Petascale Computing at NICS

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Presented to

Fall Creek Falls Conference

September 9, 2008

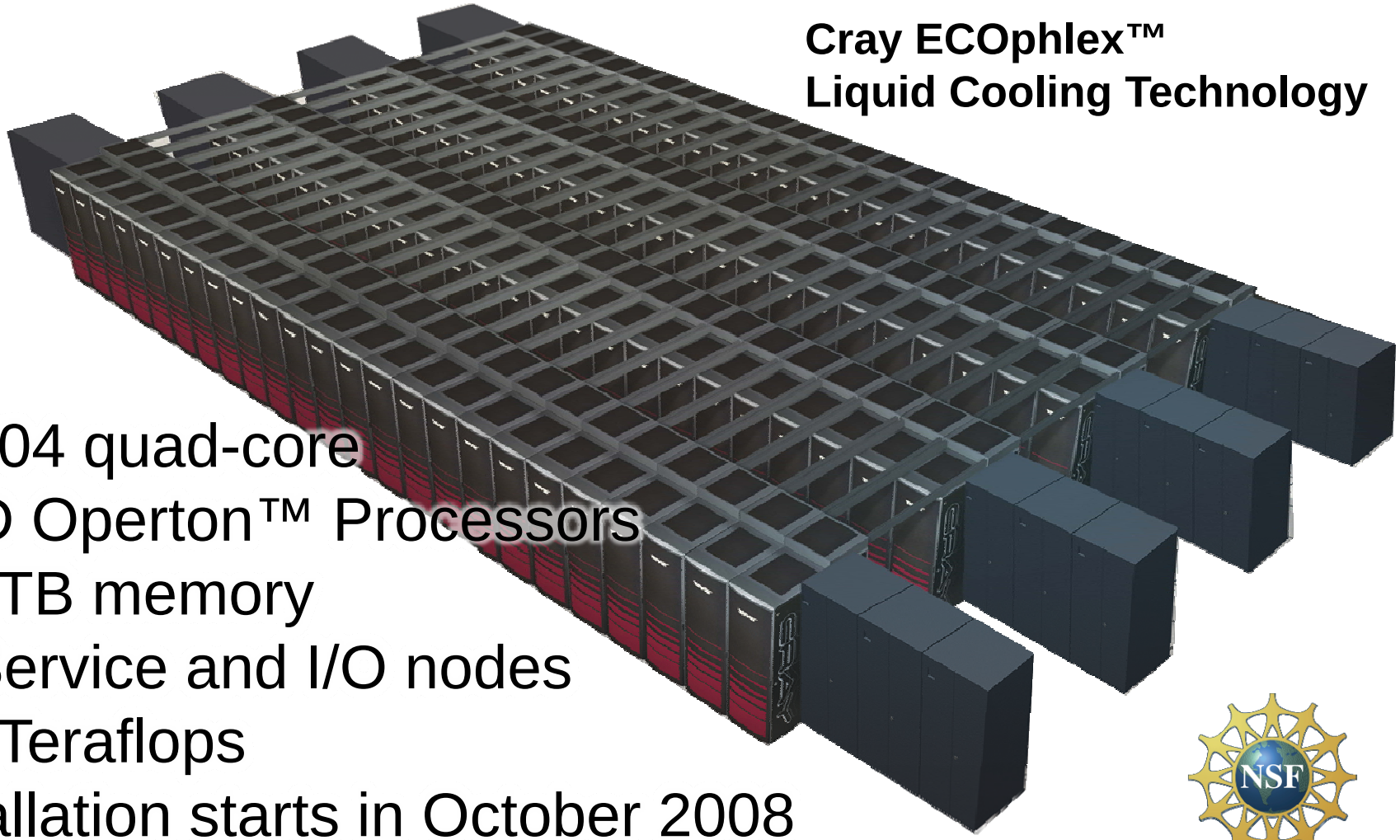
National Institute for Computational Sciences

- **NICS is a collaboration between the University of Tennessee and ORNL**
- **Awarded the NSF Track 2B**
- **Phased deployment of Cray XT systems**

Kraken – Cray XT4

- **4,512 Opteron quad-core processors (18,048 cores)**
- **18 TB of memory**
- **48 Service and I/O nodes**
- **166 TeraFLOPs**

Cray XT5 System



Cray ECOphlex™
Liquid Cooling Technology

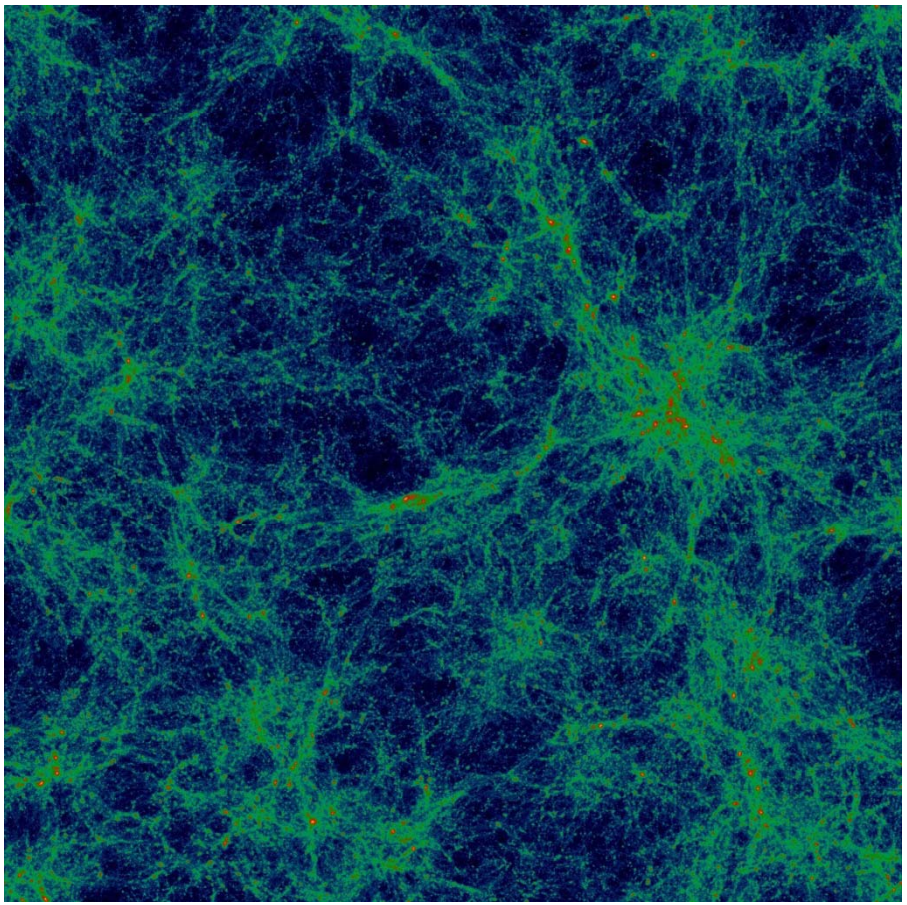
- 16,704 quad-core AMD Operton™ Processors
- 100 TB memory
- 48 Service and I/O nodes
- 615 Teraflops
- Installation starts in October 2008
- Planned upgrade to AMD Istanbul (6-core) processors in late 2009 (962 Teraflops)

Storage Infrastructure

- **Sun's Lustre-based file system will provide a shared, parallel file system linked to Kraken, the Teragrid, and HPSS archive**
  - **2.5-petabytes of capacity**
- **HPSS provides archival storage for all system**
  - **15-petabytes of capacity**
  - **Over 10 million files stored today**
  - **Doubling stored data every year**

NSF Allocations

- **80% of Kraken time allocated by NSF peer-review process**
- **Latest LRAC/MRAC meeting this week**
- **NICS has put up over 60 million hours for this round of allocations**



Questions?

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http://www.nics.tennessee.edu