AUSTRALIA'S NATIONAL
COMPUTER EMERGENCY RESPONSE TEAM

An Australian Government Initiative

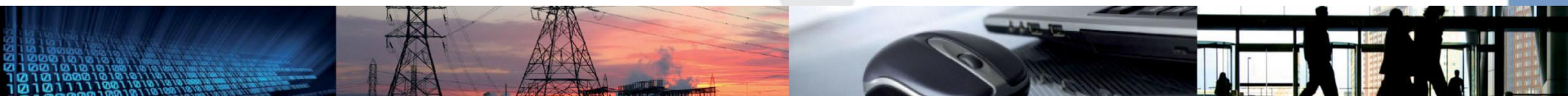
Control Systems Security: Australian Government Activities

Dr. Jason Smith

Asst. Director, Operations

CERT Australia

Attorney-General's Department



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Topics:

1. Context and aims of Australian Government activities.

2. Summary of key activities and their outcomes

3. Recent developments

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Context

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CIP National Strategy (2004)	• Business – Government partnership required • Information sharing and support central to strategy
E-Security Review (2008)	• Examined the Australian Government's cyber security policy, programs and capabilities with the aim of developing a new Australian Government policy framework for cyber security
PM National Security Statement (2008)	• ``…increasingly evident that the sophistication of our modern community is a source of vulnerability in itself.'' • Cyber security acknowledged as a top national security priority
Cyber Security Strategy (2009)	• Articulates the overall aim and objectives of the Australian Government's cyber security policy • Sets out the strategic priorities that the Australian Government will pursue to achieve these objectives.

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General Aims

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- Provide guidance and facilitate information sharing
- Increase comprehension of risks and access to effective mitigation strategies
- Provide operational support

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INFORMATION SHARING

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Trusted Information Sharing Network for Critical Infrastructure Protection

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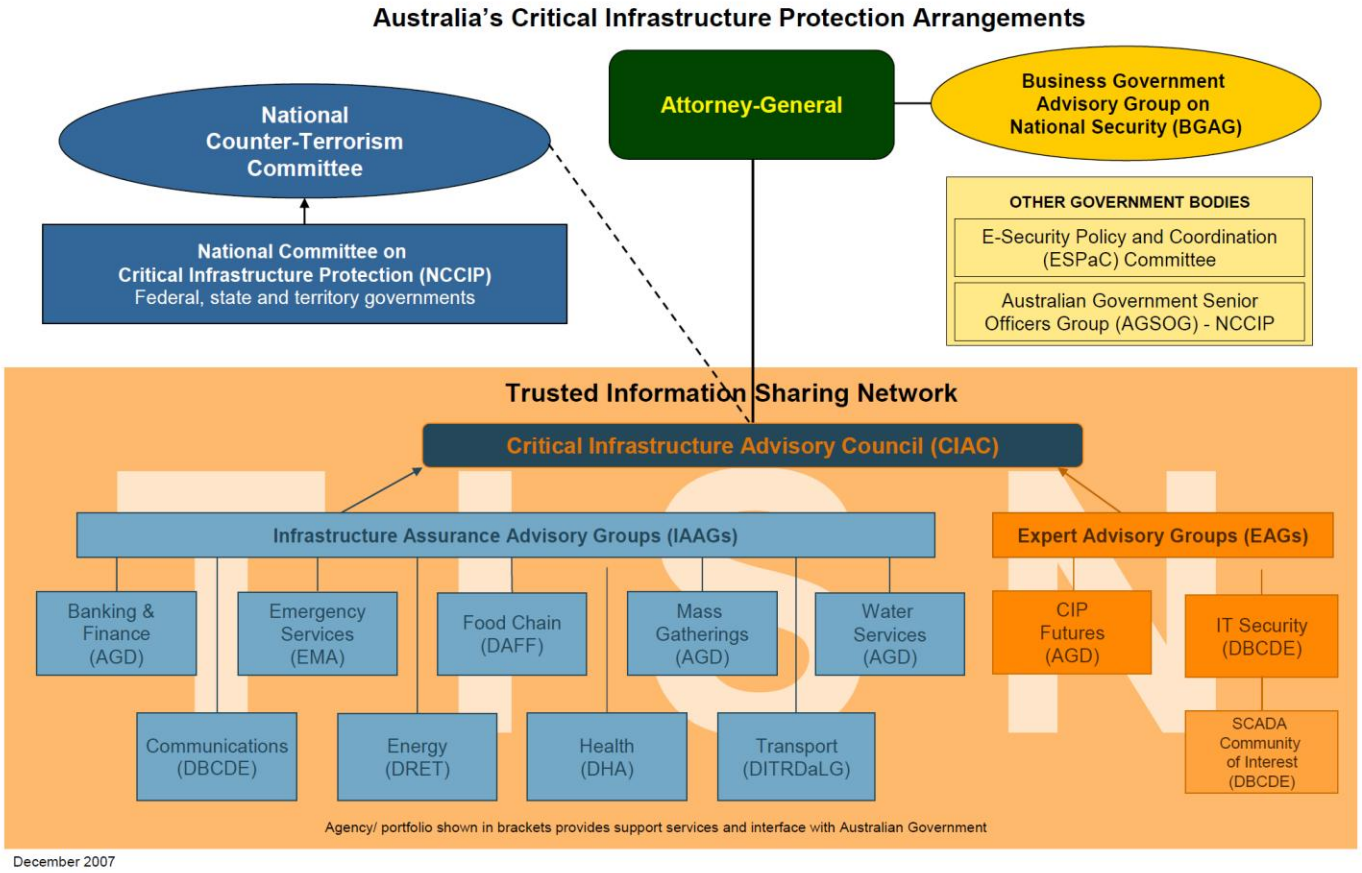

Legend:

AGD	Attorney-General's Department
EMA	Emergency Management Australia
DAFF	Department of Agriculture, Fisheries and Forestry
DBCDE	Department of Broadband, Communications and the Digital Economy
DRET	Department of Resources, Energy and Tourism
DHA	Department of Health and Ageing
DITRDaLG	Department of Infrastructure, Transport, Regional Development and Local Government

IT Security Expert Advisory Group (ITSEAG)

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- Commissions development of guideline documents for owners and operators of CI

- http://www.tisn.gov.au
  - SCADA Security Advice for CEOs
  - Infrastructure information in the public domain – a guide to mitigating security risks
  - Risk Management Framework for SCADA
  - Diesel Fuel and Backup Generators – Issues for CEOs and Risk Managers
  - etc

IT Security Expert Advisory Group (ITSEAG)

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SCADA Community of Interest (CoI):

- A Working Group of the ITSEAG
- Peer to Peer and cross sector network
- Meets quarterly
  - Issues of common interest
  - Relationships for cross organisational & international incident responses
  - Program of work to develop a resilience framework

IT Security Expert Advisory Group (ITSEAG)

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SCADA Practitioner / Vendor Forum:

- Hosted by Government 2008 and 2009
- Invitation only – SCADA practitioner inviting one or more of their vendors
- Promote better understanding of practitioner needs / vendor constraints
  - Key message from vendors ``If you don't demand security, we will not provide it''

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RISKS AND MITIGATIONS

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Risks and Mitigations

An Australian Government Initiative

- Critical Infrastructure Protection Modeling and Analysis (CIPMA)
- Computer Network Vulnerability Assessment (CNVA)
- Cyberstorm Exercises
- National Security Science and Technology (NSST) Research Support for National Security (RSNS) Program
- Idaho National Labs Advanced Cyber Security Training and Workshop

Critical Infrastructure Protection Modelling and Analysis (CIPMA)

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- World leading computer modelling activity commenced in 2004
- Funded $AUD16 Million / 4 years (to 2013)
- Models and examines complex relationships and interdependencies in critical infrastructure
- Five sectors currently engaged
  - Banking and finance
  - Communications
  - Energy
  - Water services
  - Transport

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Critical Infrastructure Protection Modelling and Analysis (CIPMA)

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Strong business-government partnership:

- Modelling and analysis of potential tsunami impacts → oil and gas pipeline redesign for increased resilience.

- Modelling and analysis used to expose interdependencies and inform business continuity management exercise construction.

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Computer Network Vulnerability Assessment (CNVA) Program

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Grants scheme:

- commenced in 2005
- subsidies to critical infrastructure organisations, including GBEs
- to undertake independent assessments of their critical ICT networks and systems, including process control systems.
- 32 Assessments, total cost AUD$4.4Million

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Computer Network Vulnerability Assessments

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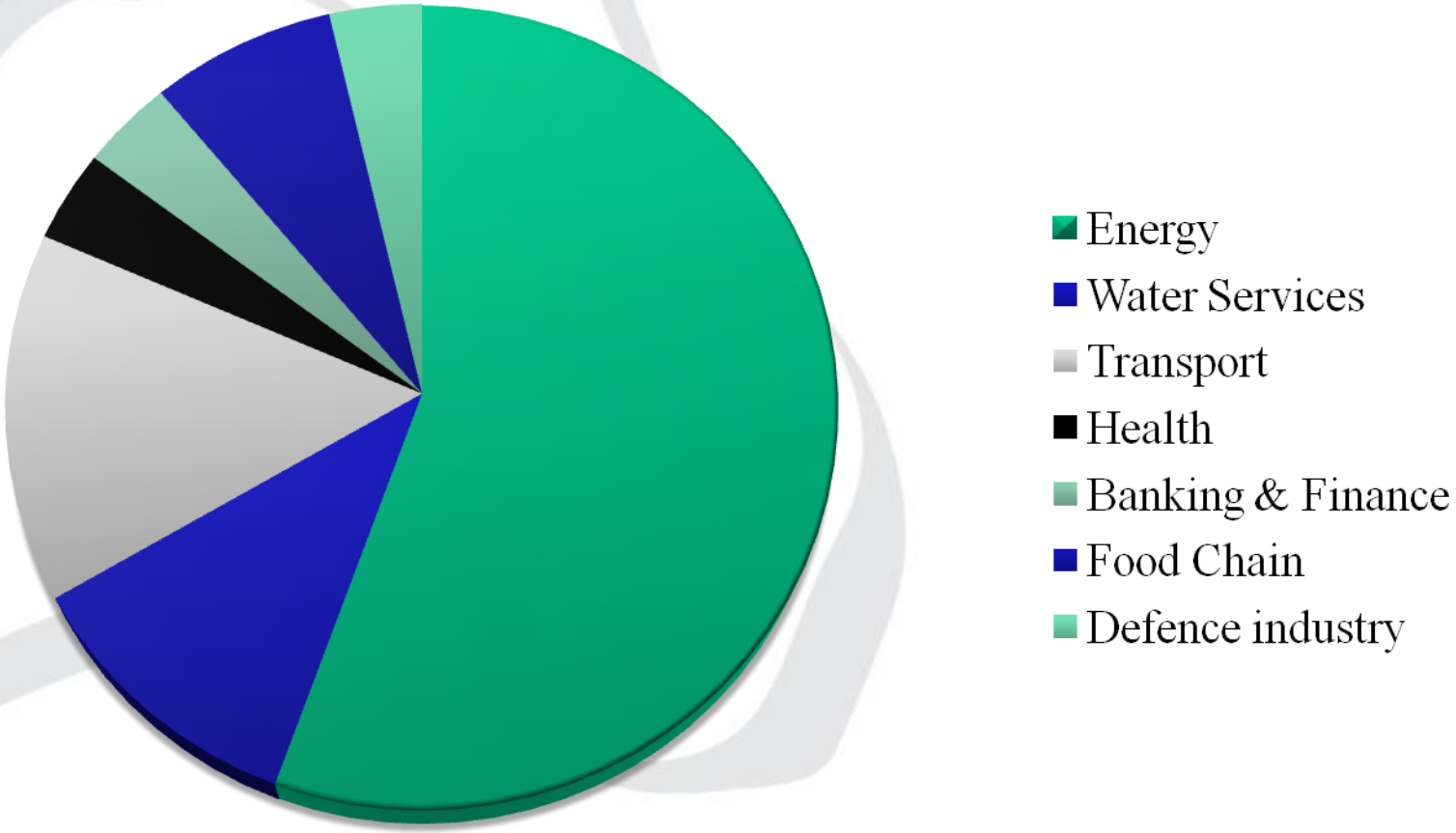

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Cyber Storm Exercises

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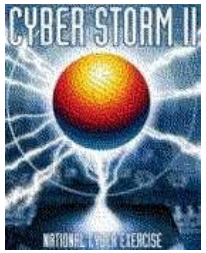
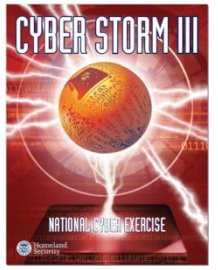
- Large scale cyber security exercise sponsored by U.S. DHS.



- March 2008 CSII
  - 56 Australian organisations (across government and business) involved
  - International involvement by US, UK, NZ, Canada



- Late September 2010 CSIII
  - Australia participating
  - International Watch and Warning Network (IWWN) also participating

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National Security Science and Technology (NSST) Research Support for National Security (RSNS)

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- Administered by the Department of the Prime Minister and Cabinet
- Support short-term requirements while developing long-term capabilities
- Exemplar projects since 2007
  - Incident response in control systems environments
  - A general forensic model for process control and SCADA systems
  - Critical infrastructure resilience: an ICT governance approach
  - Forensic readiness for control systems

INL Advanced Cyber Security Training

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Hosted by DHS Control System Security Program

- 5 day program
- provides intensive hands-on training for the protection and securing of control systems from cyber attacks
- Based on a red-team / blue-team exercise
- Conducted within an actual control systems environment

INL Advanced Cyber Security Training

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- Australian Government provides a grant of up to $AUD5000
- Delegations sent in 2007, 2008, and 2009
- Australia-only event held in November 2009
- Approximately 60 people from industry have attended so far

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OPERATIONAL SUPPORT

Current Arrangements

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Cyber Security Strategy:

- released November 2009
- outcome of the E-Security review 2008
- details government objectives and strategic priorities for achieving them
- announced new capabilities
  - CERT Australia
  - Cyber Security Operations Centre (CSOC)

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- Better coordinate Australia's cyber event response arrangements
- Provide a single POC for cyber security information domestically & internationally
- Incorporate a number of current activities including GovCERT.au & it's services
- Complement the Cyber Security Operations Centre (CSOC) within Dept. of Defence

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Information Exchanges

- Outcome of the E-Security Review 2008
- Based on forums conducted in the UK and USA
- Currently have three, covering Control Systems, telecommunications & banking & finance

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Control System Information Exchange

- A closed forum for the exchange of sensitive technical information between the Australian Government and owners and operators of critical control systems
- Discussion focused on technical threats and vulnerabilities seen within and attributed across industry sectors
- Membership guidelines require participants to undergo a police check
- Information exchanged includes up to Red level under the Traffic Light Protocol

CSOC

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Established as an initiative of the 2009 Defence Whitepaper to provide Australian Government with:

- All-source cyber situational awareness
- Enhanced operational responses to cyber security events of national importance
  - Government and critical private sector systems
- Ability to identify and analyse sophisticated cyber attacks targeting government systems or systems of national interest

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Summary

An Australian Government Initiative

- Provide guidance and facilitate information sharing
- Increase comprehension of risks and access to effective mitigation strategies
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http://www.ag.gov.au/cybersecurity

http://www.cert.gov.au

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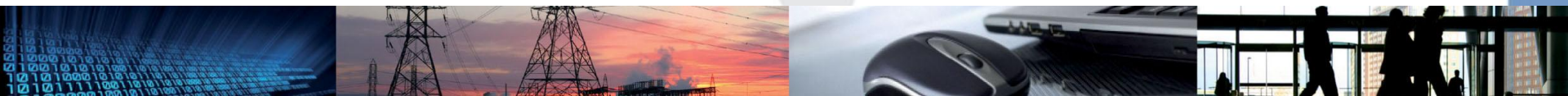

Cyber Security Strategy

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Objectives:

Objective One: All Australians are aware of cyber risks, secure their computers and take steps to protect their identities, privacy and finances online

Objective Two: Australian businesses operate secure and resilient information and communications technologies to protect the integrity of their own operations and the identity and privacy of their customers

Objective Three: The Australian Government ensures its information and communications technologies are secure and resilient

Strategic Priorities:

Threat Awareness and Response – improve the detection, analysis, mitigation and response to sophisticated cyber threats, with a focus on government, critical infrastructure and other systems of national interest

Cultural Change – educate and empower all Australians with the information,confidence and practical tools to protect themselves online

Business-Government Partnerships – partner with business to promote security and resilience in infrastructure, networks, products and services

Government Systems – model best practice in the protection of government ICT systems, including the systems of those transacting with government online

International Engagement – promote a secure, resilient and trusted global electronic operating environment that supports Australia's national interests

Legal and Law Enforcement – maintain an effective legal framework and enforcement capabilities to target and prosecute cyber crime

Knowledge, Skills and Innovation – promote the development of a skilled cyber security workforce with access to research and development to develop innovative solutions