DOE Office of Science

Budget by PCA

	FY 2000 Approp.	FY 2001 Pres Request
Total HCI&IM	8,000	16,600
Total LSN	24,736	31,998
Total HECC R&D	19,000	30,476
HECC Applications		
Research	24,486	37,954
Office of Science Application Teams	0	20,000
Facilities&Testbeds	40,249	48,054
Total HECC Apps…	64,735	106,008
Total SEW	2,600	4,600
TOTAL IT R&D	**119,071**	**189,682**

DOE/SC Enabling Technology Centers

- Established via open competition
- Teams involving mathematicians, computer scientists, applications scientists, and software engineers
- Focused on delivering key mathematical and software technologies to enable scientists to make effective use of terascale computers
- Integrated research activities spanning basic research through software engineering and support
- Research activities to transform products of basic research into software components that interoperate with products from other ETC′s

Motivation

- High end computing is a niche market, which is too small to be interesting to software vendors, so DOE must invest in the full software lifecycle for the tools its applications scientists need

- Ensure the best possible software and applied mathematics technology is available to DOE applications

- Transform the results of many researchers into an integrated system of technologies that all work together

- Focus "critical mass" of research effort on key problems

Areas of Emphasis

- Applied Mathematics
  - high performance mathematical algorithms and software libraries for critical DOE applications

- Computer Science
  - operating systems for terascale computers
  - software to store, manage, analyze, and visualize petabytes of data
  - performance tuning tools for high performance applications

- Advanced Computing Software Tools
  - Software component technologies to integrate research products into useful systems.