CRAY CX1

Issue 1: July 16, 2009

Welcome to the first newsletter from the Cray CX1 team!

THE CRAY CX1 - EASY, POWERFUL, COMPLETE

This newsletter is designed to keep the Cray CX1™ community - our partners, resellers, ISVs and customers - informed on all that is happening in High Performance Computing (HPC) as it pertains to the Cray CX1.

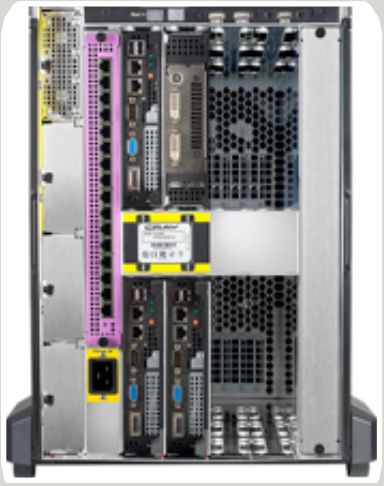
Welcome to the first newsletter from the Cray CX1 team. We are delighted to introduce this vehicle to share the many exciting things going on with the Cray CX1 and the many and varied ways in which it is helping HPC users.

One of the key aspects of what Cray is seeking to achieve with the Cray CX1 is "ease of everything." We are pursuing this in order to ease the transition of existing workstation users, as well as small and medium business users generally, into the world of high performance computing.

The core of every movement that has spread the benefits of computing to a wider audience has been an emphasis on ease of use, and the removal of fear. 30 years ago, the IT industry was dominated by mainframes. These were housed in dedicated machine rooms and cared for by an army of well trained technicians.

Eventually, minicomputers and UNIX systems began distributing computing power more widely and allowed a larger community to take advantage of compute power. The ultimate step in this democratization of computing was the release of Windows® NT on servers, and of course the proliferation of desktop and laptop computers.

Today HPC is still mainly locked in the machine room, and still largely needs well trained technicians to support these systems. The Cray CX1 is all about breaking out of those confines, removing the fear of the transition, and making the benefits of HPC available to everyone. Join us in breaking HPC out of the data center!



Introducing the Cray CX1-LC™
Look inside for details of the exciting new Cray CX1-LC. Light configuration? Low Cost? Little Cray? You decide!

MEET THE TEAM

Jeff Cachat (top) manages operations for the Cray CX1 team and makes sure the right product ends up in the right place

Gary Butler (middle) manages the Cray CX1 worldwide sales team

Greg Clifford (bottom) is the product manager for the Cray CX1 family

Introducing the Cray CX1-LC - a light configuration option that still packs a punch.....

Cray is very pleased to introduce the Cray CX1-LC, a light configuration version of the CX1 that allows more customers to take advantage of the CX1 family. The starting point for a working single node CX1 system now starts at under $12,000.

The Cray CX1-LC comes in a lower cost chassis that supports up to four compute blades, providing a maximum of 32 cores of Intel processing. This chassis has just one power zone that can be configured with (or without) redundant power supplies.

The Cray CX1-LC also introduces two new blades to the Cray CX1 family, the CN5500-GE blades support gigabit ethernet only (no InfiniBand) and the CN5500-DD offers DDR InfiniBand in addition. Both of these blades reduce the cost of the compute portion of the Cray CX1 and provide further ways to fine tune the capabilities of the system.

Most Cray CX1 customers to date have chosen the optional InfiniBand switch and network to deliver low latency within the Cray CX1 system. While we would always encourage the use of InfiniBand to optimize cluster performance, recent benchmarks have shown that for small clusters such as a four node Cray CX1-LC, gigabit ethernet provides adequate bandwidth.

Customers can therefore choose the best blades for their application and budget.

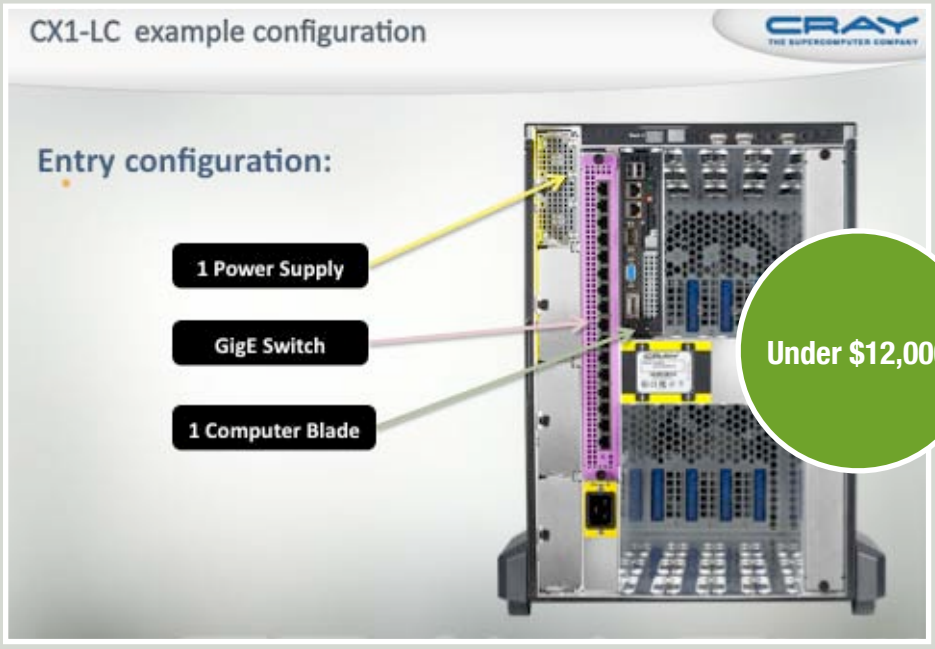
Although the Cray CX1-LC only support 4 compute blades, there is a “cheat” you can use to maximize the system and use 6 of the slots. All the two slot blade types (visualization, storage and GPGPU) actually draw their power from the compute portion of the blade. Therefore these blade types’ second slot can hang over into the second power zone area as they simply consume space and not power. Voila, four compute nodes plus two additional slots for whatever you want!

The Cray CX1-LC can be field upgradeable to a full 8 slot Cray CX1. This field upgrade will take 3-4 hours and it is therefore recommended wherever possible for customers whose needs are likely to extend to a full CX1 to purchase that from the start.

The Cray CX1-LC will begin shipping in August 2009. If you have any questions or would like a quotation for this system, please email cx1info@cray.com or contact your reseller.

and introducing new storage options.....

Cray is also very pleased to introduce new storage options for the Cray CX1 family. The CS5504F-XD blade offers 4TB of fixed storage in addition to the storage configured on the compute node. This allows up to 18TB of storage in a single chassis. In addition, new solid state storage drives are being introduced offering low latency and high performance.



SEER TECHNOLOGY
SEE WHAT CAN'T BE SEEN

Startup Saves $7 Million, Cuts Time to Market by 83% with High Performance Computing

Seer Technology tackled a gas chromatography problem that industry experts said was impossible, but it was undeterred—even when each iteration of the MATLAB algorithms took 26 days to run. The company turned to Windows® HPC Server 2008 and Cray CX1 hardware, and cut the time to eight hours, enabling Seer to complete product development five months faster and send units to market. The company saved approximately U.S.$7 million in development costs and gained millions in initial revenue contracts.

The traditional solution for Seer's problem would have been to move to a Linux-based supercomputer. But that didn't appeal to Dobson and his colleagues. "I've worked with large Linux systems, and I know they can work well, but they also require a system administrator—a guru, really—to keep everything running smoothly," says Dobson. "We're a startup and every dollar counts. We didn't want to incur the expense."

Instead, Seer turned to a nontraditional solution: MATLAB running on Windows® HPC Server 2008, the high-performance computing solution from Microsoft® and the successor to Windows Compute Cluster Server 2003, and the Cray CX1 supercomputer—the first Intel-based supercomputer from Cray to run the Windows Server® operating system. The Cray, which plugs into two 120-volt circuits, consists of six blade computers in a single chassis, each blade having two quad-core processors, 32 gigabytes of RAM, and 2.7 terabytes of disk space.

Cray and Seer set up the computer in half a day in January 2009. To administer the system, Seer worked with the part-time technician it was already using to maintain its computers running the Windows operating system. Because Seer's MATLAB application was abstracted from the processor layer on which it ran, Seer could move it directly from the original PC to the Windows HPC Server 2008–based Cray and, as Dobson says, "press a button and have it run."

"The first day, everything came up and ran, and it's been rock-solid reliable every since," says Dobson.

"We're scientists; we don't care about the hardware and software. We simply chose what works better. With Microsoft and Cray, we didn't have to think about the computer—or touch it—after we deployed it."

Kurt Dobson, Scientist, Seer Technology

Channel Corner

Cray launched its Worldwide Cray CX1 Reseller Program in February 2009 to extend high performance computing (HPC) beyond traditional data center environments. Cray CX1 Resellers have been carefully selected based on customer references, technical expertise, and commitment to HPC. Cray is excited to be working with these channel partners to deliver Cray CX1 based solutions around the world, with over 30 countries now represented. Please direct any questions or suggestions to ipdillon@cray.com

MEET THE TEAM

Ian Dillon (top) manages the Cray CX1 reseller and channel program

Anneke Dempsey (middle) is responsible for our ISV partnerships

Ian Miller (bottom) manages marketing at Cray as well as the Cray CX1 business unit

CRAY PARTNER PROFILE

ANSYS®

ANSYS® develops, markets, and supports engineering simulation software used to predict how product designs will operate and how manufacturing processes will behave in real-world environments.

ANSYS was founded in 1970 and employs approximately 1600 employees. ANSYS is headquartered in Canonsburg, Pennsylvania, U.S.A., and has more than 60 strategic sales locations throughout the world. In addition, ANSYS enlists a network of channel partners in more than 40 countries.

ANSYS enables companies to improve product development and processes. ANSYS is committed to developing simulation solutions – from structural mechanics to fluid dynamics to thermal and electromagnetics – that illustrate realistic and accurate modeling and simulation of components, subsystems, and systems. Reducing hardware prototyping and testing, ANSYS solutions drive product design from concept to reality, providing an engineering simulation system for a fast, efficient and cost-conscious information-based development process. ANSYS calls this Simulation Driven Product Development.

Target Industries:

Aerospace
Automotive
Chemical & Petrochemical
Civil Engineering
Consumer Products
Electronics
Environmental
Government & Defense
Healthcare
Industrial Equipment
Marine & Offshore
Metals
Oil & Gas
Power Generation
Semiconductor

Prime Applications:

ANSYS Mechanical, 12.0
ANSYS CFX, 12.0
ANSYS FLUENT, 12.0
ANSOFT HFSS

Cray CX1 Value Proposition for ANSYS customers:

Higher productivity, improved insight, and faster development of better products, because High-Performance Computing (HPC) provides:

- Faster turnaround time for single simulations or multiple simultaneous jobs
- Ability to consider bigger, more-detailed models
- Ability to consider more complex physics
- Capacity to consider multiple design options

Barbara Hutchings, Director,
Strategic Partnerships, ANSYS, Inc.
Tel.: 603-727-5625, E-mail:
barbara.hutchings@ansys.com

RECOMMENDED CONFIGURATIONS FOR ANSYS

Max Compute (large CFD)

For analysis teams who need –
a boost in performance
larger models (>100M cells)
design optimization (same day turnaround)

Recommended Cray CX1 configuration:
8 compute blades with 2.93GH E5570
1 blade with 48 GB with 320 GB disk
7 blades with 24 GB with 80GB drive
InfiniBand

Complete CAE/CFD Solution

For analysis teams who need –
a balanced upgrade with compute, visualization and storage giving 40 way parallel compute by day & 48 by night high end graphics

Recommended Cray CX1 configuration:
4 compute blades with 72GB memory
Visualization blade
Storage Blade with 2TB disk
InfiniBand

CRAY
THE SUPERCOMPUTER COMPANY
901 FIFTH AVENUE, SUITE 1000
SEATTLE, WA 98164
TEL: 206 701 2000
Email: cx1info@cray.com