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Cray fuels Sun's server line

Cray Research Superservers breaks out the CS 6400, to be sold as Sun's highest end.

Cray Research Superservers Inc. (Eagan, MN) enters the SPARC marketplace this month, announcing a deal that will make the Cray Superserver 6400 the top notch of Sun's high-end server line.The deal has been in the works a year and a half.

The SPARC RISC-based superserver will run Solaris, Sun's operating system, and will surpass the relatively new SPARCcenter 2000 in high-end performance. In fact, the CS 6400, which was code-named SuperDragon, is meant to continue where the SC2000 leaves off, Cray said.

The Cray subdivision that will market the CS 6400 is called CRS, for Cray Research Superservers Inc. CRS and Sun will jointly market the product, with the philosophy that Sun users need an easy upgrade bridge to the new CS 6400. It will also be sold by the CRS direct sales-force, a change for a sales team used to cutting million-dollar deals for one product. The team will target certain sections of the commercial and technical market, nervous mainframe abandoners, and current Cray and Sun customers.

The CS 6400 is a SPARC RISC-based superserver running Solaris 2.3.

The partnership with Sun clearly indicates Cray's plans to pursue the SPARC market. "A key point is to leverage the Cray supercomputer technology — to bring that technology to new markets," technical marketing manager Shanin Kahn said.

Changing with the times

Cray now has three main lines of supercomputers. This family of parallel vector machines represents the Cray stereotype of monstrous, expensive, supercomputers. In this line, Cray implemented its first variation of Unix called Unicos in 1982, which Cray said is the first 64-bit implementation of Unix ever. The Y-MP line ranges from $125,000 to $40 million.

The massively parallel product line, or MPP for short, is the highest-end supercomputer Cray has to offer. The only MPP machine on the market today is called the T3D. Recently, Cray cemented a deal with Digital Equipment Corp. in which Cray will use Digital's speedy Alpha AXP processors for the MPP line. Cray calls the MPP machines suitable for "grand-challenge applications — things that affect humanity at large, like a 3-D look at the crust of the earth, or global weather," Kahn said.

Mike Trujillo, in semiconductor marketing at Digital, said the Alpha AXP architecture is actually loosely based on the Cray architecture; hence, Digital is tickled Cray selected the Alpha chip for

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the T3D. That MPP machine is expected to support 1,000 to 2,000 nodes, all running in parallel, Trujillo said.

The third line of machines, The aforementioned superservers, is where you'll find the Superserver 6400. Cray Research Superservers Inc. (CRS) was formed in 1992 with selected assets of Floating Point Systems, a 1970s company that floundered after initiating a 1989 SPARC deal. Also in 1992, Cray Research joined SPARC International.

Cray reckons data center people migrating away from a mainframe might buy a CS 6400 because it features mainframe characteristics, such as the ability to "hot swap", or change a CPU board without powering down the system. "We'd like to take advantage of [people] moving off a mainframe," Kahn said. "We'd like to accelerate it. The CS 6400 is for people saying 'We want to go to Unix, how can we handle 2000 users?' "

The CS 6400's mission of acting as an enterprisewide server won't compete with Sun's new SPARCcenter 2000 and the even newer SPARCcluster 1 network file server. Instead, both Cray and Sun declare the Sun servers and Cray superserver will complement each other. The target market for the CS 6400 is not only data centers, but any site that already has a Cray. Or a SPARCcenter 2000, for that matter, but keep in mind the Cray is supposed to complement the Sun server, not replace it.

"The CS 6400 [is like a] bigger SPARCcenter 2000. If we didn't tell, they wouldn't know it wasn't a Sun. The CS 6400 [is for] a SPARCcenter 2000 [site] that's running out of steam," Kahn said.

The CS 6400 will cost anywhere from $300,000 to $3 million. A 16-processor machine, due out in February, 1994, will cost from $300,000 up to $675,000, depending on configuration. The high-end 64-processor machine with up to 16 gigabytes of memory won't be out until mid-1994, so Cray has not reached a pricing decision, Khan said.

Kahn said clustering is a possibility for the 6400. In the commercial market, it is possible to cluster 6400s and by adding software called a distributed lock manager, multiple instances of database software will interoperate.

Cray has big plans for tweaking with the server. For example, Kahn said, Cray "would like to partition the machine to run multiple copies of the OS, so we can upgrade it without shutting down the machine." He also mentioned partitioning the system as a cluster, so 64 connected processors could each run its own copy of the OS.

Cray designed its own chips for large machines like the C90, but will turn to TI for the SPARC chips that power the CS 6400 With the creation of the CS 6400, a Sun-compatible high-end server, Cray appears to be switching from an isolated box to a server that integrates itself into the less costly desktop market. In its press materials, Cray cited an IDC report which said medium and large servers, which are the "market CRS is targeting with its new product" had grown in 1992 to over $3 billion, compared with $1 billion in 1991.

Software for the CS 6400 won't be available until next year, and at this time Cray can't say whether it will be bundled or sold separately. Separate packages will be available for the commercial and technical markets.

So far, the CS 6400 will run all compilers from SunPro as well as products from other vendors, such as Oracle or Informix.

CRS aims to include a few definite items for commercial software users: a relational database management system, transaction-processing monitors, connectivity features, 4GLs, commercial compilers, and CASE tools. Cray said it is not obliged to use SunPro tools, though it does use SunPro's C++ compiler. Kahn said CRS will OEM some of these items, selected through an evaluation process.

The software for the technical market will include Cray's Fortran 90 programming environment as well as "networking between Cray and everything," Kahn said.

The CS 6400 will run Solaris 2.3, so Solaris' usual system-management capabilities will run fine, but Cray said it added "configuration abilities."

The Cray S-MP, which currently runs SunOS 4.1.3 and was actually started by Floating-Point Systems, was CRS' first product rolled out in June 1992, according to Kahn, but it won't be

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killed just because of the new 6400; Cray is confident it can sell both superservers. "We'll continue to have some specific market for it," Kahn said.

Chris Willard, manager of high-performance technology at IDC, was optimistic about the CS 6400's future because it emerges at the dawn of a new age, one that Willard called the "re-emergence of the technical marketplace."

In 1988, VAX-type computers "ran out of steam," Willard said, and the industry turned to the booming workstation market. Meanwhile, the power of the average RISC box continued to increase. Now client-server computing has taken hold, Willard said, and with powerful chips such as SPARC, midrange products that work as servers have an opportunity to take off like workstations did.

"Every time someone on the desktop has a two-hour job, they can off-load it to the server," he said.

— *Shalini Chatterjee*