

National Cyber Leap Year



Introduction
October 2008



NARA



NIST



Comprehensive National Cybersecurity Initiative

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U.S. Computer Emergency
Readiness Team (US-CERT)

Supply chain defense

DHS National Cybersecurity Center

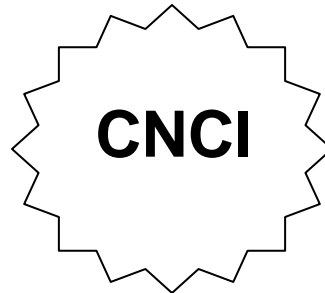
National Cyber Investigative
Joint Task Force (NCIJTF)

Trusted Internet
Connections Initiative

Increasing funding
for IT security

EINSTEIN Program

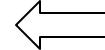
Cyber education



National Infrastructure
Protection Plan (NIPP)



Leap-Ahead R&D
&
Coordination



National Cyber
Leap Year
FY 2009

Motivators for CNCI R&D

- ◆ Attackers Rule, Disasters are Likely
 - ◆ Short-term Measures Essential but Insufficient
 - ◆ Market Forces Will Not Change the Balance
 - ◆ Usability & Manageability Critical to Solution
 - ◆ New Technology Can Catalyze Major Changes
 - ◆ ***Only a National Initiative Will Make a Real Difference***
- Safe Computing Workshop (2006) and National Cyber Defense Initiative activities

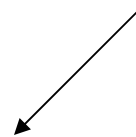
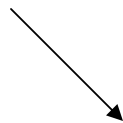
Vision of R&D under the CNCI

(Coordination)

A high-priority, high-intensity, focused, and coordinated set of Federal government activities over the next 10 years

(Leap-Ahead Program)

Expanding cyber research and development into high-risk, high-return areas



“to transform the cyber infrastructure so that critical national interests are protected from catastrophic damage and our society can confidently adopt new technological advances”

CNCI R&D Coordination: Principles & Framework

◆ Coordination Principles

- Improve synergy between classified and unclassified Federal research
- Enable multidisciplinary and multisector effort
- Prioritize research needs
- Maximize intellectual capital
- Exploit the full range of R&D models

◆ Principal Elements of R&D Framework

- Visible leadership at the highest Federal levels
- Robust structure for coordination across all CNCI dimensions
- Alert, agile, focused mechanism to speed progress

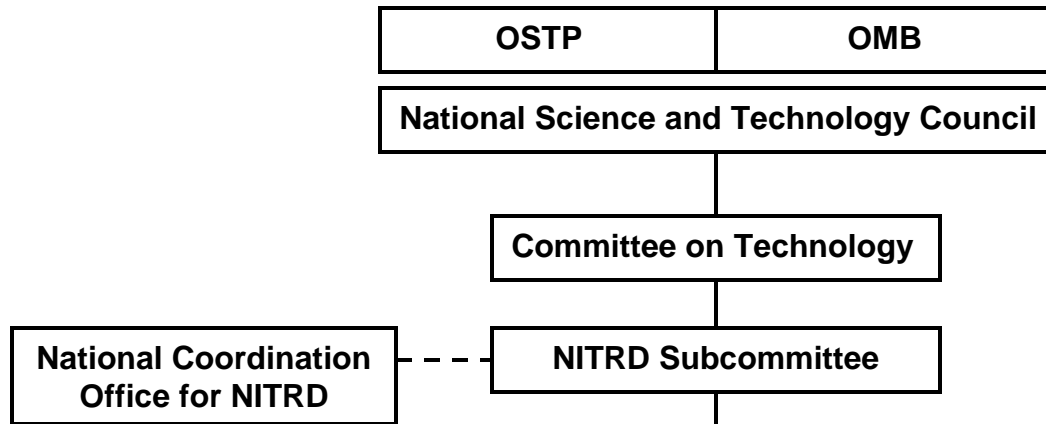
CNCI R&D Coordination Founded on NITRD Program

- ◆ **Networking and Information Technology R&D (NITRD) Program's advantages**
 - Foundation for a rapid launch of CNCI R&D coordination activities
 - 17-year history, arguably most successful formal interagency research coordination activity
 - Substantial institutional knowledge about multi-agency coordination
 - Represents full range of Federal R&D agencies in the areas relevant to cyber security technologies (e.g. DARPA, DOE, NASA, NIH, NIST, NSA, NSF, OSD, DOD)
 - Reflects multidisciplinary and multisector principles
 - Engages managers and researchers across many disciplines in the agencies, national laboratories, academia, and industry
 - NITRD participants are among those whose science and technology expertise and agency experience are needed



CNCI R&D Coordination: Implementation

Augmented NITRD Structure for Cyber Security R&D Coordination Under CNCI



**CSIA Senior Steering Group
(CSIA SSG)**

**Cyber Security and Information Assurance
Interagency Working Group (CSIA IWG)**

+

**Representatives of HCSS, LSN, and other
NITRD PCAs as appropriate**

CSIA SSG Members

- Agency NITRD co-chair
- Director, NCO
- Senior representatives of agencies with national cyber security missions (e.g., DOD, DHS, NSA, NIST)
- OSTP, OMB *ex officio*



National Cyber Leap Year

- ◆ **Organized by the NITRD/Senior Steering Group for Cybersecurity, FY 2009**
- ◆ **Prospecting and selecting game-changing (leap-ahead) ideas that fundamentally change the landscape**
 - Morph the Board (changing the terrain, ex. non-persistent virtual machines, adaptive networks)
 - Change the Rules (rules that favor society's values, ex. accountability, attribution, anonymity)
 - Raise the Stakes (increase risk and cost for attackers, ex. charging for spam email)
- ◆ **Selected concepts will form a national R&D agenda**

See Request For Information (RFI) at <http://www.nitrd.gov/leapyear/>
Submit your ideas to leapyear@nitrd.gov



Contact Information

**National Coordination Office for
Networking and Information Technology
Research and Development
Suite II-405, 4201 Wilson Blvd.
Arlington, VA 22230**

Tel: (703) 292-4873

leapyear@nitrd.gov

