FUJITSU

A Bold New Server that Evolves with Your Business

The new Fujitsu M10 servers deliver world-class enterprise performance for real-time processing, dynamic scalability, and mainframe-class RAS with an eye on the bottom line.

In the era of big data and tight IT budgets, it's more important than ever for IT leaders to be strategic when investing in their enterprises to ensure optimum business value. With the advent of cloud computing and large workloads, they need systems with the flexibility to provide performance and availability for mission-critical enterprise applications today and the scalability and reliability to accommodate growth in the future—all at an ideal price point. Fujitsu M10 servers have taken a new approach to meeting these requirements by introducing a number of innovative technologies.

The new Fujitsu M10 server, based on the 16-core SPARC64™ X processor and developed jointly between Fujitsu and Oracle, delivers extreme performance, mainframe-class reliability, availability and serviceability (RAS), along with maximum scalability for mission-critical workloads. This "datacenter in a box" features a large compute capacity in a compact size, using a flexible and modular architecture of four processor building blocks to scale incrementally up to 64 processors hosting 32 TB of memory. It also supports Oracle Solaris 10 and 11, and is binary compatible with all SPARC servers, enabling highly flexible system configurations. The server offers an appealing low total cost of ownership thanks to rapid deployment, useful software tools, and simplified management and support.

By deploying Fujitsu M10 servers, companies can achieve dramatic business value and cost savings. "Fujitsu M10 delivers extreme performance that enables customers to further improve their competitiveness with real-time decisions in the ever-changing world," says Noriyuki Toyoki, corporate senior vice president at Fujitsu. "Fujitsu M10 is our commitment to bring big results to customers, helping them maximize their return on investment with unique dynamic scalability and mainframe-class reliability."

WORLD-CLASS ENTERPRISE PERFORMANCE WITH EXTREME RESPONSE TIME

Fujitsu M10 servers featuring the 16-core SPARC64 X processor provide superlative performance for the largest workloads. Employing proven Fujitsu supercomputer technology for highly parallel computing and an innovative cooling technology to achieve low latency access time between memory and CPU, the Fujitsu M10 can process large amounts of data in a short period of time. These technologies provide superior performance for enterprise workloads such as online transaction processing (OLTP), enterprise resource planning (ERP), business intelligence and data warehousing (BIDW), supply chain management (SCM), and customer relationship management (CRM).

PAY AS YOU GROW DYNAMIC SCALABILITY

The modern enterprise needs a flexible platform that provides superior performance and availability for the current applications environment, and the ability to scale to future growth and technological needs. Fujitsu M10 servers feature unique dynamic scaling to grow as the business grows. Their modular building-block architecture can scale easily and economically, combining up to 16 building blocks for a total of 64 processors and 1,024 cores. With the CPU Activation feature, customers can activate CPUs on a CPU core basis and pay for only the processor cores that are needed, enabling rapid and cost-effective adding of resources. This capacity-on-demand feature is valuable for customers such as NTT DATA who want their IT environment to grow in alignment with the business.

"We at NTT DATA have evaluated and confirmed the high performance of Fujitsu M10 that stems from Fujitsu's high-performance supercomputer technology," says Hiroshi Endo, senior vice president of NTT DATA Corporation. "We look forward to further accelerating the adoption of Fujitsu M10 into our IT infrastructure to match the big data era with high performance processing capacity. NTT DATA will use the exciting new technologies in Fujitsu M10 to drive the development of new IT solutions that in turn directly advance our customers' business."

MAINFRAME-CLASS RAS

Fujitsu M10 servers use proven, highly reliable technologies in all of their components. Their mainframe-class RAS capabilities ensure high availability for mission-critical applications. In addition, comprehensive and exhaustive data protection and redundancy assures system uptime 24 hours a day, 365 days a year.

INNOVATIVE SOFTWARE ON CHIP TECHNOLOGY

Fujitsu M10 servers feature Software on Chip (SWoC) technology, which implements common software code sequences directly into the hardware, offering multiplicative enhancements in performance. Oracle and Fujitsu are collaborating on future advances in software and hardware optimizations, including shifting cryptographic operations from software to the processor. This new SWoC hardware technology is expected to be exploited in new releases of Oracle software.

forms. The Fujitsu M10-4S server supports up to 16 physical partitions, and as many as 256 Oracle VM Server for SPARC domains can be deployed in each physical partition, enabling massive server consolidation and virtualization.

To reduce the number of resources that IT needs to manage, it is vital to consolidate workloads, applications, databases, operating system instances, and servers. Consolidation yields a number of benefits: improved system utilization rates, cost savings, improved security, more predictable service levels, and increased flexibility in application deployment. For successful consolidation projects, IT needs a server platform that can scale to support any number of application instances, in a highly available mission-critical environment. The platform also needs resource management and virtualization capabilities to simplify managing numerous applications, and the tools to manage that consolidated environment. The Fujitsu M10-4S server delivers on all these requirements, where IT managers can create pools of compute resources that can be rapidly and

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dynamically allocated to meet new and changing workloads.

HIGH-EFFICIENCY COOLING TECHNOLOGY

Fujitsu's hybrid cooling technology, Liquid Loop Cooling, combines the strengths of liquid and air cooling to resolve the typical problems that exist in server cooling systems. Liquid Loop Cooling allows high efficiency cooling and reduces the CPU/memory board size. The coolant circulates efficiently using multiple redundant pumps, removing the processor heat via a small heat exchanger/radiator on each board that is air-cooled. The system reduces the size of the heat sink and fans, leading to space-saving and less noise. It also dramatically improves the internal design of the server, allowing CPUs and memory to be packed closer together, reducing memory latency. Furthermore, controlled CPU temperature will improve the parts life cycle. This efficient cooling system can lead to significant cost savings for businesses.

ADVANCED VIRTUALIZATION AND CONSOLIDATION

SPARC-processor-based servers are among the world's best consolidation and virtualization plat-

NO. 1 UNIX OS ORACLE SOLARIS

Fujitsu M10 servers support Oracle Solaris 11 and Oracle Solaris 10. In addition, Oracle offers the Oracle Solaris Application Guarantee Program, offering guaranteed binary and source-code compatibility for applications dating back to 1997 or earlier. Oracle Solaris 9 is also available to use in Oracle Solaris Legacy Containers. In fact, one customer was able to operate Oracle Solaris 9, 10 and 11 on one server to run multiple applications.

In addition, both Oracle VM Server for SPARC and the Oracle Solaris Zones feature of Oracle Solaris are included in all Fujitsu M10 servers at no cost.

THREE MODELS TO MEET BUSINESS NEEDS

Fujitsu M10 servers are available in three models to meet the specific needs of many types of businesses. Every Fujitsu M10 server is based on the 16-core SPARC64 X processor with SPARC V-9 processor architecture, built-in security, a maximum of 600

gigabytes drive size, and SAS drive protocol. All Fujitsu M10 servers come with the Oracle Solaris 11 operating system pre-installed. In addition, each model offers a different configuration:

The **Fujitsu M10-1 server** features one, 2.8 gigahertz, 16-core processor with two threads per core for a total of 32 threads per server. The one rack unit (RU) chassis supports up to 512 gigabytes of DDR3 memory.

The **Fujitsu M10-4 server** features up to four, 2.8 gigahertz, 16-core processors with 2 threads per core for a total of up to 64 cores and 128 threads per server. The four RU chassis supports up to 2 terabytes of DDR3 memory.

The **Fujitsu M10-4S server** features four 3.0 gigahertz processors in a four RU chassis that can be combined with other M10-4S servers using Fujitsu cross-bar technology to form a 16-unit configuration offering up to 64 processors, with 1,024 cores and 2,048 threads. The system memory can scale up to 32 terabytes enclosed in two datacenter racks with integrated cross-bars.

"To increase profitability and remain competitive in today's fast-paced business environment, businesses are focused on speeding up application processing and improving their overall IT efficiency," says Bill King, executive vice president of Platform Products Group at Fujitsu America. "The Fujitsu M10 servers help our customers realize these objectives while providing a direct return on investment by delivering tremendous price performance advantage with advanced features for optimized database and application performance, mainframe RAS, scalability and a high- performance infrastructure that businesses expect from Fujitsu."

ORACLE AND FUJITSU: A STRONG ALLIANCE

Over the years, Oracle and Fujitsu have built a strong alliance that is focused on delivering meaningful value to customers. The Fujitsu M10 servers are a direct result of their joint collaborative efforts.

"Oracle welcomes the all new Fujitsu M10 servers to the SPARC family," says Oracle Chief Corporate Architect Edward Screven. "Oracle and Fujitsu's strong collaboration exemplifies Oracle's commitment to achieve extreme performance by engineering hardware and software together to benefit customers."

Fujitsu's Diamond-Level and Oracle Specialized Partner Status Yields Big Benefits for Customers

Fujitsu is proud to be an Oracle PartnerNetwork Diamond level partner, making it one of a handful to achieve the highest ranking available in the Oracle PartnerNetwork (OPN) program. The Diamond distinction lauds Fujitsu for its extensive expertise in Oracle solutions across the entire stack—services, software and hardware. It also recognizes Fujitsu's outstanding ability to provide differentiated and innovative services to joint customers around the globe.

Currently, Fujitsu has over 3,500 Oracle specialists whose deep skills have helped the company achieve six advanced specializations. This means that not only has Fujitsu met a variety of stringent requirements; it has at least 50 certified implementation specialists on staff for each of six specific product areas.

"By achieving Diamond-level status, the highest in OPN, Fujitsu has demonstrated its vast knowledge of Oracle technologies and its outstanding ability to offer that expertise to joint customers worldwide," says Michelle Montalvo, vice president, Global Systems Integrator Alliances, Oracle. "This achievement is a significant milestone in a longstanding relationship with Fujitsu."

"Fujitsu is the only server processor development company based in Japan. We are proud of our long history and technology skills," says Takumi Maruyama, assistant vice president, Processor Development Division at Fujitsu. "We look forward to delivering the Fujitsu M10, which combines Fujitsu and Oracle's expertise and innovative technologies, to our customers, and providing them with real business and IT value." ∎

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For more information on how **Fujitsu M10** servers can benefit your enterprise, please visit **www.fujitsu.com/sparc**.