

SUN / AMD PARTNERSHIP MILESTONES

November 17, 2003

Sun/AMD Strategic Alliance formed.

February 10, 2004

Sun announces the Sun Fire™ V20z server, its first system with AMD Opteron™ processors.

March 30, 2004

Sun announces that the Astbury Centre for Structural Molecular Biology at the University of Leeds in the U.K. will host one of the first HPTC (High Performance Technical Computing) cluster implementations, using the Sun Fire™ V20z server based on the AMD Opteron™ processor.

In addition, Sun receives positive feedback from channel partners and resellers, including Moca, GE Access and Tech Data, expressing tremendous interest in shipping the AMD Opteron™ processor-based Sun Fire™ V20z servers in volume.

April 19, 2004

Sun announces the Secure Web Server Reference Architecture, its first Reference Architecture to include one of the industry's fastest secure Web servers, the AMD Opteron™ processor-based Sun Fire™ V20z server, according to the SPECweb99_SSL benchmark published on March 20, 2004.

April 22, 2004

Sun and Oracle publish the first SPECjAppServer2002 result with the AMD Opteron™ processor-based Sun Fire™ V20z server and Oracle Application Server 10g, demonstrating a price/performance world record, as of April 21, 2004.

May 11, 2004

Sun sets a 2-way world record on two-tier SAP Sales and Distribution Standard Application benchmark with the AMD Opteron™ processor-based Sun Fire™ V20z server, according to the SAP SD Standard Application Benchmark based on certification number 2004025.

May 18, 2004

AMD announces new additions to the AMD Opteron™ processor family – Models 850, 250 and 150. The Sun Fire™ V20z server, equipped with the AMD Opteron™ processor, Model 250, demonstrated to be one of the fastest two CPU secure web servers according to the SPECweb99_SSL benchmark as of May 18, 2004.

June 1, 2004

AMD announces a strategic alliance with Broadcom to develop AMD Opteron™ processor-based server chipset solutions. Sun supports AMD's strategic alliance with Broadcom, which demonstrates aggressive moves to grow the ecosystem that Sun is helping to develop.

June 14, 2004

AMD announces a technology milestone with the completed design of its AMD64 dual-core processors. Sun confirms that dual-core, industry-standard processors are the best choice for the industry as customers require the best price-performance in their systems.

June 29, 2004

At Sun's JavaOne Developer Conference in San Francisco, Sun announced a Sun Java Developer promotion with a pricing twist. CEO Scott McNealy said that Sun would list a developer bundle on eBay with an opening bid starting at just a penny. The bundle included Sun Java Studio Enterprise, sample code, tutorials and an AMD Opteron™ processor-based workstation.

July 26, 2004

Sun and AMD both announce Sun's broadened x86 portfolio with the latest in a family of AMD Opteron™ processor-based Solaris systems, the Sun Fire™ V40z server, and Sun Java Workstation W1100z and Sun Java Workstation W2100z, which run applications for the Solaris OS, Red Hat Linux, SUSE Linux, and Microsoft Windows with Microsoft Hardware Compatibility List (HCL) certifications.

August 2, 2004

The University of Chicago's Economic Research Center is the first to realize high performance advantages of Sun systems equipped with AMD Opteron™ processors and PathScale's EKO compilers.

August 3, 2004

At the LinuxWorld 2004 Conference in San Francisco, Sun demonstrates customer and partner momentum for its AMD Opteron™ processor-based systems, with support from iForce Partner EDS, and customers including Keyhole, Mentor Graphics Corporation, Biomedical Informatics Research Networks (BIRN), Conoco Phillips, ST Microelectronics, University of Michigan and University of Utah/CADE Lab. In addition, Sun announced that its ISV ecosystem continued to grow with nearly 240 partners, as of August 3, 2004.

August 4, 2004

Sun announced multiple promotions on eBay, auctioning its servers and workstations equipped with AMD Opteron™ processors, as well as the Sun Fire™ V20z Enterprise Essentials, which bundles the AMD Opteron™ processor-based Sun Fire™ V20z server, a 3-year subscription to the Solaris OS and the Right to Use License, upgrades to the Solaris 10 OS and a full 3-year SunSpectrum Silver support services. Sun also announced the Sun Java Developer Enterprise W1100z Promotion, which also bundles the workstation, Solaris OS and SunSpectrum Silver support services.

August 11, 2004

Sun and Metapa announce that E! Networks, the world's largest producer of entertainment news programming, deployed a data warehousing solution that includes the AMD Opteron™ processor-based Sun Fire™ V40z server with Solaris OS, and Metapa's Cluster DataBase (CDB).

August 12, 2004

Sun announced that the Department of Energy's Idaho National Engineering and Environmental Laboratory, uses more than 230 Sun Fire™ V20z servers powered by AMD Opteron™ processors, with more than 12 Terabytes of Sun StorEdge 6320 storage, the Solaris 9 OS, Sun Java Enterprise System and Java development software, Sun Grid Engine Enterprise Edition, Sun's StarOffice 7.0 office productivity platform, as well as advanced on-site training and support from Sun's Services division.

August 31, 2004

AMD demonstrates the world's first x86 dual-core processor. The Solaris OS combined with AMD Opteron™ processor-based servers and workstations will take full advantage of the AMD64 multi-core architecture, managing multi-threaded applications.

September 1, 2004

Sun offers special promotions for its record-performing systems based on AMD Opteron™ processors to Microsoft Certified Professionals and customers.

September 7, 2004

AMD announces that leading software vendors, including Sun, endorse AMD64 multi-core technology after AMD's demonstration of the industry's first x86 dual-core processors.

September 21, 2004

Sun announces price-performance leadership. The combination of Sun Fire™ V20z and Sun Fire™ V40z servers, based on the AMD Opteron™ processor, achieves world record price/performance according to the SPECjAppServer2002 benchmark, as of September 14, 2004. On a two-tier SAP ® Sales and Distribution (SD) Standard Application Benchmark, the Sun Fire™ V40z server posts a world-record result for 4-way systems on Linux, as of September 13, 2004.

The Sun Java Workstation W1100z running the Solaris 10 OS achieved up to 61 percent better performance than the Dell Precision 650 workstation running Red Hat Enterprise Linux, according to a recent BLAST benchmark. And the AMD Opteron™ processor-based Sun Java Workstation W2100z™ demonstrated the best SPECCompM2001 performance result for all 2-way systems, as of September 13, 2004.

September 21, 2004

Sun announced migration programs and promotional bundles of hardware and software designed specifically for financial services companies, including a Xeon trade-in program that enables Wall Street institutions to receive significant cash credits when they switch out existing Xeon servers and purchase new Sun Fire™ servers equipped with AMD Opteron™ processors.

September 29, 2004

Sun and AMD announced that Equity and Derivatives BNP Paribas, a major European bank, reduced operational risk while addressing Basle II Regulations. Equity and Derivatives BNP Paribas chose 116 AMD Opteron™ processor-based Sun Fire™ V20z servers to improve its grid computing infrastructure.

November 15, 2004

Sun and AMD announced their successful collaboration on developing the industry's first Java Virtual Machine (JVM) that supports 64-bit systems powered by the AMD Opteron™ processor with AMD64 technology. The new JVM, which is included free of charge in the Solaris 10 Java Development Kit, enables developers to build efficient and high performing Java technology-based applications for Linux, Windows and Solaris environments.

November 17, 2004

Sun and AMD celebrate their first year as strategic partners, as part of Sun's Network Computing '04 quarterly launch in San Jose, Calif.

February 14, 2005

At the LinuxWorld 2005 conference in Boston, Sun announced performance and feature enhancements for its AMD Opteron™ processor-based systems that achieved seven new world-record results. The Sun Fire™ V20z and Sun Fire™ V40z servers outperformed 2- and 4-way servers from IBM, HP and Dell on industry-standard benchmarks.

April 21, 2005

AMD announced the world's first 64-bit, x86 multi-core processors for servers and workstations as Sun announced dual-core technology across its entire x64 server line at the second-anniversary celebration of the AMD Opteron processor. The Sun Fire™ V40z server powered by AMD64 dual-core technology, is an enhanced 4-socket, 8-way server that integrates four microprocessors, each with two complete CPU cores. The dual-core architecture is designed to help customers achieve twice the performance and power efficiency over competitive x64 single-

core server offerings based on Intel processors, resulting in half the operational costs that include power and cooling, in some cases saving customers an average of \$2M annually per year.

May 4, 2005

Sun announced that NewEnergy Associates, a subsidiary of Siemens and provider of end-to-end energy IT and consulting solutions, selected Sun Fire™ V20z and Sun Fire™ V40z servers powered by the AMD Opteron™ processor over all top-tier x64 server offerings, as part of its high-performance grid infrastructure. The solution is designed to accelerate applications by increasing computational power, maximize system efficiency and uptime, and provide 30 percent lower heat output than competing alternatives.

June 27, 2005

At the JavaOne 10th anniversary event, Sun unveiled its next-generation x86 workstation, the Sun Ultra 20, powered by the AMD 2.6 GHz Opteron™ Processor. The Sun Ultra 20 is dual-core ready, providing customers with the flexibility of running both 32- and 64-bit compute intensive EDA applications and delivers outstanding performance in customers' IT environments while allowing them to maximize their existing hardware investments. The Ultra 20 is the industry's fastest single-socket workstation available for under \$1,000, supports eight operating systems, and comes pre-loaded with developer tools and advanced graphics capabilities.

August 23, 2005

Sun announced a competitive customer win at the show, Dygra Films, who replaced its Intel processor-based platform running Windows with the Solaris OS and Sun systems powered by AMD Opteron™ and SPARC processors. The Sun Systems have helped improve Dygra Films' production and procedures for its 3D animation process by 50 percent.

September 12, 2005

Sun unveiled its new "Galaxy" Sun Fire™ x64 servers, which set new standards for performance, reliability and energy efficiency. Powered by AMD Opteron™ processors and running the Solaris 10 Operating System (OS), these new industry-standard servers consume about one-third the power, are one-and-a-half times the performance, and cost half as much as comparably configured 4-way servers from Dell.

September 19, 2005

Sun made its first public demonstration of the Netra ATCA (advanced telecom computing architecture) blade server powered with the multi-core AMD Opteron™ processor and running Solaris 10 Operating System at the 2005 VON Conference. Sun's ATCA blade platform will be able to support both SPARC and AMD Opteron™ processor-based blades in the same chassis with choice of operating systems.

November 7, 2005

NewEnergy Associates selected Sun's dual-core Sun Fire™ X4200 servers to replace 23 existing Intel processor-based servers. NewEnergy is standardizing on the newest Sun Fire™ x64 servers powered with the AMD Opteron™ 200 Series processors to help reduce energy and maintenance IT costs, improve customer response time and reduce the amount of space occupied by servers in its data center, while increasing compute power needed to run mission-critical 64-bit applications on its compute grid.

November 10, 2005

Sun opened its Sun Solution Center for High Performance Computing (HPC) designed to make HPC practical and attainable for a wide array of customers and partners, and demonstrates Sun's investment and drive to accelerate Sun's growth in the HPC market. The facility runs more than 600 high-performance and energy-efficient Sun Fire™ x64 multi-core available servers powered by AMD Opteron™ processors with over 100TB of SunStorEdge Arrays. An equivalent center

running Intel Xeon or Itanium processor-based servers could result in annual power-cooling costs of up to 15 percent higher for Xeon processor-based servers and up to 64 percent higher for Itanium processor-based servers.

November 15, 2005

At Supercomputing 2005, Sun announced significant performance upgrades to its Sun Fire™ x64 servers powered by the high-performance AMD Opteron™ processor. The Sun Fire™ X4100 and Sun Fire™ X4200 servers are now available with AMD's newest, highest-performing multi-core AMD Opteron™ Model 285 SE processor, outperforming similar competitors' systems based on dual-core Intel processors.

On the same day, Sun and AMD announced that Tokyo Institute of Technology is creating Japan's largest supercomputer based on Sun Fire™ x64 servers with 10,480 AMD Opteron™ processor cores, Sun and NEC storage technologies and NEC's integration expertise as well as ClearSpeed's Advance accelerator boards. The grid-based supercomputer plans to expand to more than 100 teraFLOPS by its operation in Spring 2006 and is expected to be one of the five largest supercomputers in the world as ranked by Top500 in Summer 2006.

November 17, 2005

Sun and AMD celebrate their second year as strategic partners.

November 21, 2005

University of Southern California purchased 360 dual-core Sun Fire™ V20z servers for the University's Center for High-Performance Computing and Communications (HPCC), which boosted the supercomputer cluster's performance by nearly 50 percent and helped the center move up on the Top500 list to achieve a ranking as the 24th fastest supercomputer in the world.