Lean, Mean and Green

Government — and the environment — benefit from Sun Microsystems™ servers powered by AMD.

In today's network-driven government environment, high-performance service delivery and enterprise operations are no longer an amenity, they are a must. But with the demand for more performance and convenience comes the need to run government with efficiency, reliability and security. And as society becomes more environmentally conscious, even IT must find eco-friendly ways to operate.

Sun and AMD have partnered to build servers that meet the high-performance needs of government while delivering superior efficiency. Sun servers powered by AMD Opteron™ processors provide twice the performance of competing servers — and they do so at lower cost while consuming less energy. For governments looking to make a positive impact on enterprise operations, service delivery and the environment, Sun and AMD offer an effective solution.

Managing Government in a Changing World

Over the last decade, government — like the rest of the world — found itself struggling to keep up with the rapid changes in technology. In addition, constant threats from terrorists and hackers forced government to re-evaluate its IT infrastructure. A 2005 survey conducted by the Computer Security Institute and the FBI revealed that unauthorized access losses per survey respondent had increased 600 percent, from $51,545 in 2004 to $303,234 in 2005. Losses from the theft of proprietary information also increased, growing from $168,529 per respondent in 2004 to $255,552 in 2005. Overall, the U.S. Department of Commerce estimates some $60 billion is lost annually due to software flaws and other security issues.

Fortunately Sun components are up to the challenge of confronting security threats. Powerful servers based on the Sun x64 platform — like the Sun Fire™ X2100, X4100 and X4200 — incorporate AMD Opteron processors to deliver up to twice the performance of competing dual-core processors while incorporating Sun's integrated, multilayered defense strategy. This comprehensive approach delivers network security and identity management, while safeguarding the host platform and applications from attack.

Furthermore, Sun x64 servers feature Enhanced Virus Protection*, which is built directly into the AMD Opteron processor and provides unrivaled protection against buffer overflow-exploiting attacks. These best-of-breed security features enable government agencies to deliver top-notch services with the assurance of knowing they're operating in one of the most secure IT environments yet conceived.

Consider too that Sun x64 servers deliver these capabilities with industry-leading cost-effectiveness. Sun Fire X2100 servers, for example, start at a list price of $745 yet offer double the performance capability of competing servers while using 56 percent less power. This combination of performance and value illustrates why AMD finished the fourth quarter of 2005 with 21.4 percent of all processors going to market. And with government now free from the yoke of Intel-only purchasing policies, more agencies and departments are

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Dr. Craig Benham, director, U.C. Davis Genome Center

free to choose the infrastructure backbone that is rapidly becoming the go-to solution to meet the needs of government today.

Sea to Sea and in Between

All levels of government are discovering how Sun solutions can help meet their mission-critical requirements. Sun Fire x64 servers are the fastest, most reliable and most energy-efficient available and can run almost any operating system — giving governments nearly limitless options when applying them to their enterprises. Sun servers powered by AMD processors are an intelligent choice to provide computing power for everything from high-volume ERP and CRM systems to mission-critical network services.

At the University of California at Davis, researchers sought a computing performance solution to help them remain one of the top research universities in the nation. After evaluating its options, U.C. Davis found that Sun's grid computing environment offered the best solution. Sun's Grid Infrastructure Reference Architecture helped the university dramatically enhance the effectiveness of its computing resources while significantly improving its price-to-performance ratio.

The grid solution uses 57 Sun Fire™ V20z servers all featuring AMD Opteron processors. The Sun grid lets U.C. Davis researchers access the additional computing muscle they need for highly intensive data calculations.

"We needed to run more sophisticated simulation technologies and perform more detailed data mining to help us get a better understanding of whatever research problem we're working on," said Dr. John Rundle, director of the university's Computational Science and Engineering Center.

Thanks to Sun and AMD, the prestigious school has the tools to remain a leader in pioneering research, according to Dr. Craig Benham, director of the U.C. Davis Genome Center. "This will significantly change how our researchers plan and quickly perform their calculation-intensive research projects."

In Idaho, the Idaho National Engineering and Environmental Laboratory (INEEL) was searching for ways to develop nuclear power into a safe and viable source of energy. INEEL, created in 2002, deals with highly sensitive information and astronomical demands for computing power. As such, the needs for effective resource management and security were apparent — which is why INEEL partnered with Sun for its research computing solution.

The lab purchased 250 Sun Fire V20z servers, 12 TBs of Sun StorEdge™ 6320 arrays as well as a suite of Sun software. When completed, the solution enabled INEEL to complete 2 trillion floating-point operations in one second. Researchers now work up to 80 times faster, and server utilization rates are near 100 percent.

In addition, the Sun solution provides INEEL researchers with secure collaboration, allowing them to share data and ideas in ways that were impossible before. With AMD processors, Sun provides security along with energy efficiency, affordability and superior processing power for the most demanding computing environments.

Sun Microsystems™ Shows/Events

North Carolina Digital Government Summit
Hilton North Raleigh
Raleigh, NC
Sept. 6 - Sept. 7

Illinois Digital Government Summit
Crowne Plaza
Springfield, IL
Sept. 14 - Sept. 15

GTC East
Empire State Plaza
Albany, NY
Sept. 25 - Sept. 28

Ohio Digital Government Summit
Columbus Convention Center
Columbus, OH
Sept. 26 - Sept. 27

Michigan Digital Government Summit
Lansing Center
Lansing, MI
Oct. 12 - Oct. 13

New York City Technology Forum
New York Marriott Brooklyn
Brooklyn, NY
Nov. 2 - Nov. 3

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To learn more about Sun's x64 servers featuring the AMD Opteron processor, visit **www.sun.com/amd**

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