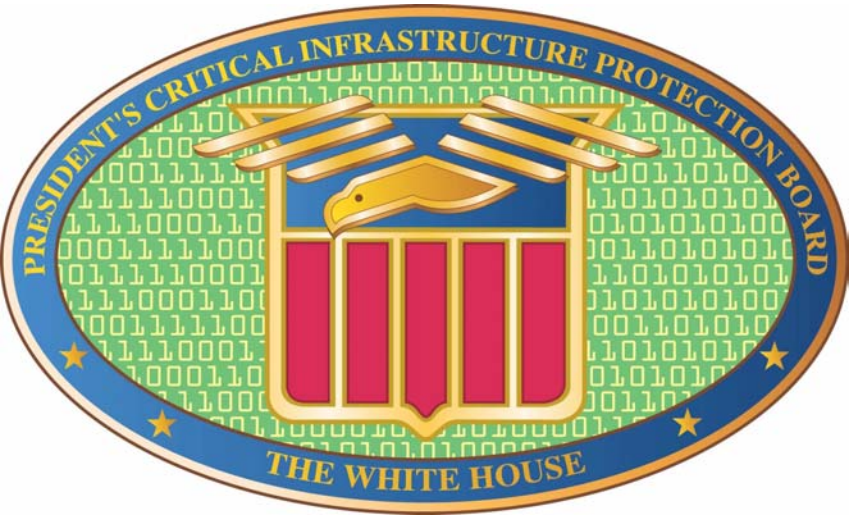
6th Annual National Congress on Healthcare Compliance

National Strategy to Secure Cyberspace



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The President's Critical Infrastructure Protection Board
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Foundation

- The nation's Strategy to Secure Cyberspace must be consistent with the core values of its open and democratic society.
- Americans expect government and industry to respect their privacy and protect it from abuse.
- This respect for privacy is a source of our strength as a nation.

Overview

- **Cybersecurity is essential to ---**
  - **Our national security;**
  - **Our nation's economic well-being;**
  - **Law enforcement/public safety; and**
  - **Privacy.**
- **Our overall strategic goal is to empower all Americans to secure their portions of cyberspace.**

The Case for Action

- It is the policy of the United States to protect against disruptions of information systems for critical infrastructures
- Ensure disruptions are infrequent, minimal duration, manageable, cause least damage

Dangers
A Spectrum

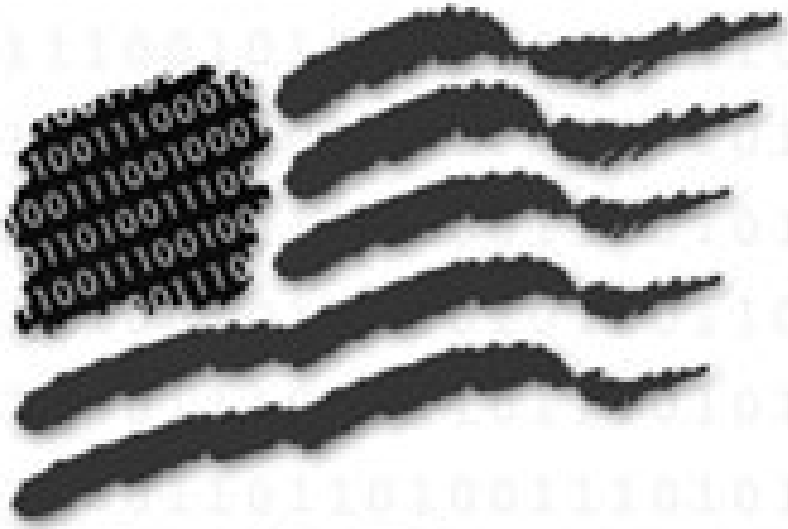
- Low end: teenage joyriders
- Up the spectrum: individuals engaged in ID theft, fraud, extortion, and industrial espionage
- Nations engaged in espionage against U.S. companies and U.S. government
- Far end: nations building information warfare units

A New Paradigm

- **Stop focusing on specific threats**
- **Focus on vulnerabilities**


Government Operations
Gas & Oil Storage and Delivery
Emergency Services
Water Supply Systems
Critical Infrastructures
Telecommunications
Banking & Finance
Electrical Energy
Transportation

The President's Critical Infrastructure Protection Board



THE NATIONAL STRATEGY TO SECURE CYBERSPACE

For Comment

SEPTEMBER 2002

DRAFT

A Strategy, Not a Plan

- Everyone is responsible for their portion of Cyberspace
- The Strategy provides a roadmap by
  - Removing barriers,
  - Empowering people and organizations to do their part, and
  - Fostering a national partnership between government, industry and individuals.

Strategy as Process

Non-Government

- Infrastructure sector plans
- 100's of pages of answers to questions
- Higher Education Strategy input

For sector strategies: www.pcis.org

Strategy as Process

Sectors Preparing Strategies

Electricity
North American Electrical Reliability Council

Oil & Gas
National Petroleum Council

Water
American Water Works Association

Transportation (Rail)
Association of American Railroads

Banking & Finance
Financial Services Round Table, BITS,

Information & Communications
Information Technology Association of America, Telecommunications Industry Association, United States Telecommunications Association Cellular Telecommunications and Internet Association,

- ***Chemicals*** *(Self-organized)*
- ***Education*** *(self-organized)*

Strategy Outline

- Executive Summary
- Introduction
- Cyberspace Threats and Vulnerabilities: A Case for Action
- National Policy and Guiding Principles
- National Cyberspace Security Priorities
- Conclusion: The Way forward

What Has Changed

- Number of Recommendations
- Simplified structure to focus on 5 priorities
- Objectives parallel with NSHS:
  - **prevent cyber attacks;**
  - **reduce national vulnerabilities to cyber attacks; and**
  - **minimize the damage and recovery time from cyber attacks.**
- DHS actions prominent (consistent w/ legislation)
- More concise and decisive language

THE PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

What are some of the Board's Priorities?

1. Awareness: The National Cyber Security Alliance and its StaySafeonLine campaign
2. Education: The CyberCorps Scholarship for Service program
3. Info Sharing: The Cyber Warning & Info Network (CWIN) between Govt and Industry; limited FOIA exemption

Board's Priorities - Continued

4. Research: The CyberSecurity Research Consortium and a national research agenda

5. Protecting Internet Infrastructure: projects to secure Domain Name Servers and Border Gateway Protocols, blunt Distributed Denial of Service attacks

6. Physical Security of Key Nodes

Board's Priorities - Continued

7. Standard & Best Practices: including relating to Federal procurement

8. Digital Control Systems: securing utilities and manufacturing control systems

9. Securing Future Systems: beginning with new Wireless web enabled devices

Home Users/Small Business

- **Empower the home user and small business person to protect their cyberspace and prevent it from being used to attack others.**
- **Key Themes**
  - **You have a role in cyberspace security**
  - **You can help yourself**
  - **Promoting more secure Internet access**

Large Enterprise

- Encourage and empower large enterprises to establish secure systems.
- Key themes:
  - Raising the level of responsibility,
  - Creating corporate security councils for cyber security, where appropriate,
  - Implementing ACTIONS and best practices,
  - Addressing the challenges of the borderless network.

Critical Sectors

- **Specific sectors critical to cybersecurity, including:**
  - **Federal Government,**
  - **State/Local Governments,**
  - **Higher Education, and**
  - **Private sector**

Cyber R&D Priorities

Short Term (1-3 yrs)	**Enterprise wide automated security policy enforcement** **- Improvements in software patch management** **- Development and testing of protocols needed to secure the mechanisms of the Internet** **- Development and testing of security mechanisms for Supervisory Control and Data Acquisition (SCADA) Systems**

Cyber R&D Priorities

ShortTerm (1-3 yrs)	- Development of secure operating Systems - Expand the Institute for Information Infrastructure Protection's R&D agenda gap analysis program - Develop security enhancements for Ad hoc networks and grid computing

Cyber R&D Priorities

Medium Term (3-5 yrs)

- Secure routers and switches and protocols
- Development of new protocols for Internet and wireless that maintain security at higher speeds and scales
- Investigation of the security implications of intelligent agent software in networks

Cyber R&D Priorities

Long Term (5-10 yrs)

- Fundamental shifts in technology and the development of novel or unforeseen applications, e.g., nano technology, quantum computing
- Provide a sound theoretical, scientific, and technological basis for assured construction of safe, secure systems
- Ultrasecure communications over optical backbone networks
- Orders of magnitude increases in the speed of algorithms such as for searching unsorted databases

Privacy and Security

- **The National Strategy must be consistent with the core values of our open and democratic society -- protecting privacy is fundamental.**

Privacy and Security

- **Explosion in information technology and the interconnectedness of information systems with the Internet raises legitimate concerns and challenges.**
- **We must ensure the integrity, reliability, availability, and confidentiality of data in cyberspace.**

Privacy *and* Security

- **Privacy and security have common themes: stopping access, use, and disclosure of information.**
- **Good security should promote privacy protection by creating a record of access to information.**

Common Themes

- **Identity and authority are critical**
  - **Identity theft**
  - **Financial records/access**
  - **Health records/access**
- **Need multiple verification - basic passwords are not sufficient**

Privacy and Security

- Requires technology to facilitate fair information practices
  - Notice and awareness
  - Choice and consent
  - Access (by subject)
  - Information quality and integrity
  - Update and correction
  - Enforcement and recourse

Privacy Technology "The Privacy Framework"

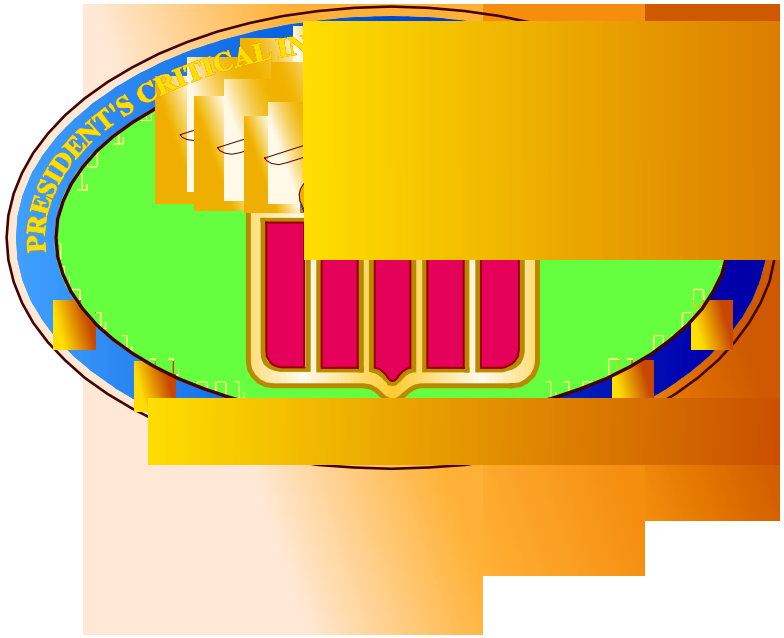
- **ISTPA - International Security, Trust, and Privacy Alliance** www.istpa.org
- **An open, policy-configurable model of privacy services and capabilities**
- **ISTPA will work with Carnegie Mellon to enhance Framework and develop a Digital Privacy Handbook**

The Privacy Framework

- **Audit**
- **Certification of credentials**
- **Control - only permissible access to data**
- **Enforcement - redress when violation**
- **Interaction - manages data/preferences**
- **Negotiation**
- **Validation - checks accuracy of pers. info.**
- **Access - subject can correct/update info.**
- **Usage - process monitor**

Future

- Govt. commitment to enforcement
- Consult with privacy advocates
- Encourage industry protect privacy
- Federal government lead by example
- Educate end-users about privacy; encourage informed choices



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