

The National Science Foundation, ANIR Division

Thomas J. GREENE, Ph.D.

Senior Program Director,
Advanced Networking Infrastructure



What Is NSF?

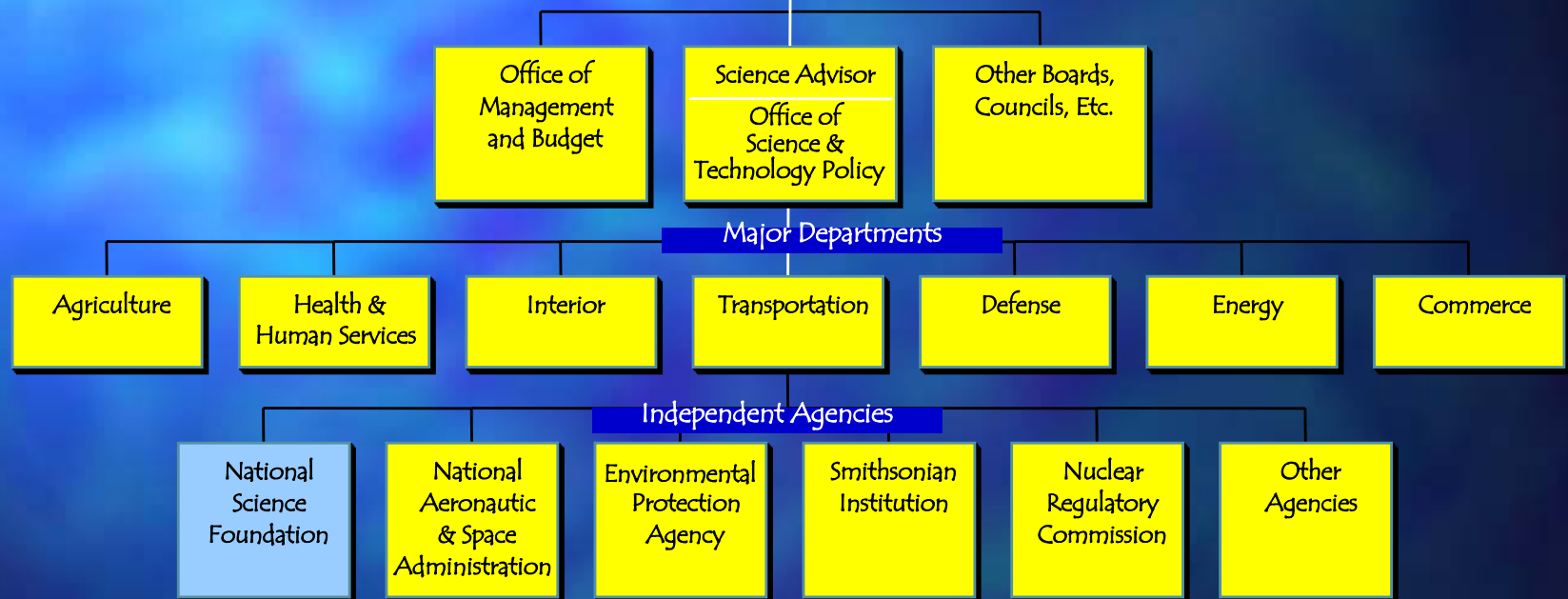
- ◇ An Independent Agency of the Federal Government, established in 1950,
 - ✓ to promote and advance scientific progress in the United States
 - ✓ by sponsoring scientific research and
 - ✓ by supporting selected activities in science and engineering.
- ◇ NSF Manages the US Science & engineering research investment portfolio
- ◇ NSF Does not conduct research itself



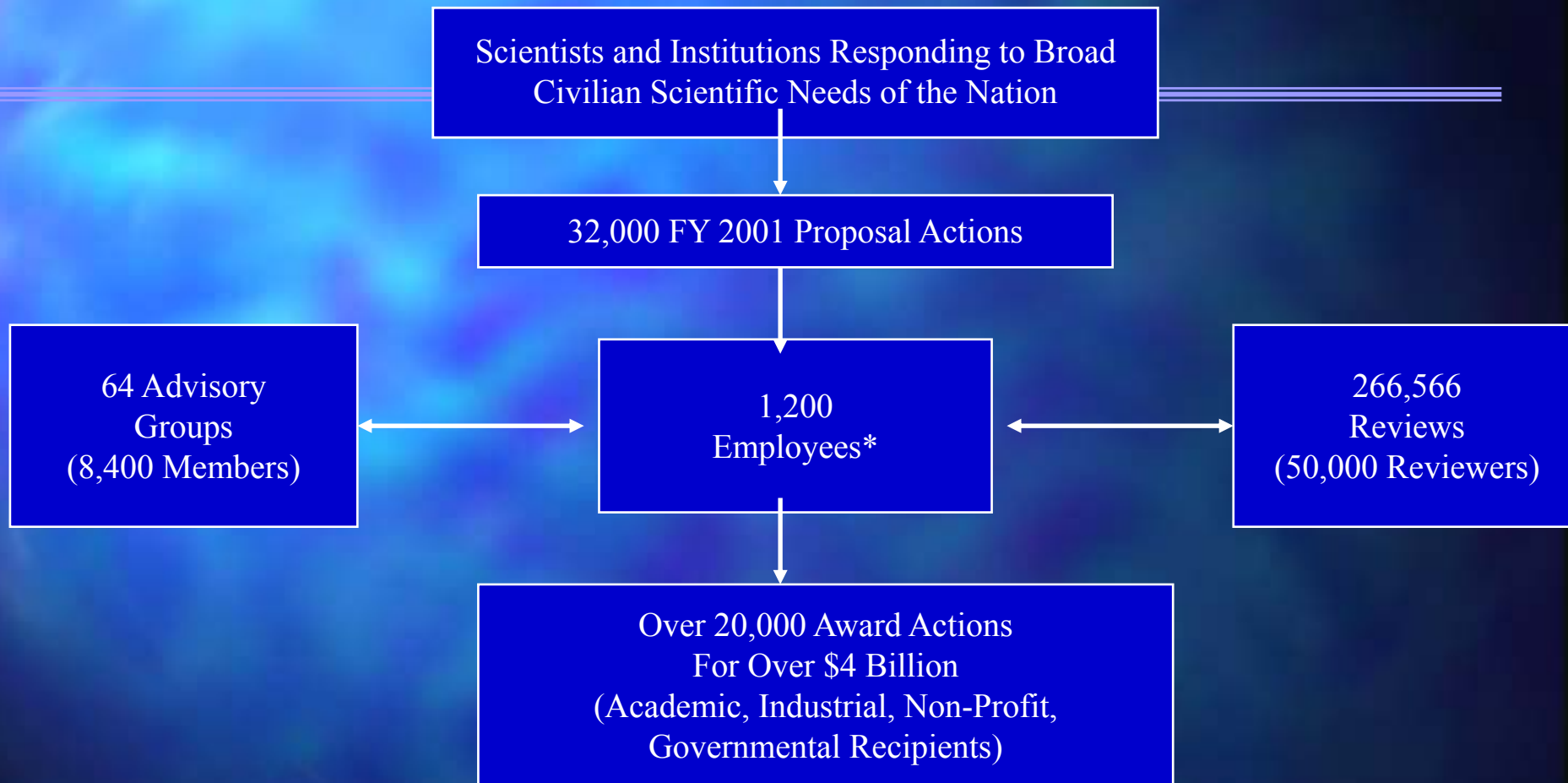
The US Agencies



The President
of the
United States



NSF : The Science Management Agency



** Includes 140 IPA staff (IPA= Intergovernmental Personnel Act)*

Data on Awards, Proposal, Employees, and Reviews are for FY 2001. Advisory Group data is for FY 2000.



Advanced Networking Infrastructure and Research Division ANIR

Advanced Network Research ANR

Advanced Network Infrastructure ANI



Advanced Network Infrastructure -ANI

Senior Program Director

Tom Greene

Program Directors

Greg Monaco

Alan Blatecky

Kevin Thompson

Programs:

- ◊ Network Middleware Infrastructure
- ◊ High Performance Network Connections
- ◊ Strategic Technologies for the Internet
- ◊ International Connections



Network Middleware Infrastructure(NMI)

To allow scientists and engineers the ability to transparently use and share distributed resources, such as computers, data, and instruments

To develop effective collaboration and communications tools such as Grid technologies, desktop video, and other advanced services to expedite research and education, and

To develop a working architecture and approach which can be extended to Internet users around the world.

Middleware makes "transparently use" happen, providing persistency, consistency, security, privacy and capability



High Performance Network Connections (HPNC)

- ◇ advanced network connections
- ◇ in support of advanced research and research collaborations
- ◇ at public and private institutions
- ◇ with significant research and education missions



Strategic Technologies for the Internet (STI)

- ◇ complex network monitoring, problem detection and resolution mechanisms;
- ◇ development of automated and advanced network tools,
- ◇ networked applications tools or network-based middleware;
- ◇ creation of usable and widely deployable networking applications that promote collaborative research and information sharing.
- ◇ innovative access network technologies



International Connections (HIIPS-old)

STARTAP / STARLIGHT

The HIIPS (awards) :

◇TRANSPAC

◇EUROLINK

◇NAUKAnet



The Future RE Network(REN) scene (continuous, evolving change)

Operational Research Network (Opnet)

Experimental Infrastructure Network (EIN)

Research Testbed Network (RTN)



Operational Research Network (OPNET)

- ◇ ABILENE, with planned upgrades
- ◇ Essential Tool for Research and Education
- ◇ High Performance, End-to-End
- ◇ International Connectivity
- ◇ Exciting Future
- ◇ NSF Support for Focused Activities



Experimental Infrastructure Network (EIN)

Driven by Advanced Applications and
Cutting-Edge Technologies

Desired current features:

- ◊ Ultra High Speed
- ◊ Rapid Reconfiguration

International Connectivity



Research Network (RTN)

Experiment with Disruptive Technologies

driven by advanced, cutting-edge
networking research

A collection of testbeds

wireless, optical, sensor nets, new and
emerging technologies, ...



From Ideas to utility – a model

Internet V	Published network papers
Internet IV	Networking Research Testbeds – NRT
Internet III	Experimental Infrastructure Networks EIN
Internet II	Abilene, Geant etc.
Internet I	Commercial nets



Thank You!

