PITAC
Scalable Information Infrastructure Report

Les Vadasz, Chair

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SII Committee Members

- Les Vadasz, Chair
- Eric Benhamou
- Vinton Cerf
- Steve Dorfman
- Robert Kahn
- David Nagel
- Raj Reddy
- Irving Wladawsky-Berger

Background

- PITAC 1999 Report
- SII recommendations
  - Fund research in the behavior of the global-scale network
  - Support research in the physics of the network
  - Support research on scaling the Internet
  - Support research on middleware
  - Support research on large-scale applications
  - Fund testbeds
- Broaden funding mechanisms
- Increase funding by a factor of 5 over 5 years

SII Subcommittee Review

- Requested agencies to report on their response to the PITAC recommendations
- Large Scale Networking (LSN) coordinated the Federal agency response
  - NSF, DARPA, DoE, NASA, NIST, NOAA, NSA

Response to PITAC Recommendations

- Agencies implemented a large number of projects that address each of the PITAC recommendations (not all projects are in LSN)

- Evidence of interagency coordination.

- LSN New Visions Workshop continues to evolve the research agenda.

- Funding mechanisms were broadened from small, single PI projects to medium and large multi PI projects funded for multiple years

Areas of Interagency Research Coordination

- Testbeds.
- End-to-End systems.
- Network measurements, modeling, monitoring, and simulation.
- Mobile networks and hybrid systems.
- Transport protocols and control theories.
- Grids and collaboratories.

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Focus Areas for New LSN Networking Research Programs

- **Trust (security, privacy, and reliability)**
- **Adaptive, dynamic, and smart networking**
- **Networking applications**
- **Middleware**
- **Testbeds**
- **Collaboration environments including Grid**
- **Revolutionary research**
- **Revisit networking fundamentals**

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Observations

- Charter was to expand longer range research; too early to judge outcome
- Some evidence that only a fraction of worthy research is being funded
- Some evidence of shortages of researchers in some areas
- Federal agency budget cross-cut has different categories than the PITAC used in its original report.