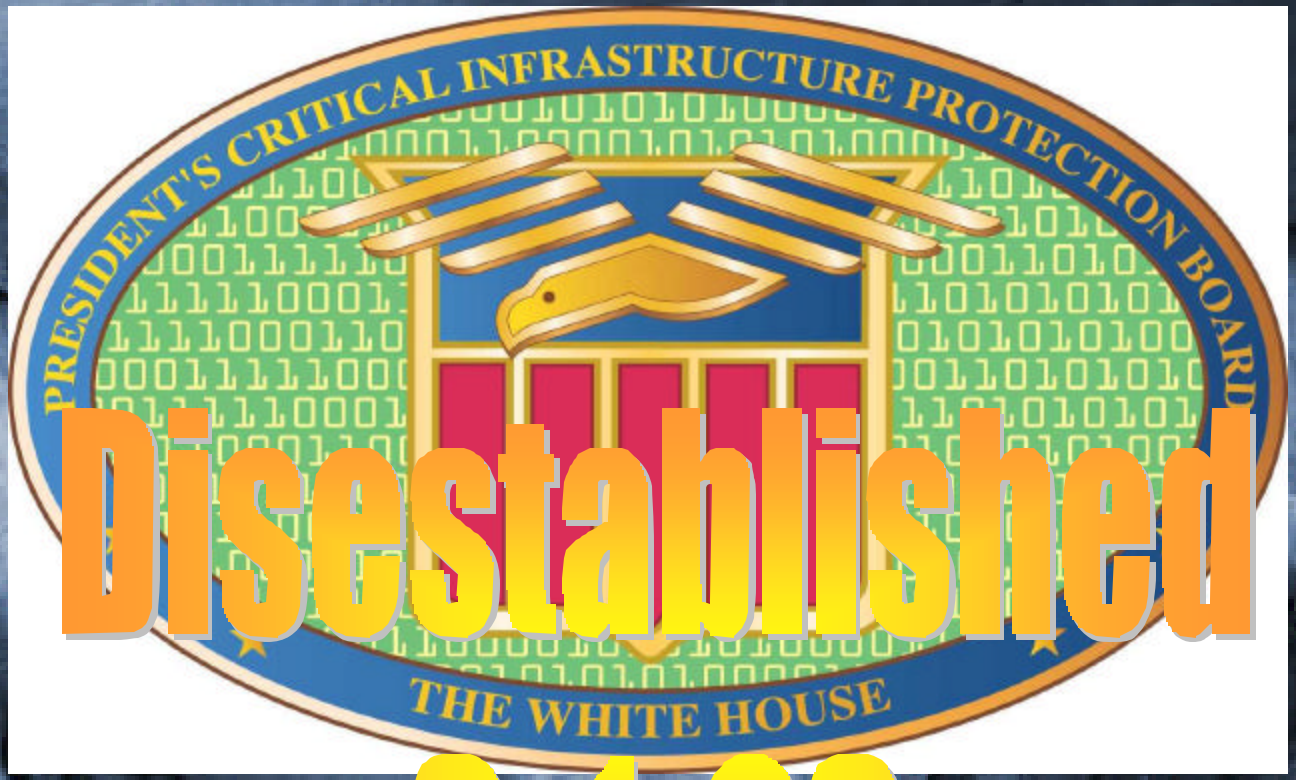


Disestablished 3-1-03

Education Standing Committee

Dr. Vic Maconachy (NSA) Co-Chair

FISSEA
March 2003
Education: A National Perspective

Information Assurance

Defense-In-Depth

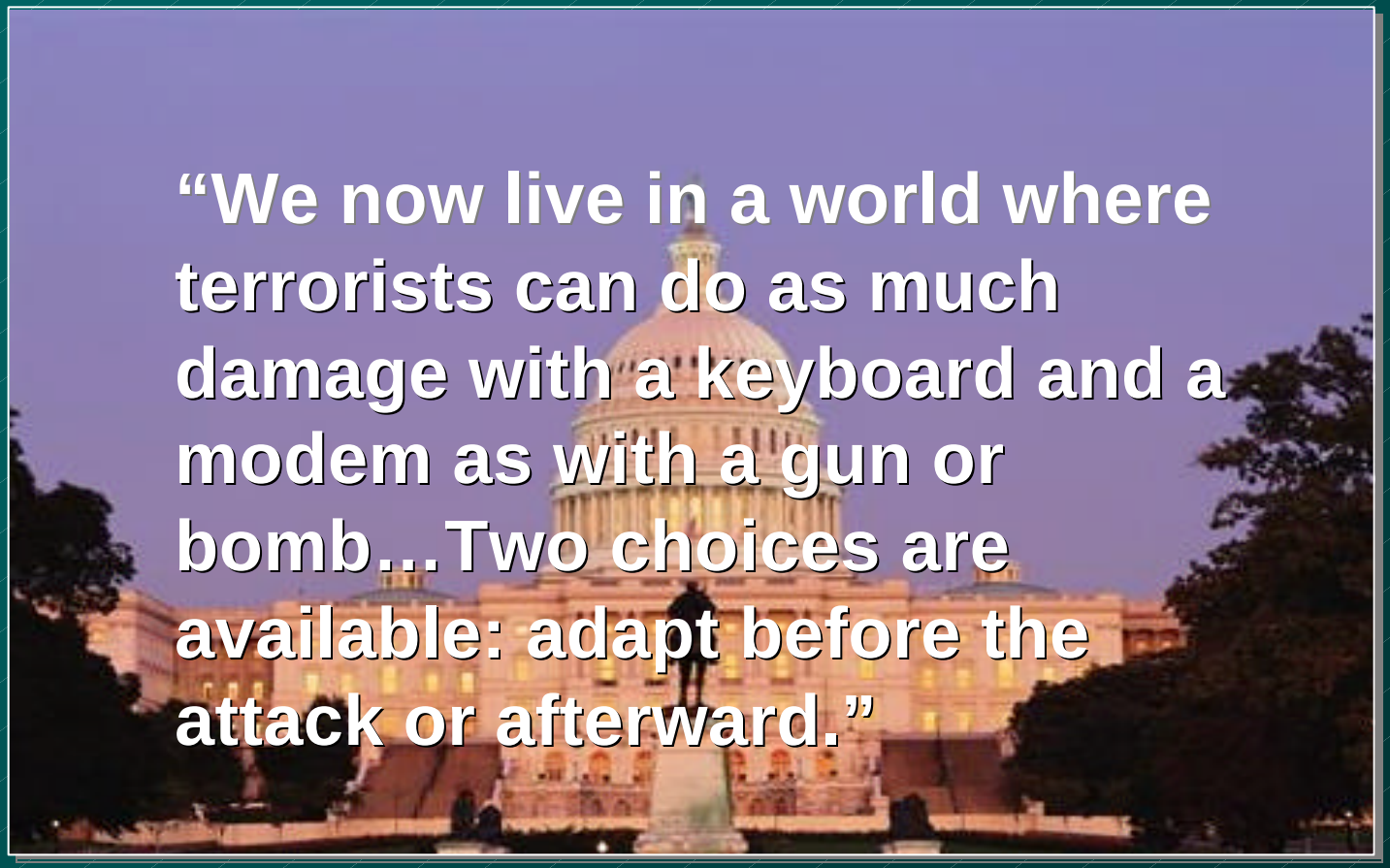
Triad

Fundamentally, only THREE countermeasures available to protect critical information infrastructures.

The critical shortage of Information Assurance personnel extends beyond the cadre of IA professionals discussed in the literature and trade journals.

For any enterprise to succeed, elements of the entire work force will have to obtain and maintain varying degrees of IA competencies.

Congress Speaks



Sen. Edwards introducing

Cybersecurity Research and Education Act of 2002

Cybersecurity Research and Education Act of 2002

"Congress finds that-

1. Critical elements of the Nation's basic economic and physical infrastructure rely on information technology for effective functioning;
2. Increased reliance on technology has left our Nation vulnerable to threat of cyber terrorism;
3. Long-term research on practices, methods and technologies will ensure safety….
4. **There is a critical shortage of faculty at institutions of higher education who specialize in disciplines related to cyber security.**

October 16, 2001

March 1, 2002

Executive Order
Critical Infrastructure Protection in the Information Age

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to ensure protection of information systems for critical infrastructure, including emergency preparedness communications, and the physical assets that support such systems, in the information age,....

PCIPB Memorandum
Establishment of Board Standing Committee on Education

Effective immediately, a standing committee on Education has been established as part of the President's Critical Infrastructure Protection Board. The committee will be charged with developing policy and programs for training IT security personnel..for the federal government and the private sector.

Cyber Security Board Policy Review # 7 (March 18, 2002)

HIGHLIGHTS of 8 Research Actions

1. Federal-Wide IT Security 6th on list of future staffing priorities
2. Disparate participation in Federal Cyber Service Program
3. Federal IT Security fractionalized
4. Difficult to estimate size and depth of preparation of IT Security population

PCIPB Education Standing Committee Working Groups*

- Federal Scholarships
- Workforce ITS Literacy
- National Cyber Academy
- Personnel Certification

* Immediate Priority Areas

Distinctions:

Professionalization

Examination by body of experts

Certification

Testing against a proven standard

Accreditation

Thorough institutional review for depth and quality (usually against a standard)

Recognition

Teaching to a standard. The individual recognized by the institution

Ref.: INFOSEC Professionalization: A road to be traveled.
Forum for Advancing Software Engineering Education (FASE) Vol. 9, No. 01 (108th isssue), January, 1999.
http://www.cs.ttu.edu/fase/v9no1.text

PCIPB Education Standing Committee Working Group: Personnel Certification

- Examine existing federal and private sector certification programs
- Explore and facilitate development of, as appropriate, national IT security professional certification/s
- Goal: Nationally recognized, privately administered certifications at appropriate levels and eventual national policy on license to “drive”, repair or develop on federal information highway

Certification is Tied to Several Issues

1. A defined and commonly accepted **body of knowledge**
2. A **Defined career path** with job complexity increasing with rank/grade
3. Clearly defined **jobs in a TAD**
4. **Testing**: valid, reliable, current

Issue Resolution

The standards for testing must be at least as rigorous as the level of sensitivity of the systems being protected.

1. Would COS certification work for Govt.?….for DoD?
2. Should there be certification/accreditation of trainers and training institutes?..by whom?

BACKGROUND

PCIPB Education Standing Committee Working Group: Federal Scholarships

- Examine requirements
- Examine DoD and NSF programs for possible consolidation
- Explore expansion to 2 year colleges, states, and mid-career training
- Assume oversight role
- Goal: validate programs

PCIPB Education Standing Committee Working Group: Work Force ITS Literacy

- Research and develop/or promulgate federal-wide ITS literacy tool (game like)
- Promote similar program for state and local government level
- Goal: to raise advocacy for ITS in workplace/force

PCIPB Education Standing Committee Working Group: National Cyber Academy

- Examine national training standards
- Seek “Best-In-Class” training for federal workforce
- Establish “virtual” training program with world class trainers
- Goal: to raise the bar in federal (and ultimately national) workforce ITS skills

Information Assurance is now a key performance item in winning wars

AXIOM

Train the way you want to fight

Partnerships with Business, Academia, & Government

The Colloquium for Information Systems Security Education

Purpose: The Colloquium provides a forum for academia, government, business and industry INFOSEC experts to discuss the direction of INFOSEC undergraduate and graduate curricula; academic disciplines; common requirements; specific knowledge, skills and abilities; certification requirements and feasibility of certification board formulation.

http://www.ncisse.org

Conference: June, 2003
The White House