

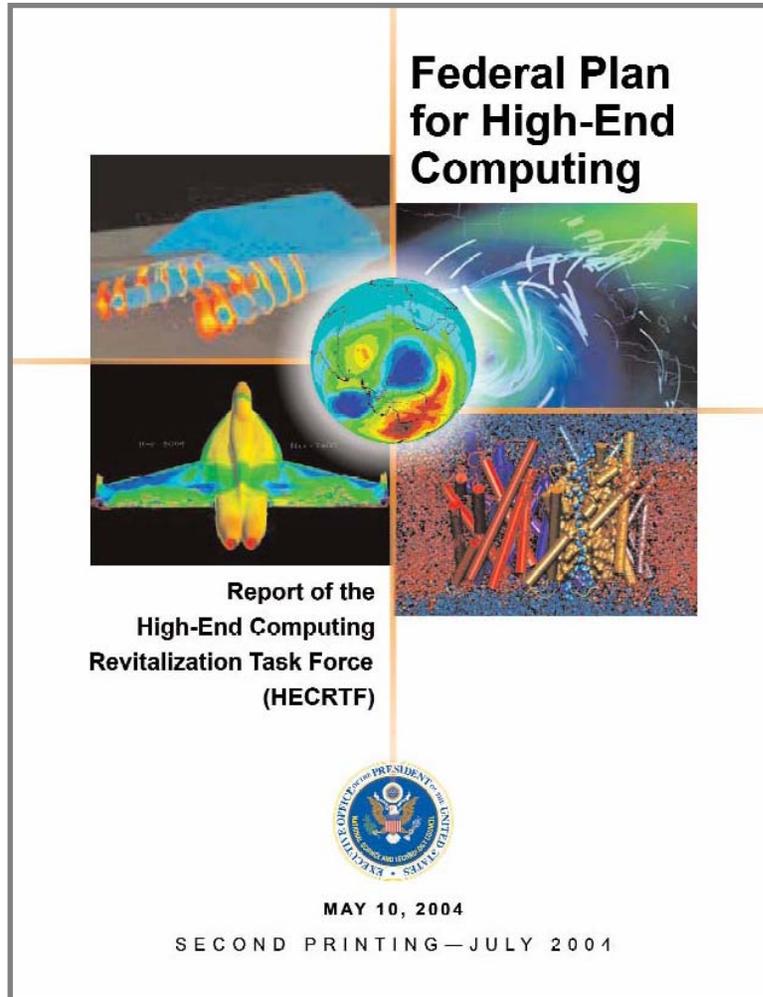


High-End Computing University Research Activity HECURA

from the National Science Foundation's
Directorate for Computer and Information Science and
Engineering (NSF/CISE)

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High-End Computing Roadmap



- **Research and Development**
- **Resources**
 - **Production Computing**
 - **Leadership Systems**
- **Acquisitions**

High-End Computing University Research Activity (HECURA)

- **FY 2004 Budget 8M**
- **NSF/DARPA activity focused on research in**
 - Languages
 - Compilers
 - Libraries
- **100 proposals submitted in July 2004**
 - 82 projects submitted by 57 US academic institutions and non-profit organizations
 - Includes no-cost national lab and industrial lab collaborators
- **Nine projects were awarded**
 - Tools and libraries for high-end computing
 - Resource management
 - Reliability of high-end systems

High-End Computing University Research Activity (HECURA)

- **FY 2006 Budget 14.5M**
- **NSF/DARPA/DOE/EPSCoR activity focused on**
 - Input/Output capabilities
 - File Systems
 - Storage Systems
- **62 proposals submitted in February 2006**
 - 52 projects submitted by 41 US academic institutions and non-profit organizations
 - Includes no-cost national lab and industrial lab collaborators
- **Nineteen projects were awarded**
 - I/O, file and storage systems design for efficient, high throughput data storage, retrieval and management in the HEC environment.
 - hardware and software tools for design, simulation, benchmarking, performance measurement and tuning of file and storage systems.

High-End Computing University Research Activity (HECURA)

- **FY 2008 Budget 8M (Planned)**
- **NSF activity will be focused on**
 - HEC Programming Models
 - HEC Languages
 - HEC Compilers



NSF-wide crosscutting programs

Industry University Cooperative Research Program (I/UCRC)

- **Partnering Industries and Universities to Innovate.**
- **I/UCRCs stimulate highly leveraged industry/university cooperation by focusing on fundamental research recommended by Industrial Advisory Boards.**
- **I/UCRC develops long-term partnerships among industry, academic institutions, and government.**
- **The centers are catalyzed by a small investment from the National Science Foundation (NSF) and are primarily supported by center members, with NSF taking a supporting role in their development and evolution.**

CISE Computing Research Infrastructure (CRI) annual

- **Infrastructure Acquisition.** These awards have budgets up to \$2,000,000.
- **Community Resource Development.** These awards have budgets from \$300,000 to \$2,000,000: medium from \$300,000 to \$800,000 and large over \$800,000. Development projects create a resource for an entire CISE research community, such as a testbed for evaluating research results or a large data resource that contains problems a community is trying to solve (e.g., annotated speech data).
- **Planning.** These awards facilitate the preparation of a proposal for a medium or large infrastructure acquisition grant. They have budgets up to \$50,000 for one institution or up to \$100,000 if more than one institution is involved.