FISMA & Security Automation

Agenda

- Federal Network Security (FNS) Vision and Process
- Important Overview
- Visual Representation
- Simple Framework to Drive Maturity
- Notional “End-State”
- Activities

FNS Vision and Process

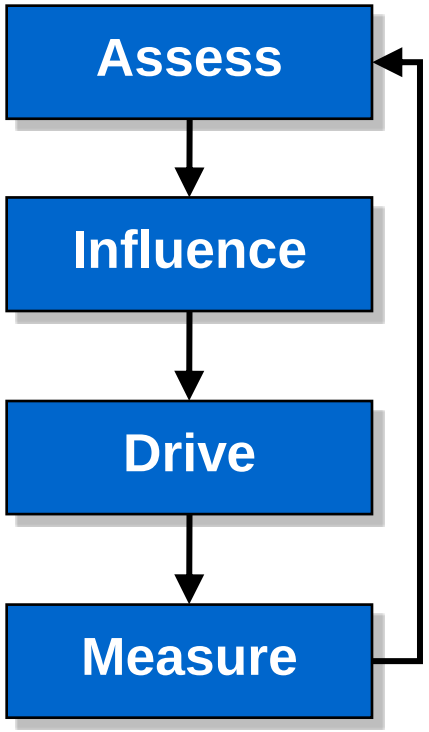
VISION: To be the recognized leader for driving change that enhances the cyber security posture of the Federal Government

Assess Enterprise Needs and Required Capabilities
- **Identify and prioritize actions required to mitigate risks and improve cyber security posture across the Enterprise**

Influence Policy and Strategies to Implement
- **Promote actionable cyber security policies, initiatives, standards, and guidelines for implementation**

Drive Implementation of Capabilities
- **Enable and drive the effective implementation of cyber security risk mitigation activities and capabilities**

Measure and Monitor Implementation and Security Posture
- **Measure and monitor Agency implementation, compliance (with published policies, initiatives, standards, and guidelines), and security posture**



Simultaneous and Iterative Process!

Important Overview

- Cyber Ecosystem is Complex – Defending our Networks and Improving Cybersecurity Posture Requires Management of ALL Ecosystem Components

- Effective Management Requires:
  - Identifying what to monitor and mitigate (SP800-53, CAG, etc…)
  - Efficient, Accurate, and Timely collection and integration of a wide range of "data feeds" (Defining Capabilities and Maturing to Full Automation)
  - Immediate mitigation actions (Prioritizing, Accountability, Empowering to Act)

- Driving this across the USG requires:
  - Collaboration (D/As, Private Sector, NIST, NSA, DHS, etc…)
  - Establishing goals and evolving goals to drive maturity (FISMA)
  - Balancing/Aligning standards development/adoption with operational needs
  - Facilitating Agency Implementation (Architectures, Contract Vehicles, etc…)
  - Minimizing Disruptions/Disconnects (IG Coordination, etc…)
  - Encouraging Vendor Adoption (COTS, Content Delivery) (Building Demand)
  - Effectively Communicating our Progress (link to goals/metrics) and Plans

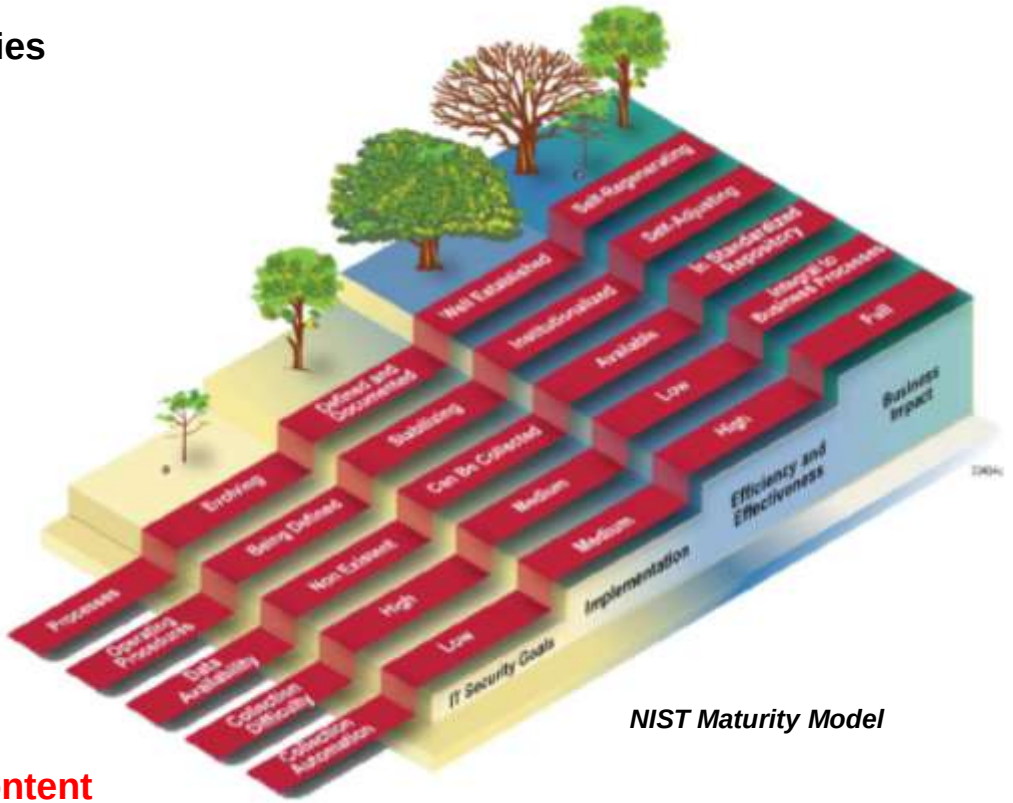
Visual Representation

Mature Enterprise-Wide Cybersecurity Capabilities

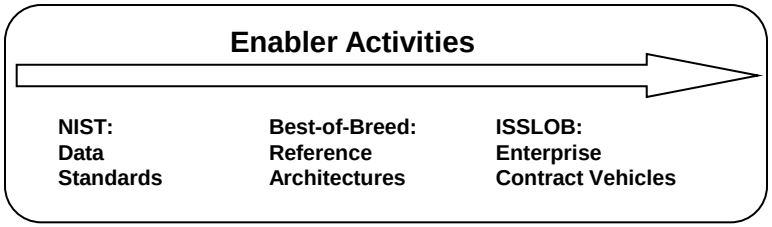
- **System Inventory**
- **Asset Management***
- **Configuration Management***
- **Vulnerability Management***
- **Identity and Access Management**
- **Data Protection**
- **Boundary Protection**
- **Incident Management**
- **Network Security Protocols**
- **Remote Access/Telework Management**
- **Training and Education**
- **Software Assurance**
- **Supply Chain**
- **Others…**

***Standards Exist (SCAP)–Continue Focus on Content**

- **Equates to Complex Business Process Improvement Projects**



NIST Maturity Model



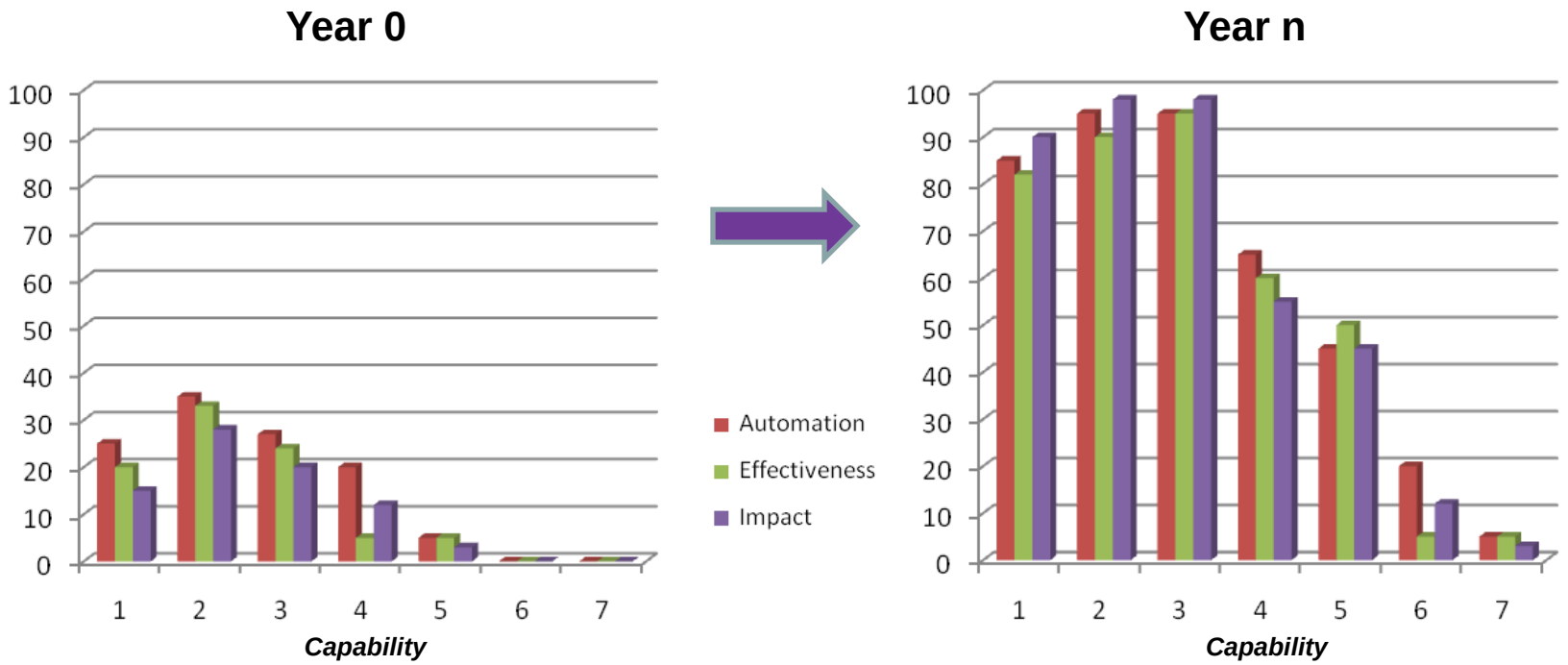
Simple Framework to Drive Maturity

- Given the complexity of this process improvement effort, we have to (and already are in the FY10 FISMA metrics where possible) track 3 different levels of metrics

- Levels of Maturity
  - **Implementation** Levels (Manual Reporting)
    - To what degree is the capability implemented?
  - **Effectiveness/Quality** Levels (Partially Automated Reporting)
    - To what degree are the desired outcomes being measured and managed?
  - **Impact** Levels (Automated Reporting)
    - To what degree is risk being reduced?

- Examples:
  - **Implementation:** 40% of Agency XYZ's IT assets are covered by an automated capability providing visibility at the Agency level into detailed configuration information
  - **Effectiveness/Quality:** For assets covered by an automated configuration management capability, Department of X can aggregate that information in 5 days
  - **Impact:** Agency XYZ has the following types and numbers of configuration deviations:
    - CCE #ABC: 290; CCE #XXY: 89; etc…

Notional Illustrative "End State"



Highly automated, effective capabilities enabling timely and efficient mitigation activities with the greatest impact - FISMA Reporting is a by-product!

Activities

- FY10 Annual FISMA Reporting requires auto feeds for three SCAP-based data sets (auto-feeds into CyberScope)
  - FY11 FISMA Reporting seeks to expand the number of auto-feeds
- Published initial CyberScope Schema for FY10 auto-feeds
  - http://scap.nist.gov/use-case/cyberscope/index.html
- Published a Continuous Monitoring Reference Architecture (CAESARS) on 9/1/10
- Established SAIR TIER I BPA with GSA in June 2009 based on SCAP Validated Tools
  - McAfee, Gideon Technologies (now Symantec), BIGFIX (now IBM)
- Defining requirements for SAIR TIER III (continuous monitoring) BPA to expand the number and types of vendors available to Agencies
- Considering the development of a USG approved product list based on SCAP

Activities (2)

- NSA/NIST/DHS co-sponsored Vendor Outreach effort in Mountain View, CA on 8/13/10
  - 120+ participants
- Established a joint FNS/ISIMC Continuous Monitoring Working Group (CMWG) 8/15/10
  - Group will drive definition of additional “data feeds” (to be used for FY11 FISMA Reporting)
- Conducting joint FNS/NIST CM Workshop as part of ITSAC Conference on 9/29/10 to engage vendor community
  - CMWG members will facilitate small groups with vendors to define additional “ecosystem” data feeds
- Conducting joint NCSD/ISIMC Conference on 10/19-21
  - Continuous Monitoring Sessions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