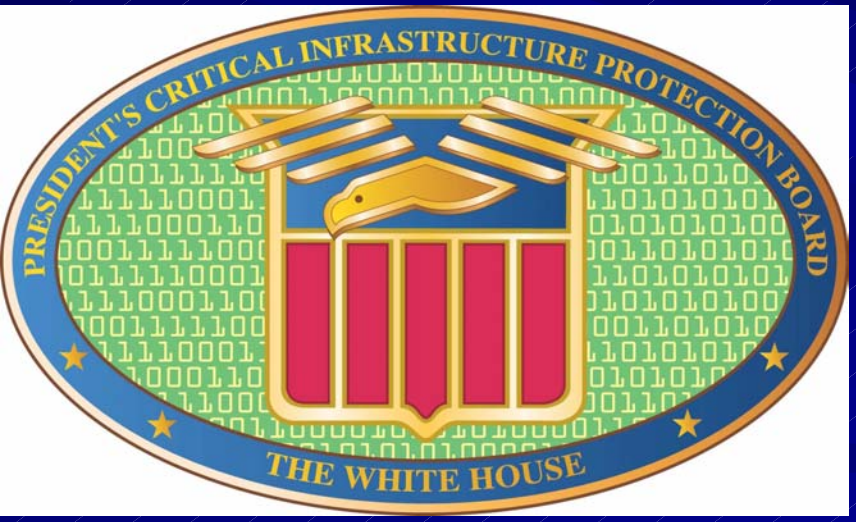
5th National HIPAA Summit

National Strategy to Secure Cyberspace

Privacy and Security in Healthcare



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The President's Critical Infrastructure Protection Board
The White House

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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

- Lessons Learned from September 11
- The National Strategy to Secure Cyberspace
- Privacy and Security
- The Health Care Sector

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.

Learning Lessons from History

- Hindsight is not always 20/20
- We do not learn the same lesson
- Our memories are short

Lessons Learned

- We have enemies.
- Our enemies are smart.
- We must never underestimate them.

Lessons Learned

- We must be prepared for the likelihood that our enemies will use our technologies against us.
- Our enemies will find the seams, the holes, the weaknesses in our society…and they will exploit them to harm us.

Lessons Learned

- Our economic system is fragile … and far more interdependent than we realize.

Lessons Learned

- We need to work together to face the future.
- We need a public-private partnership the likes of which this nation has never seen.

Lessons Learned

- We must stop reasoning by analogy -- thinking that we have seen the worst case
- …that if it has not happened before it will not happen in the future.

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

The Case for Action

- Information technology revolution has changed the way --
  - business is transacted,
  - government functions, and
  - national defense is conducted.
- Those three functions now depend on an interdependent network of information technology infrastructures

The Case for Action

- Protection of our information systems is essential to our critical infrastructures: telecommunications, energy, financial services, manufacturing, water, transportation, health care, and emergency services

The Case for Action

- The Internet is at the core of the information infrastructure
- Internet was designed to easily share unclassified research among friends and colleagues; security not a concern
- Has grown increasingly insecure
- Around the globe people can access a network that is ultimately connected to networks that run critical functions in U.S.

The Case for Action
A Spectrum of Danger

- *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

The Case for Action

- Cyber attacks occur regularly and can have serious consequences, disrupting critical operations, causing loss of revenue and intellectual property
- 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

A New Paradigm

- Stop focusing on specific threats
- Focus on vulnerabilities

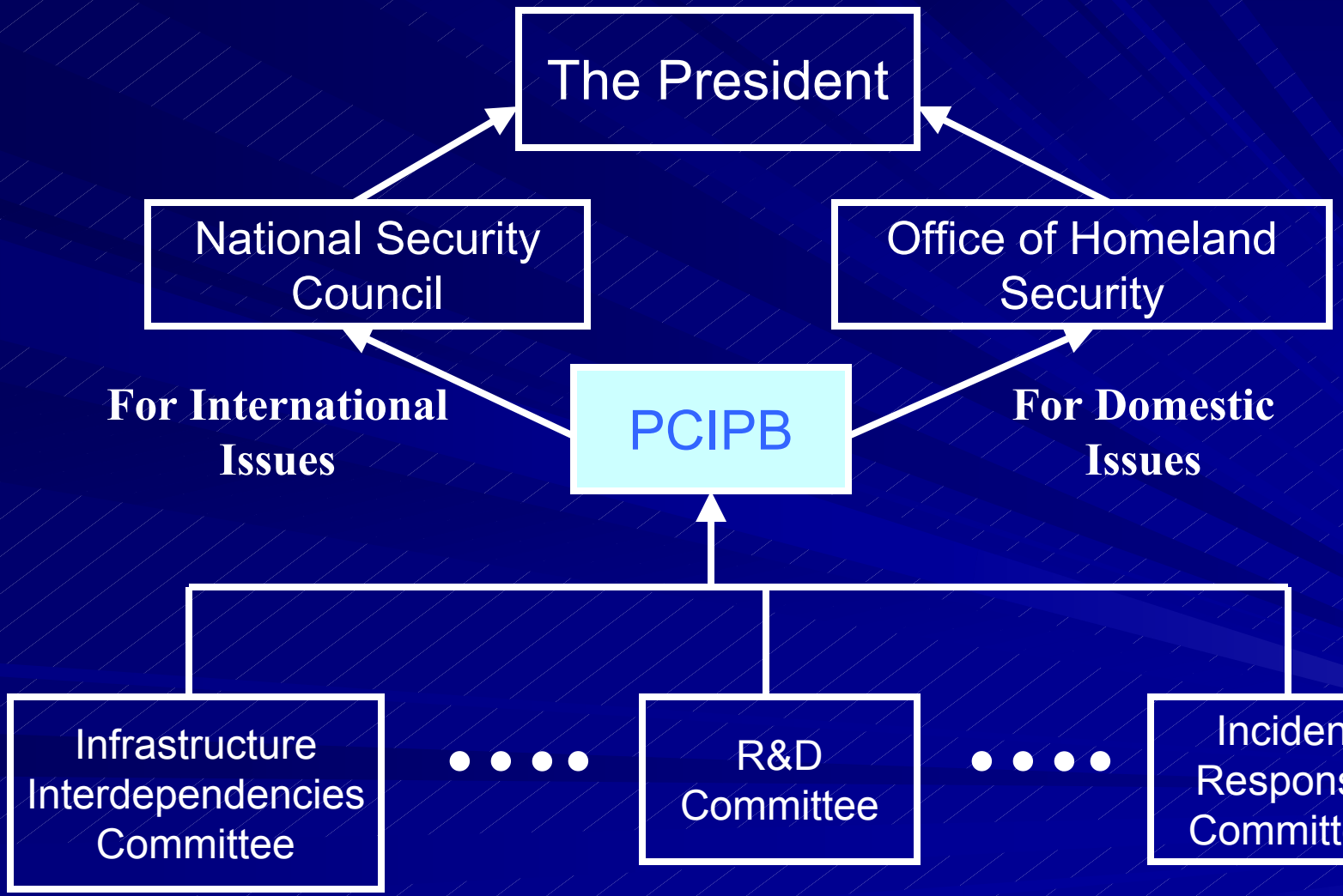
THE PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

Scope is directed by Executive Order 13231:

The protection of information systems for critical infrastructure, including emergency preparedness communications, and the physical assets that support such systems.


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

Relationships



PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

What are the committees and who chairs them?

– Private Sector/State & Local Outreach	Commerce
– Executive Branch Info Systems Security	OMB
– National Security Systems	DOD
– Incident Response Coordination	FBI/DOD
– Research & Development	OSTP
– Infrastructure Interdependencies	OE/DOT

PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

Board committees - continued

– Finance and Banking	Treasury
– Education	NSA/DOA
– International Affairs	State
– Physical Security of Information Systems	DOJ/DOD
– National Security Emergency Preparedness Communications	DOD

PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

What are the guiding principles of the Board?

- Encourage market forces to improve security, rather than using a regulatory approach
- Share information among and between companies, departments and agencies, and state/local govts.

PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

Guiding principles - continued

- Create public/private partnership solutions to IT security
- Clean up the Federal Government's own IT security problems as a model
- Foster public/ corporate awareness of importance of IT security

THE PRESIDENT'S CRITICAL
INFRASTRUCTURE PROTECTION BOARD

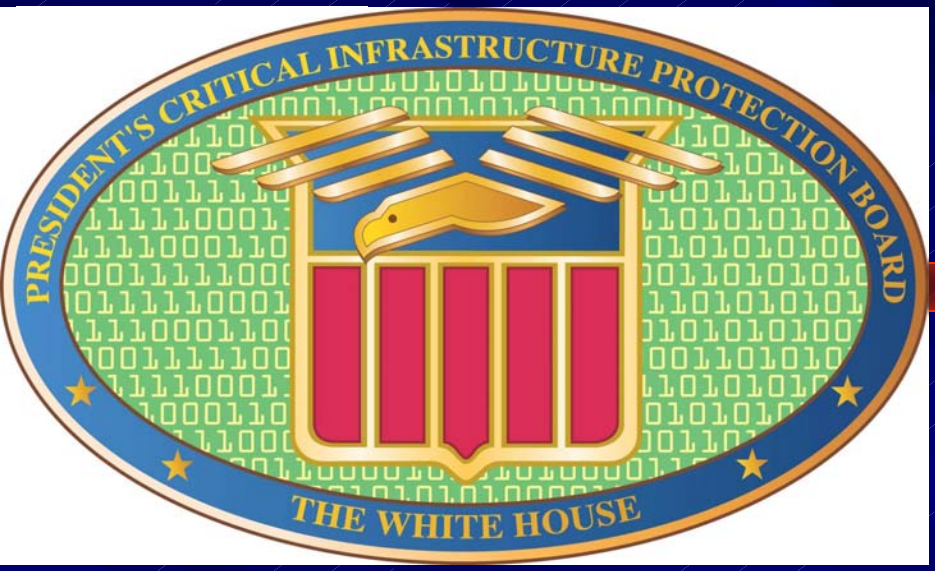
What is the Board doing?

The Board has been tasked by the President to create a National Strategy to Secure Cyberspace

--comments on September 18 draft due Nov. 18th

--a policy and programmatic road map for government and industry

--a modular strategy, on-line, adaptable to new threats and new technology



The National Strategy to Secure Cyberspace

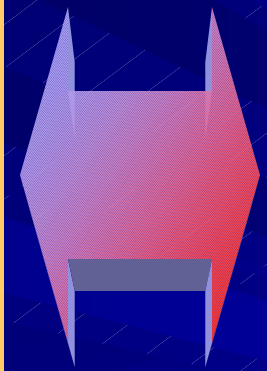
www.securecyberspace.gov

Comment due November 18

Strategy as Process

Government

- 53 Questions
  - Posted on multiple web sites
  - Published in media
- Town Halls in 4 cities
- Numerous interviews, speeches, media events



Non-Government

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

For sector strategies: www.pcis.org

National Strategy to Secure Cyberspace

- Introduction
- Case for Action
- Policy and Principles
- Highlights
- Level 1: Home Users and Small Business
- Level 2: Large Enterprises

National Strategy to Secure Cyberspace

- Level 3: Sectors
  - Federal
  - State and Local
  - Higher Education
  - Private Industry
- Level 4: National Priorities
- Level 5: Global

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

Cyber R&D Priorities

Long Term (5-10 yrs)

- Ultrasecure communications over optical backbone networks
- Orders of magnitude increases in the speed of algorithms such as for searching unsorted databases

Level 1 – Home Users/ Small Business

- The strategic goal is to 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 (Links to get help)
  - Promoting more secure Internet access

Level 2
Large Enterprise

- The strategic goal is to 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.

Level 3
Critical Sectors

- Level 3 addresses specific sectors critical to cybersecurity, including:
  - Federal Government,
  - State/ Local Governments,
  - Higher Education, and
  - Private sector

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)*

Level 4
National Priorities

Securing shared systems

- Securing the mechanisms of the Internet
- Digital Control Systems
- Research and development
- Highly secure and trustworthy computing
- Securing emerging systems
- Vulnerability remediation

Level 4
National Priorities

Fostering a reinforcing economic and social framework

- Awareness
- Training and education
- Certification
- Information sharing
- Cybercrime
- Market forces
- Privacy and civil liberties

Level 4
National Priorities

Developing national plans and policy

- Warning and analysis
- Continuity of operations, reconstitution and recovery
- National security
- Interdependency and Physical security

Level 5 - Global

- The strategic goal is to ensure the integrity of global information networks.
- Key themes:
  - Promote national and international watch and warning
  - Council of Europe Cybercrime Convention
  - North American "Cyber Safe Zone"
  - Cyber Points of Contact
  - Promote global "culture of security"

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

THE PRESIDENT'S CRITICAL INFRASTRUCTURE PROTECTION BOARD

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

THE PRESIDENT'S CRITICAL
INFRASTRUCTURE PROTECTION BOARD

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

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"

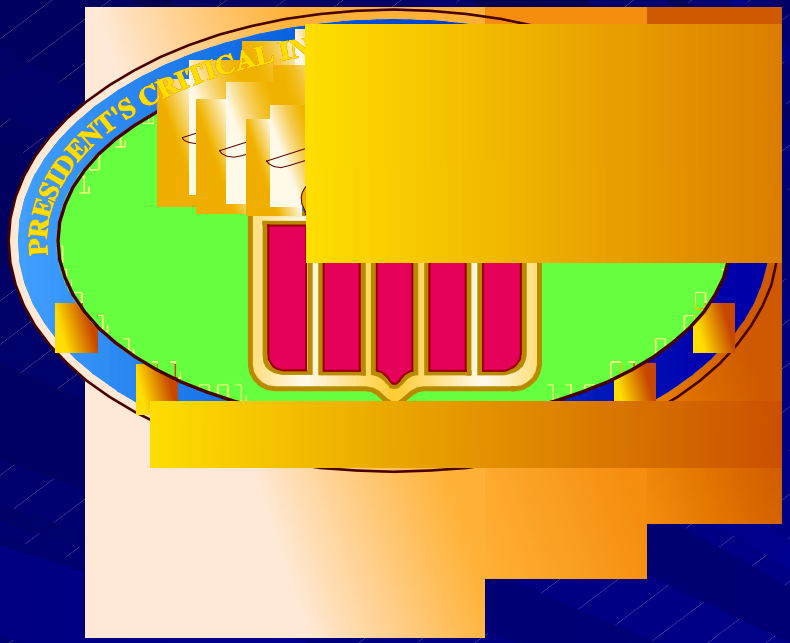
- ISTPA - International Security, Trust, and Privacy Alliance www.istpa.org
- An open, policy-configurable model of privacy services and capabilities
- ISTPA will work with Carnegie Mellon to enhance Framework and develop a Digital Privacy Handbook

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

Strategy - Draft

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



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