Open Security:

Open Source Software's Role in Government Cybersecurity

Dr. Douglas Maughan
U.S. Department of Homeland Security
Science and Technology Directorate
Director, Cyber Security Division

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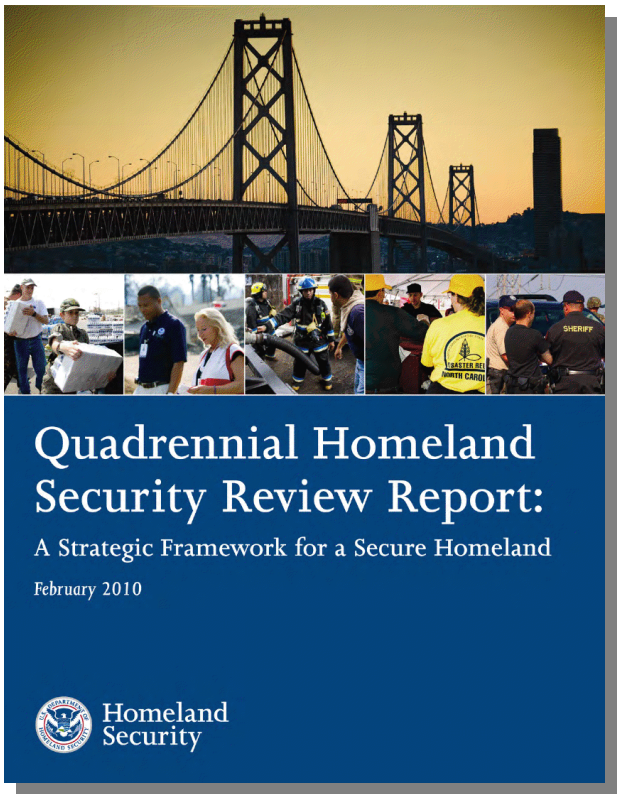
DHS Mission: Secure and protect the **Homeland Security Enterprise**

- Federal, State, local, international government partners/stakeholders
- Private sector/commercial, Academic R&D, Development Communities
- Maintain safe, secure and resilient infrastructure, enable innovation, protect privacy and civil liberties



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Cybersecurity:
A National Priority

"...cybersecurity (i)s one of the most serious economic and national security challenges we face as a nation, but one that we as a government or as a country are not adequately prepared to counter."

President Obama

Cybersecurity is expensive, continuous, evolving, adaptive, essential.

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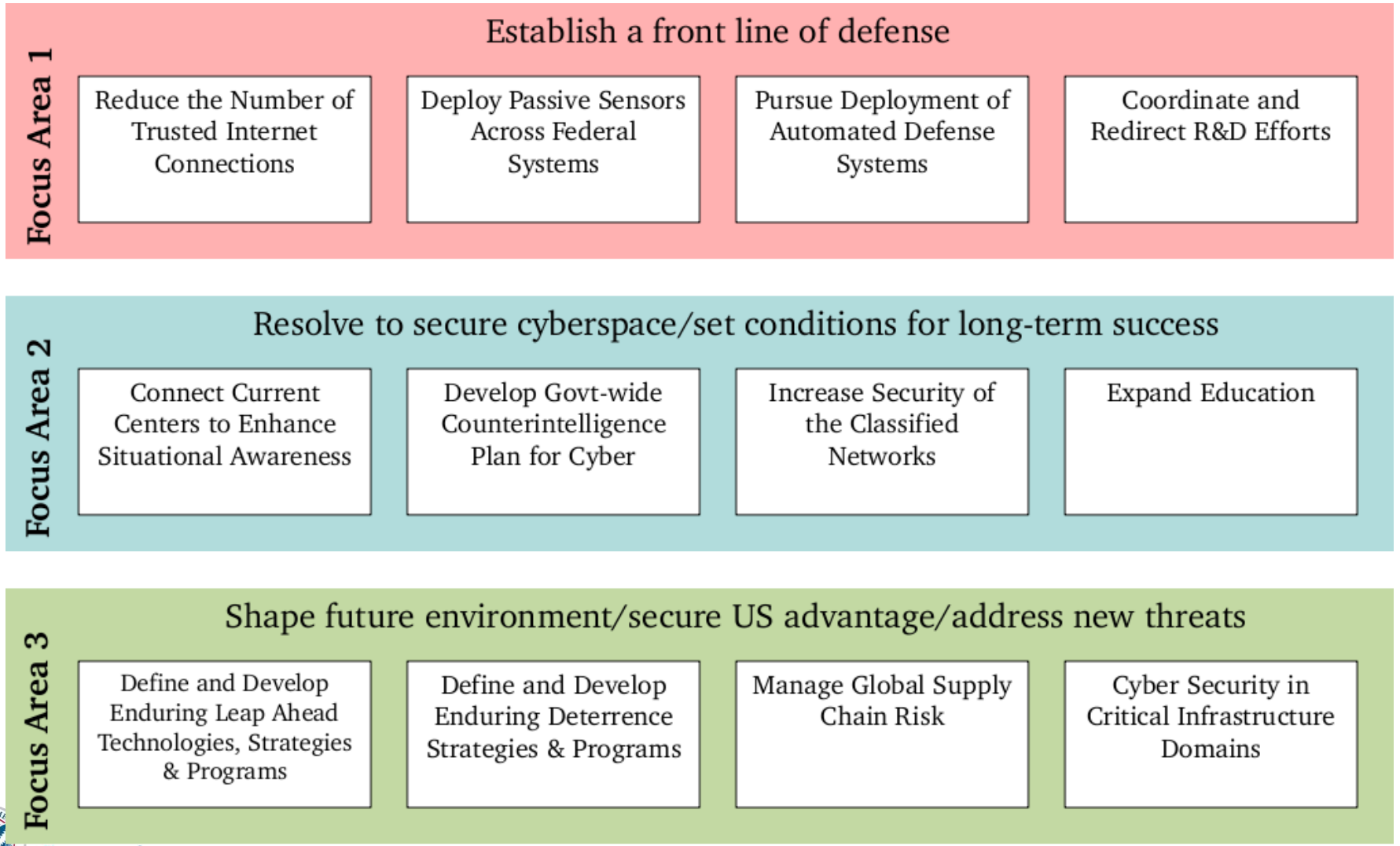
Comprehensive National Cybersecurity Initiative (CNCI)



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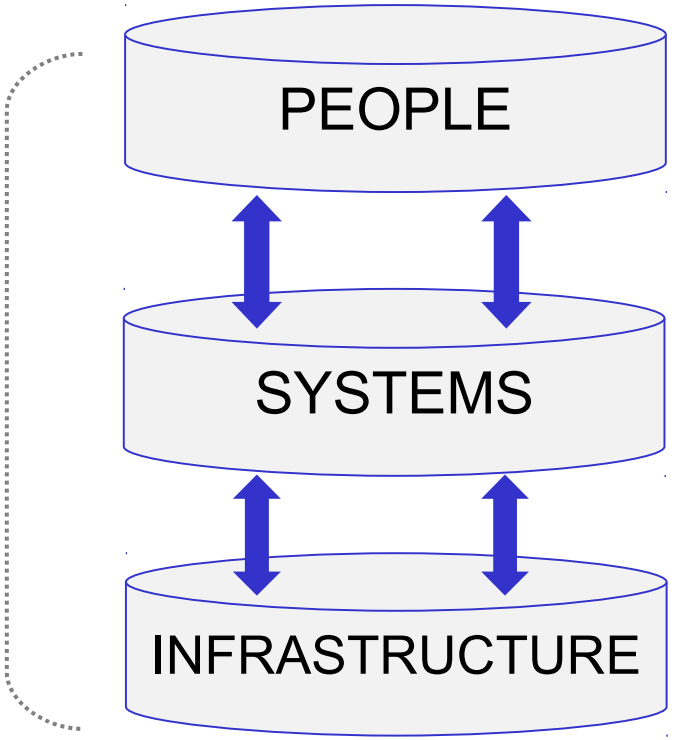
http://cybersecurity.whitehouse.gov

DHS S&T Cyber Security Program

Cyber Economic Incentives
Moving Target Defense
Tailored Trustworthy Spaces
Leap Ahead Technologies
Transition To Practice

Software Quality Assurance
Homeland Open Security Technology
Experiments & Pilots
Assessments & Evaluations



Identity Management
Enterprise Level Security
Metrics & Usability
Data Privacy
Cyber Forensics
Competitions

Secure Protocols

Process Control Systems
Internet Measurement & Attack Modeling

RESEARCH INFRASTRUCTURE

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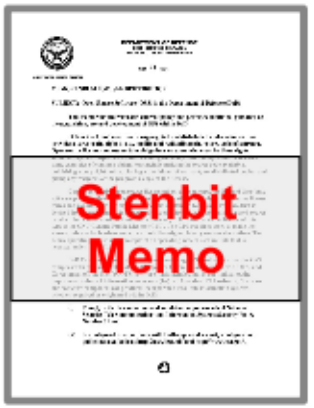
Experimental Research Testbed (DETER)
Research Data Repository (PREDICT)
Software Assurance Market Place (SWAMP)

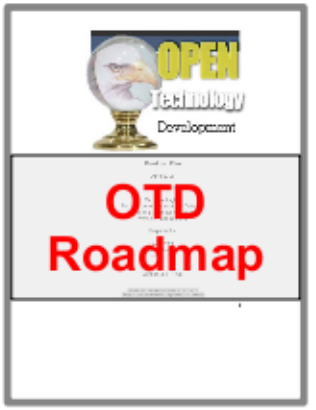
Open Source Procurement

July 2001

2001 - 03



May 2003



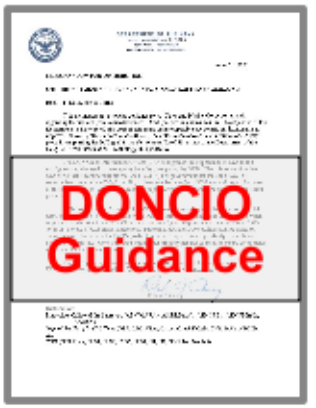
June 2006

Launched Oct 2009

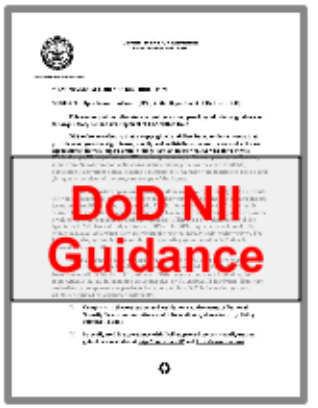
Jan 2003

July 2004

June 2007



Oct 2009



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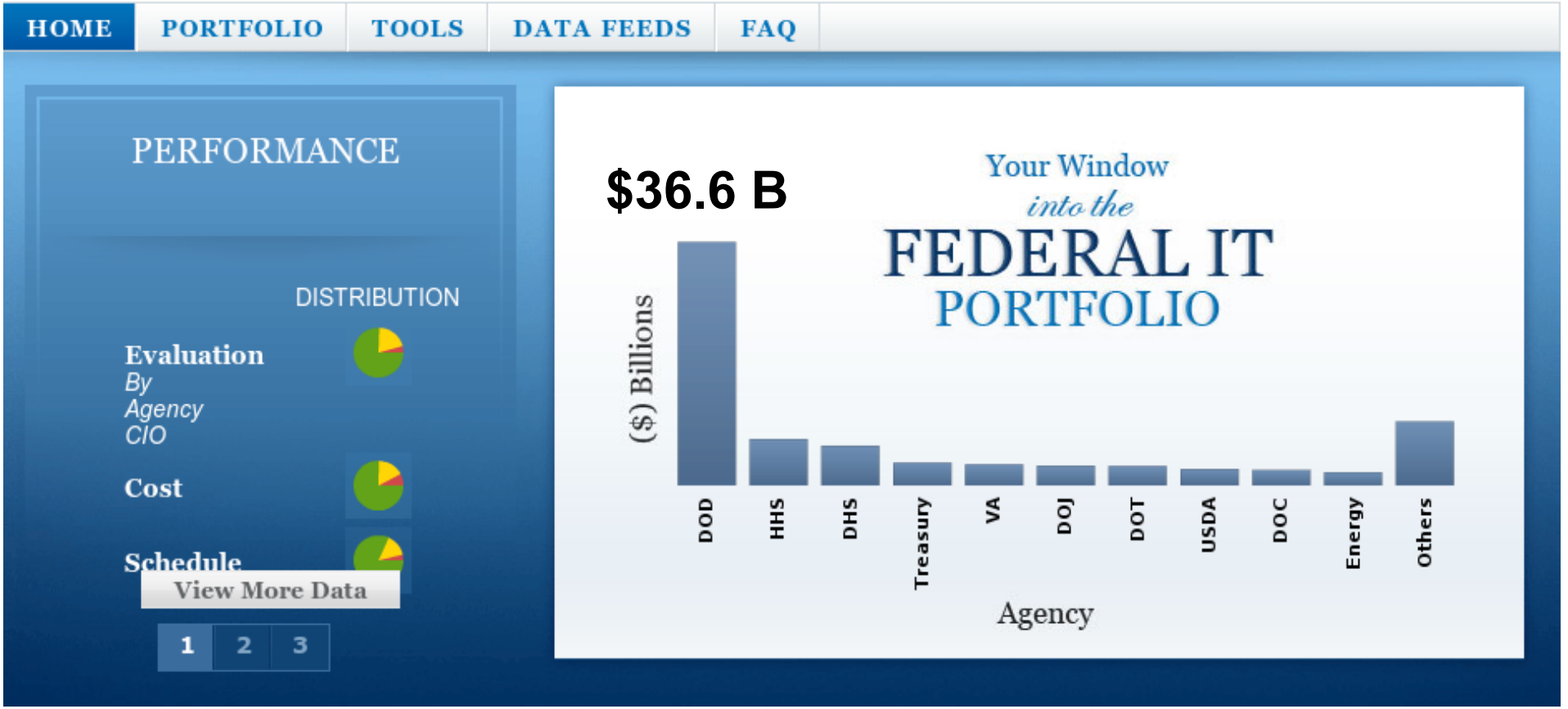
2012 Federal IT Budget

$78,800,000,000



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Est $13,000,000,000 budgeted for federal cybersecurity over next five years.

Open Source Option

If Open Source enables technical agility, administrative flexibility and economic savings, then:

- How to leverage these benefits for Federal, state, local governments?
- What technical resources and support services are available?
- Is the technology secure? Has it been vetted?
- Who else in government is using it?
- Have acquisition, adoption policy issues been addressed?
- How to interact with “development community?”

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HOST Program

- **Homeland Open Security Technology investigates open security methods, models and technologies to identify viable and sustainable approaches to cybersecurity objectives.**
- Focus on cybersecurity (Open Security) solutions
- Priority to Federal, State and local governments

DISCOVERY – COLLABORATION – INVESTMENT

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HOST DISCOVERY

Identify existing resources, methods, techniques, practices

- Lessons Learned: Roadblocks and Opportunities for Open Source Software in U.S. Government
- Open Security Inventory
- OpenCyberSecurity.org Information Portal

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HOST DISCOVERY

- **Lessons Learned: Roadblocks and Opportunities for Open Source Software in U.S. Government**
  - 2012: Dr. David Wheeler, IDA; Tom Dunn, GTRI
  - Interviews with experts, suppliers and potential users
- **10 primary themes and recommendations included:**
  - Concerns about commercial support and warranties
  - Procurement practices, business models, acquisition policies
  - Need for guidance, education, legal/licensing, distribution
- **Recommendations included:**
  - White Papers, Case Studies, Best Practices
  - Guidance and documentation

HOST INVESTMENT

Contribute seed investments in advanced R&D activities that produce sustainable project communities through broad adoption by public and private-sector use and support

- Suricata IDS Engine
- FIPS 140-2 Validated OpenSSL
- Government Open Technology Index
- Open Security Application Map

OpenSSL
Cryptography and SSL/TLS Toolkit

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HOST COLLABORATION

Establish public and private-sector research and development communities

- Open Information Security Foundation
- Government Strategic Council
- Round Table Summits
- Community Outreach

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SUMMARY

- Research is essential in driving innovation for current and future cybersecurity practices
  - DHS S&T continues with aggressive cybersecurity research agenda
  - Continue emphasis on collaboration, technology transfer and experimental developments
  - Open source is key part of whole program

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www.cyber.st.dhs.gov/host/

Douglas Maughan, Ph.D.

Division Director

Cyber Security Division

Homeland Security Advanced Research Projects Agency

douglas.maughan@dhs.gov

202-254-6145 / 202-360-3170

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