ESnet Program

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ESnet Program Manager
ESnet Short Summary 23 Jan 2002

(www.es.net)
## Computational & Networking Needs

- **Biology & Bioinformatics**

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ESnet – A DOE Resource

- Mission:
  - Provide, interoperable, highly capable and reliable communications infrastructure and leading-edge network services that support DOE’s missions

- Vision:
  - Provide advanced network capabilities to enable seamless collaborations for DOE and its researchers

- Role:
  - Underpin Office of Science investments in high-performance computing hardware critical to the success of research programs.
ESnet Connectivity

ESnet Direct IP Neighbors LATE 2001
ESnet Community

ER User Facilities and the Institutions Who Use Them

- **Major User Facilities (28)**
- **National Laboratories**
- **User Institutions**
  - 278 Colleges and Universities
  - 265 Companies
  - 47 Federal Labs

International Atlantic
International Pacific
What is ESnet used for

- Computation
- Instrumentation (large and/or many small)
- Broadband Network Connectivity
- Applications
- Collaboratories
- Data Repositories
- Instrumentation (large and/or many small)

ESnet Infrastructure
ESnet Network

- ESnet Supports
- Operational High Performance Net
- Experimental Infrastructure Net
- Experimental Research Net
ESnet Program - Committees

DOE

Program Offices

SC-31 (MICS)

ESnet Program Manager

Requirements / Feedback

Guidance / Funding / Recommendations

Direction / Technical Recommendations

ESCC

Working Groups

ESRSC

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ESnet Major Benefits

- Provides leading edge network capabilities
  - email, WWW, data files, administrative functions
- Establishes a stable platform for DOE research
  - Parallel Computations, Instrument Control, Remote Conferencing, Remote Collaboration, Code Development, Access to DOE facilities, Effective Interagency and International Cooperation and Coordination, Effective use of DOE resources
- Promotes Technology Integration
  - leading edge implementation of technology
  - technology partnerships
• ESnet provides a spectrum of “core” services that are essential components of an advanced scientific research collaborative environment for DOE

• ESnet provides a testbed for new technology research and implementation
ESnet Success Stories

National Collaboratories

What and Why?

Collaboratories link geographically distributed researchers, data, and tools via networks to enable remote access to facilities, access to large datasets, shared environments, and ease of collaboration.

ESnet

- Remote Access to Scientific Instruments
- Data from Petabyte/year Experimental Facilities
- Terascale Simulations
- Shared Virtual Environments

Scientists Desktops
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