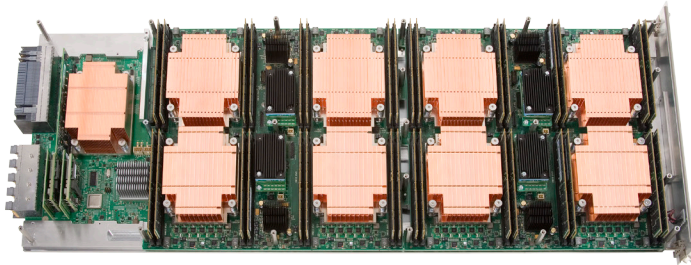# CRAY
THE SUPERCOMPUTER COMPANY

Cray XC30™ Supercomputer
Intel® Xeon® Processor Daughter Card

Adaptive Supercomputing through Flexible Design

Supercomputer users procure their machines to satisfy specific and demanding requirements. But they need their system to grow and evolve to maximize the machine's lifetime and their return on investment. To solve these challenges today and into the future, the Cray XC30 supercomputer series network and compute technology have been designed to easily accommodate upgrades and enhancements. Users can augment their system "in-place" to upgrade to higher performance processors, or add coprocessor/accelerator components to build even higher performance Cray XC30 supercomputer configurations.
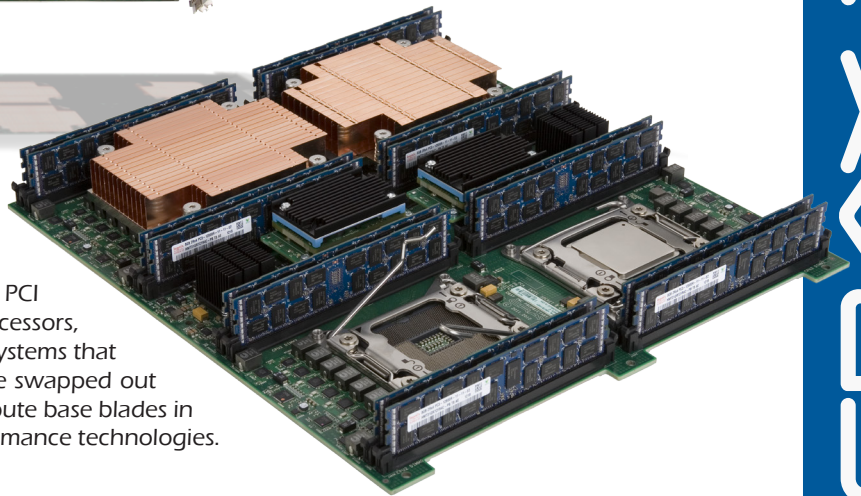
Cray XC30 Supercomputer — Compute Blade

The Cray XC30 series architecture implements two processor engines per compute node, and has four compute nodes per blade. Compute blades stack 16 to a chassis, and each cabinet can be populated with up to three chassis, culminating in 384 sockets per cabinet. Cray XC30 supercomputers can be configured into hundreds of cabinets and upgraded to exceed 100 petaflops per system.

The Cray XC30 supercomputer series architecture has been specifically designed from the ground up to be adaptive. A holistic approach optimizes the entire system to deliver sustained real-world performance and extreme scalability across the collective integration of all hardware, networking and software.

One key differentiator with this adaptive supercomputing platform is the flexible method of implementing best-of-class processing elements via processor daughter cards (PDCs).

PDC – Processor Daughter Cards

The Cray XC30 system mates processor engine technology to the main compute blades via two configurable daughter cards. The flexible PCI Express 3.0 standard accommodates scalar processors, coprocessors and accelerators to create hybrid systems that can evolve over time. For example, PDCs can be swapped out or reconfigured while keeping the original compute base blades in place, quickly leveraging the best possible performance technologies.

Intel® Xeon® Processor E5-2600 Family

The Cray XC30 supercomputer leverages the performance benefits of the Intel® Xeon® Processor E5-2600 Product Family, and takes advantage of a product roadmap of 64-bit processors. The Intel® Xeon® processor roadmap starts with eight core devices, that enable up to 66 teraflops per cabinet of compute performance and is upgradeable with the Intel schedules to advance clock frequency and the number of embedded cores. This family provides up to 80 percent performance improvements and 30 percent less latency than previous generations.

CRAY XC30

intel® inside™
Xeon®

Details on the Intel® Xeon® processor E5-2600 Product Family can be found by visiting:
www.cray.com/E5

Cray Inc. ▪ 901 Fifth Avenue, Suite 1000 ▪ Seattle, WA 98164 ▪ Tel: 206.701.2000 ▪ Fax: 206.701.2500 ▪ www.cray.com