

Use Case

Accelerate Database Performance with Fujitsu M10 Servers

Accelerate your data center with unparalleled memory capacity and speed from Fujitsu M10 Servers

SPARC Servers - Fujitsu M10



The challenge

Database performance is commonly limited by I/O bottlenecks. Conventional performance improvement solutions, such as striping across additional hard drives and caching with additional memory, are costly and often require time-consuming redesign of database environments. Frequently, limited budgets force IT organizations to get by with acceptable database performance, rather than optimizing their infrastructure for the best database performance to drive the business forward.

The solution

Moving to a scalable system with a large capacity of high-speed memory can accelerate database performance and ensure that IT infrastructure can grow in line with the business. Fujitsu M10 servers deliver the accelerated database performance businesses need at a compelling price point. IT organizations can take advantage of an innovative, scalable, high-density memory design to optimize their infrastructure for accelerated database and business performance.

- Innovative Software on Chip (SWoC) technology
- 16-core SPARC64 X processors with per-core activation
- Up to 512 GB high-speed memory capacity in one rack unit
- Modular building block design with up to 64 processors and 32 TB of memory in a single, integrated system
- Oracle Solaris™ 8, 9, 10 and 11 support¹

The benefit

With exceptional single-threaded application performance, extreme memory capacity, and in-memory processes capabilities, Fujitsu M10 servers are designed to optimize the performance of database environments and enterprise applications.

Accelerated computation that handles big data quickly. Many business applications and underlying databases used for analysis move and test data and perform a lot of decimal arithmetic. With the Software on Chip (SWoC) design of Fujitsu M10 servers, common code sequences run directly in the processor hardware, transparently

The situation

Slow database operations limit business application performance and effectiveness. Moving databases to a scalable architecture with high-speed, large capacity memory configurations delivers database performance with headroom for growth.

The challenge

Conventional database performance improvement solutions are expensive, time-consuming, and require redesign of the database environment. Budget constraints force IT organizations to limit improvements to deliver acceptable performance, rather than performance that drives the business forward.

The solution

Fujitsu M10 servers feature a scalable design with high-performance SPARC64® X processors, ultra-high-speed memory access, and large memory capacities to improve database performance at a compelling price point.

The situation

Companies today rely heavily on database applications for business operations such as order processing, customer management, procurement, and insight into processes and procedures. In competitive markets, application speed can determine the success of a business in growing market share and staying ahead of rival companies. As a slow underlying database can greatly impede application performance, maintaining the fastest database possible is critical to running an effective business.

¹ All Fujitsu M10 servers run Oracle Solaris 10 or 11 natively, and can host Oracle Solaris 8 and 9 images in Oracle Solaris Legacy Containers.

The benefit

- High-speed, high-capacity memory system design accelerates memory access and database performance
- Flexible, cost-effective expansion with per-core activation and modular building block design
- Oracle Solaris 8, 9, 10, and 11 support for business continuity
- Reduced operational expenses with high capacity in a compact footprint with lower power needs

speeding execution and more than doubling the performance of our previous-generation SPARC® systems.² These capabilities help the system to produce results quickly, making it easier to turn data into actionable information in real time.

Big and fast memory that drives database and enterprise application performance. Systems with insufficient memory capacity create bottlenecks for database environments. Many IT organizations forego upgrades due to the high cost associated with adding memory to existing UNIX systems. Fujitsu M10 servers feature innovative SPARC64 X CPUs and a high-performance memory system design that lets IT organizations stay within budget constraints without sacrificing performance. With up to 512 GB of memory in a single rack unit, and up to 32 TB of memory in a single, integrated system, Fujitsu M10 servers help ensure that database performance is never memory-bound.

The Fujitsu M10 System on Chip (SoC) architecture places the memory controller on the SPARC64 X processor. With faster access to memory, the servers reduce memory latency by a factor of five over our previous-generation systems. Because the servers use high-performance memory with the economics of commodity pricing, IT organizations can keep costs in check without limiting database performance due to budget.

Dynamic scalability for database infrastructure. Many database environments feel the pressure of supporting growing numbers of workloads and users. By moving to the building block architecture of the Fujitsu M10 servers, IT organizations deploy the resources they need today and easily scale to meet rapidly changing business priorities. Per-core activation allows IT organizations to activate only the compute cores applications require today, reducing costs. As workload demands grow, more cores can be added to the system. These powerful compute cores can be combined with Oracle VM Server for SPARC virtualization software to increase workload density while leaving plenty of headroom for expansion.

High-value solutions. Fujitsu M10 servers offer unprecedented price/performance in a mission-critical solution. By consolidating workloads

The solution

- Fujitsu M10-4S servers
- Fujitsu M10-4 servers
- Fujitsu M10-1 servers

onto fewer, more powerful systems, IT organizations can reduce operational costs. For example, the Fujitsu M10-1 server requires thirty percent less power and one-quarter of the rack space of our previous generation systems, allowing IT organizations to use more of their budget for performance gains and strategic business initiatives instead of power and cooling bills.

Easy migration and assured business continuity. Investments in legacy applications and software solutions do not need to be updated to migrate your database to Fujitsu M10 servers. Because all Fujitsu M10 servers run Oracle Solaris, IT staff can continue to use the tools with which they are familiar, and run older, unsupported versions of Oracle Solaris on virtualized Fujitsu M10 servers, protecting application investments and streamlining the upgrade and consolidation process.

Conclusion

Business success depends on high-performance, cost-effective database infrastructures. Companies that struggle with database and application performance can lose their competitive edge. Fujitsu M10 servers are an ideal solution for boosting database performance without breaking IT budgets. Granular scalability from two to 1,024 compute cores and up to 32 TB of inexpensive, low-latency memory in a single, integrated system ensures that IT organizations can support peak demand as easily as day-to-day tasks, all while staying prepared for the challenges ahead. To learn more about how Fujitsu M10 servers can help your business maintain a competitive edge, contact your Fujitsu sale representative or visit www.fujitsu.com/sparc.

About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions, and services. Approximately 170,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers. Fujitsu Limited (TSE:6702) reported consolidated revenues of 4.4 trillion yen (US\$47 billion) for the fiscal year ended March 31, 2013. For more information, please see: www.fujitsu.com.

² Available when running Oracle Database 11g on Oracle Solaris 11.