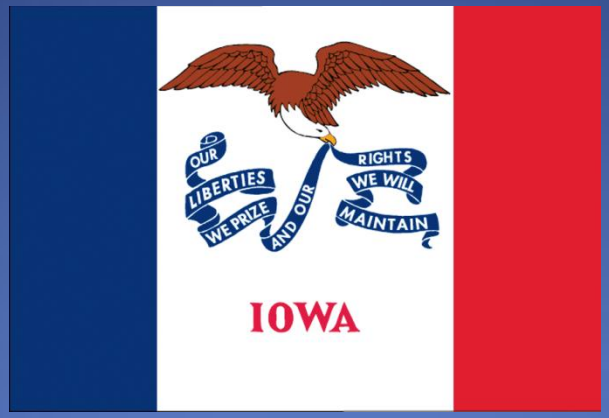
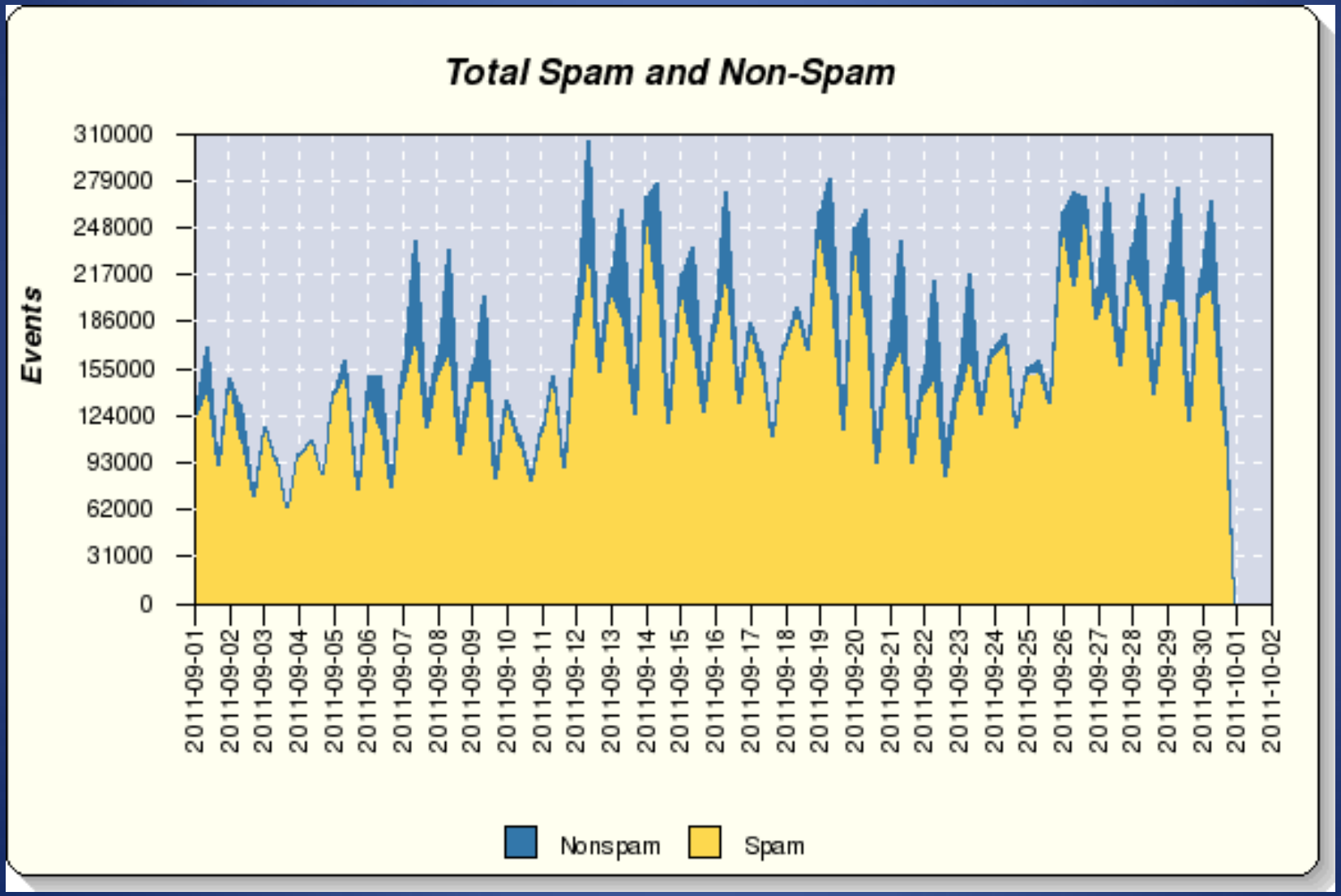


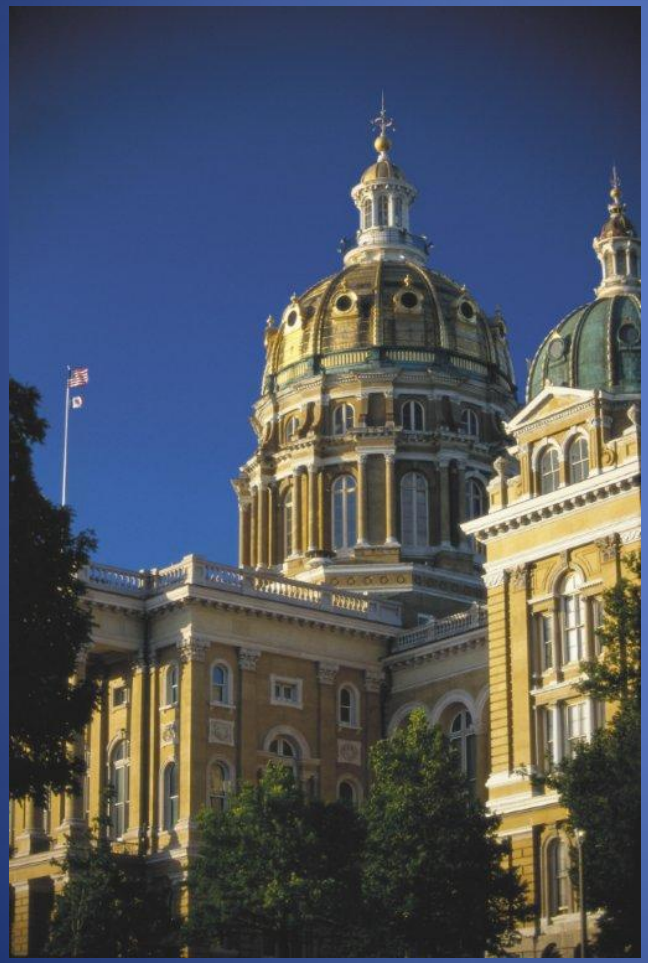
Cyber Threat Briefing

Jeff Franklin, M.S., CISSP, CISM
Chief Information Security Officer
State of Iowa
Dec. 15, 2011

Cyber Threat: SPAM



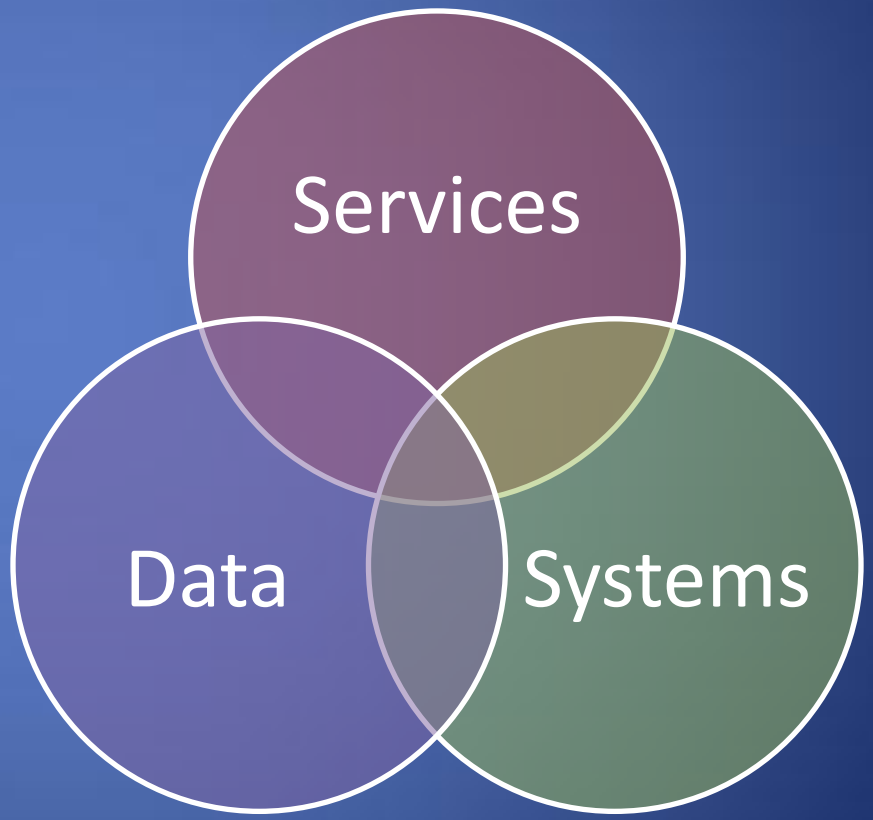
State of Iowa – E-mail (Sept. 2011)



- 12,000 e-mail accounts
- 15,000,000 e-mails
  - 500,000 per day
  - 21,000 per hour
- 13,000,000 blocked
- 52,000 had malware
- 2nd Filter
  - 200,000 blocked
  - 3374 had malware

What is a Cyber Threat?

- Anything that threatens the confidentiality, integrity and availability of your Data, and/or IT Systems. Disruption to these, disrupt business Services.



Do Cyber Threats Matter?

- Operations – What IT systems do you rely on?
- Integrity – Does your data need to be accurate?
- Privacy – Are you collecting confidential data?
- Website – Does you public image matter?

Which Critical Sectors depend on IT?

Where is the threat coming from?

- Nation States
- Organized Crime
- Terrorist
- Professionals
- Amateurs

Motives behind a cyber attack?

- Money
- Intellectual Property
- Intelligence gathering / Espionage
- Political Statements
- Thrills

Cyber Threats: Attacks

- Persistent

- Targeted
- Stealthy

Cyber Threat: Malicious Websites

- More than 1 million Web sites were believed to be infected with malware in the fourth quarter of last year, nearly double from the previous year,

- "The probability that an average Internet user will hit an infected page after three months of Web browsing is 95 percent,"

  – Cnet March 8, 2011

Identity Theft

- **Data breaches affect 2m in Mass**
  - "Personal information from nearly **one out of three** Massachusetts residents, has been compromised through data theft or loss since the beginning of 2010, of Attorney General Martha Coakley."
    - September 21, 2011

- **4 times more likely to have your identity stolen if your data has been compromised**
    - 2009 Javelin Research & Strategy

Data Breaches

- 2011 – 275 Data Breaches, 22.4 million records “reported”
- Since 2005 – 2707 Data Breaches, 540 Million records “reported”
- Unintended Disclosure, Hacking or Malware, Payment Card Fraud, Insider Threat, Portable Device, Stationary device

Other Cyber Threats

- Applications – Custom and Commercial
- Out of date Browsers
- Unencrypted Smart Phones
- Social Engineering
- Weak / Shared/ Non-expiring passwords
- Poor patching practices
- Physical Security
- Many, many more

What you should not do!

- Buying one “device” will not fix it
- Utilize the head in the sand model
- Believe that “we are too small for them to pay attention to us”
- Give up

You do not have to be perfect !!

- Be more difficult to attack than the next guy !!
  - Criminals will typically take the path of least resistance and automation.
  - Do the fundamentals well
    - Most breaches are preventable with basic security practices and good processes
- You will most likely not stop APT so focus your time and money on the basics first and complex security solutions last

How to fix it.

- $0 expenditures (primarily personnel time)
  - Policy, procedures and enforcement
  - Complex passwords
  - Implement principle of least privilege
  - Consistent patching for systems and applications
  - Security awareness training
  - Up to date Anti Virus and other end point protections
  - Network segregation by vLan
  - Prioritize what to assets to protect
  - Focus efforts on what's most critical for your organization
  - Utilize risk assessment frameworks to get a holistic view

How to fix it.

0 – $1,000

- All the $0 stuff +
  - Introduce open source solutions
  - Spam filtering
  - Web filtering
  - Encrypt mobile devices
  - Traffic monitoring
  - Proxy web services

How to fix it.

$1,000 – $5,000

All the $0 stuff +

- Web application firewall
- Continuous scanning solution
- Log file management

How to fix it.

$5,000 – $25,000

All the $0 stuff +

- Introduce commercial solutions
- Intrusion detection system
- Vulnerability assessment

How to fix it.

$25,000 – $100,000

- All the $0 stuff +
  - Introduce security consultants and vendors
  - Security personnel
  - Independent penetration test
  - Network architecture
  - Security policy review

How to fix it.

$100,000 – $1,000,000

- All the 0 $ stuff +
  - Possibly outsource some specialized security functions
  - Commercial Security Information Event Management system (SIEM)
  - Commercial Data Leakage Prevention (DLP)

Partnerships & Information Sharing

MULTI-STATE
Information Sharing & Analysis Center

Iowa Infragard

Questions ???

Resources

Iowa Information Security	secureonline.iowa.gov
Security Awareness List	join-security-news@lists.ia.gov
Security Alert list	securityalert@iowa.gov
Iowa Infragard	iowainfragard.org
NIST (800 series)	nist.gov
US Cert	us-cert.gov
MS-ISAC	msisac.org

Thank you

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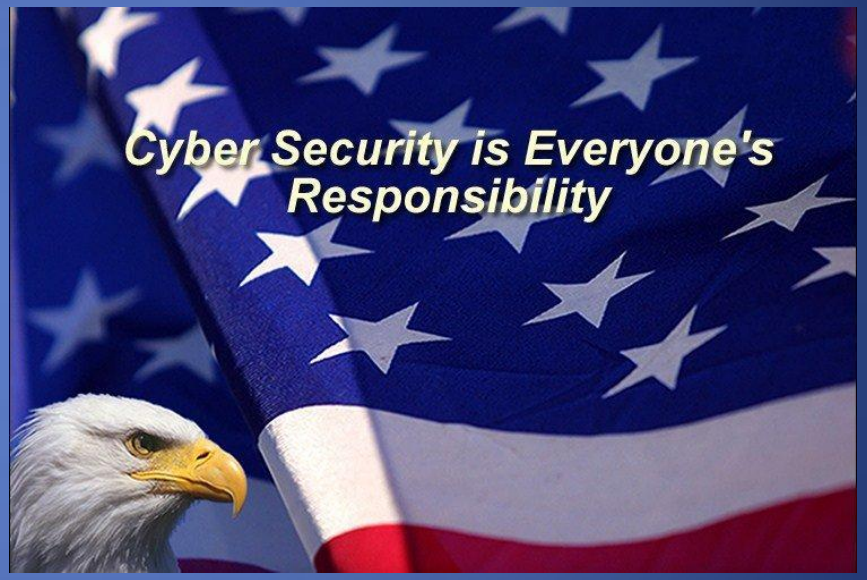

State of Iowa Information Security Office

secureonline.iowa.gov