storage architectures have fallen far behind in providing access to the data that these data-hungry processors require. In addition, competitive pressures driving time to market make accelerating workflow productivity an imperative, driving shared access to object data, analytics, and other data files among all constituents in the Web infrastructure.

Sun Storage 7000 Unified Storage Systems solutions for MySQL expedite workflow and protect data by both accelerating I/O between processors and stored data and providing quick and simple recovery of snapshots as well as backup protocols of all stored data that can be used in conjunction with Zmanda Amanda Enterprise and Zmanda Recovery Manager for MySQL.

Completed development data sets are available immediately for subsequent post-processing and comparison, facilitating assessment among design teams and reducing design time. High-performance access to content data on shared file systems greatly enhances the implementation cycle. Sun Storage 7000 Unified Storage Systems also simplify storage management and protect vital data with snapshot data protection, providing quick and easy recovery of deleted or corrupted files while reducing backup windows.

Sun Storage 7000 Unified Storage Systems accelerate MySQL Web development with snapshot data protection, providing quick and easy recovery for faster beta testing workflow.

Highlights

- Superior performance and lower energy consumption at up to 75% less than the cost of competitive solutions
- Active-active architecture option enables high performance and high availability
- Optimized storage hierarchy with hybrid storage pools containing DRAM, SSD, and HDD drives
- Scalability in multiple dimensions to adapt to your changing business needs by independently increasing compute power, storage capacity, and performance
- Eco-efficiency due to the reduced power consumption of SSD and HDD disk drives versus high-rpm drives

Closing the critical processor-storage latency gap with Sun Storage 7000 Unified Storage Systems

Today's high-performance, multicore processors are capable of accessing and consuming data far in excess of what conventional, disk-based storage architectures can provide. Modern CPUs can process nearly one million I/O operations per second (IOPS), far outstripping today's fastest disk drives, which are capable of only 300–400 IOPS — creating a gaping latency gap.

Hybrid storage pools — available on the Sun Storage 7210 Unified Storage System and the Sun Storage 7410 Unified Storage System — deftly combine strategically positioned, lightning-fast, Flash-based solid-state drives (SSD) with the advanced data-placement capabilities of the

Solaris ZFS™ File System to dramatically improve application performance and operating efficiency at substantially reduced cost compared to conventional storage systems. Solaris ZFS File System transparently manages data placement, directing frequently used data to fast SSDs, and less frequently used data to slower, mechanical disks. The application data set now can be isolated completely from slower mechanical disk drives, unlocking new levels of performance and cost-effectiveness. Requiring no administrator intervention, Solaris ZFS File System transparently caches data on SSDs, dramatically reducing latency and I/O performance bottlenecks. Deploying Sun Storage 7000 Unified Storage Systems in a Web-tier environment provides lower latency for applications requiring shared access to data, as well as extremely high bandwidth for all apps that need to access the same data simultaneously. Sun Storage 7000 Unified Storage Systems — utilizing storage analytics, hybrid-storage-pool technology, and Solaris ZFS File System — provide high-performance NFS storage and throughput for Web applications, with extremely positive results.

Sun Open Storage architecture spurs innovation and lowers costs

Traditional storage architectures have been closed and proprietary, creating vendor lock-in to a slowly innovating technology platform and creating a huge barrier to overcome when attempting to respond quickly to market forces with alternative solutions. Sun Open Storage combines open-source software with industry-standard hardware, enabling you to reduce your reliance on high-priced systems and save up to 90% on storage costs.

Sun Storage 7000 Unified Storage Systems

Sun Storage 7000 Unified Storage Systems are a family of unified storage systems that offers innovations in storage, including massive scale, superior performance, and enterprise-class data services, while delivering significant cost savings. The family ranges from the extremely cost-effective Sun Storage 7110 Unified Storage System, scaling to 2 TB, to the extremely densely packaged and hybrid-storage-pool-architecture-enabled Sun Storage 7210 Unified Storage System, scalable to 48 TB, up to the high-performance, high-capacity, hybrid-storage-pool-architecture-enabled Sun Storage 7410 Unified Storage System, scalable to 288 TB capacity.

Breakthrough speed, simplicity, and cost savings

The Sun Storage 7000 Unified Storage Systems family radically simplifies management, costs up to 75% less, and requires minimal training to configure and administer. These systems include the industry's simplest and most comprehensive analytics environment as well as innovative new tools to help isolate and resolve issues to minimize impact on your business. Sun Storage 7000 Unified Storage Systems are based on cost–efficient, industry-standard components and a robust, open-source software stack built from the enterprise-hardened OpenSolaris™ OS. And the family is supported by a passionate, global community of developers and ISVs.

Real-time visibility radically simplifies the way you manage data

Sun Storage 7000 Unified Storage Systems provide an intuitive environment for administering tasks, visualizing concepts, and analyzing performance data. The Dynamic Tracing (DTrace) analytics capabilities in the Solaris™ OS include real-time statistical graphs to help locate and isolate problems as well as to optimize storage performance and capacity utilization.

The drill-down analytics in DTrace quickly narrow the focus to the most likely troubled areas (network bytes/sec, NFS ops/sec, disc ops/sec, CPU utilization), while an easy-to-read dashboard summarizes the status of the appliance software and hardware as well as displaying status for disk usage, main memory usage, appliances services (NFS, CIFS, HTTP, and others), hardware, activities statistics, and recent appliance alerts.

Services and support

Sun's deep technical expertise and proven implementation and migration tools make it easy to deploy Sun Storage 7000 Unified Storage Systems and to help you architect, implement, manage, and support your entire network infrastructure. Sun℠ Services mitigate the risk of downtime, data loss, and costly delays while providing the expertise to help ensure that your systems are running at an optimal level, right from the start.

For more information on Zmanda backup and recovery offerings, go to: sun.com/zmanda; for more information on Sun Storage 7000 Unified Storage Systems for the Web, go to: **sun.com/openwebstorage.**

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