FISMA IMPLEMENTATION PROJECT
Phase II

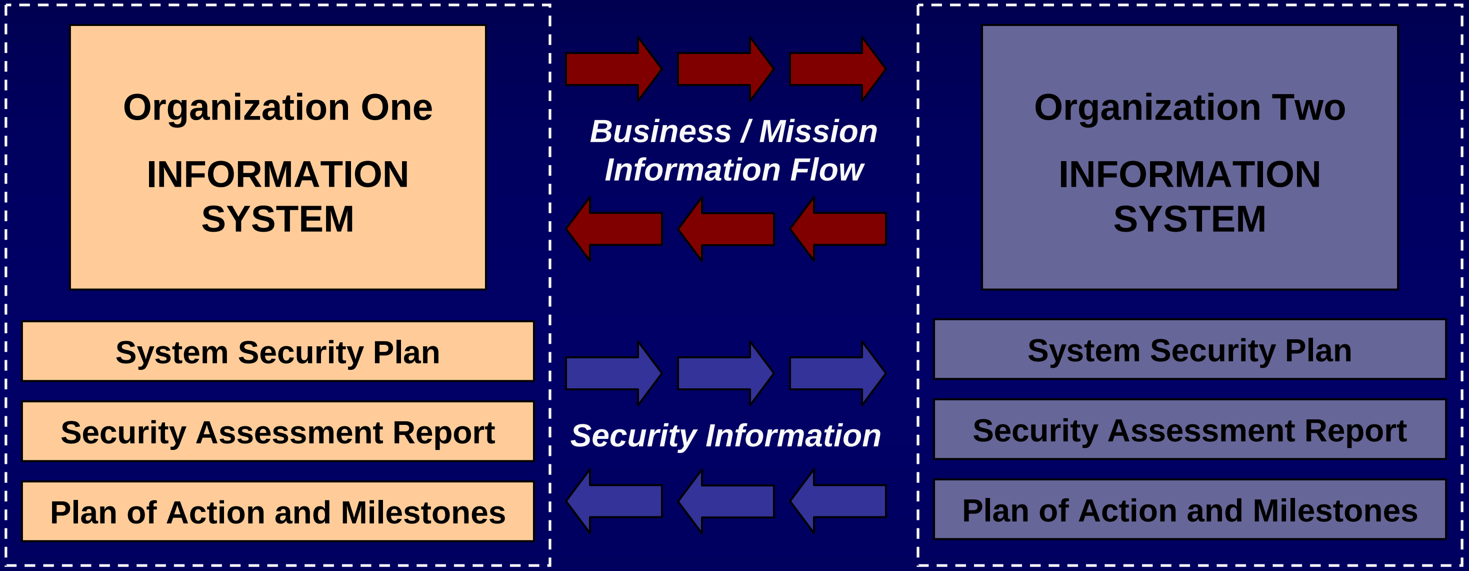
March 13, 2008

Pat Toth

Computer Security Division
Information Technology Laboratory

Trust Relationships

Security Visibility Among Business/Mission Partners



Organization One

INFORMATION SYSTEM

System Security Plan

Security Assessment Report

Plan of Action and Milestones

Business / Mission Information Flow

Security Information

Organization Two

INFORMATION SYSTEM

System Security Plan

Security Assessment Report

Plan of Action and Milestones

Determining risk to the organization's operations and assets, individuals, other organizations, and the nation; and the acceptability of such risk.

Determining risk to the organization's operations and assets, individuals, other organizations, and the nation; and the acceptability of such risk.

The objective is to achieve *visibility* into prospective business/mission partners information security programs…establishing a trust relationship based on the trustworthiness of information systems.

Agenda

- FISMA Phase I
  - *What we have accomplished to date…*
- FISMA Phase II
  - *Where we are headed …*
- Discussion

FISMA Phase I Publication Status

- FIPS Publication 199 (Security Categorization)
- FIPS Publication 200 (Minimum Security Requirements)
- NIST Special Publication 800-18 (Security Planning)
- NIST Special Publication 800-30 (Risk Assessment) *
- NIST Special Publication 800-39 (Risk Management) **
- NIST Special Publication 800-37 (Certification & Accreditation) *
- NIST Special Publication 800-53 (Recommended Security Controls)
- NIST Special Publication 800-53A (Security Control Assessment) **
- NIST Special Publication 800-59 (National Security Systems)
- NIST Special Publication 800-60 (Security Category Mapping) *

* Publications currently under revision.
** Publications currently under development.

FISMA Phase II

- Mission: Develop and implement a harmonized standards-based organizational credentialing program, supported by tools (automated where possible), and training for public and private sector entities to demonstrate core competencies for offering security services to federal agencies.
- Timeline: 2007-2010
- Status: Initial work began late 2007.

FISMA Phase II Goals

- Phase II primarily focuses on FISMA project goals of:
  - More consistent, comparable, repeatable and cost-effective application of security control assessments across the federal information technology infrastructure
  - More complete, reliable, and trustworthy information for authorizing officials--facilitating more informed security accreditation decisions
- Phase II supplemental goals:
  - Suppliers (product and service) [1st party] and customers [2nd party] provide more focused and better defined security control evidence to support information system assessments
  - Assessment providers [3rd party] efficiently acquire and demonstrate competence for assessing security controls in information systems
  - Draw upon, adapt and use available assessment-related standards, guidelines, programs, tools and assessment sources where applicable to optimize assessment effort
  - Converge entire Federal Government on NIST’s FISMA-related security Standards and guidelines as the foundation for the entire government

Security Assessments

Demonstrating competence to provide information security services including—

- Assessments of Information Systems

  (Operational environments)

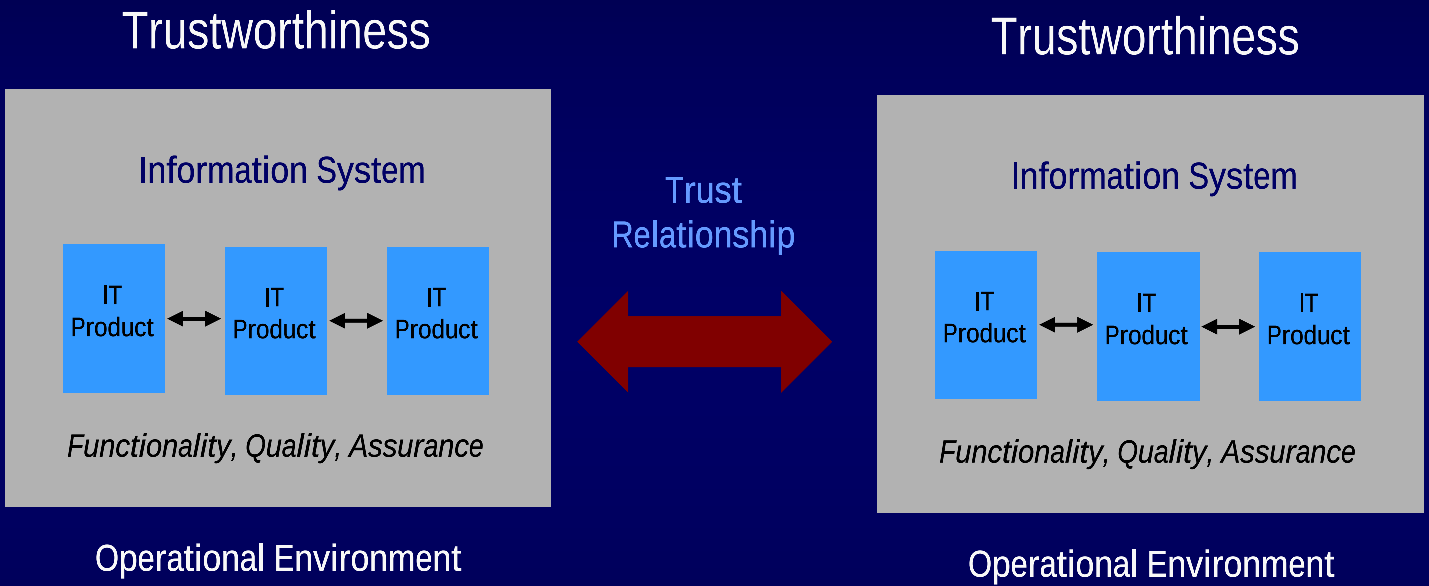
  - *Security controls including assurances*
  - *Configuration settings*
  - *Assessments using 800-53A, SCAP and other assessment tools*
  - *Assessment evidence*

- Assessments of Information Technology Products & Services

  (Laboratory environments)

  - *Alternate approaches*
  - *Security functionality (features)*
  - *Security assurance*
  - *Configuration settings*
  - *Assessment evidence*

FISMA Phase II

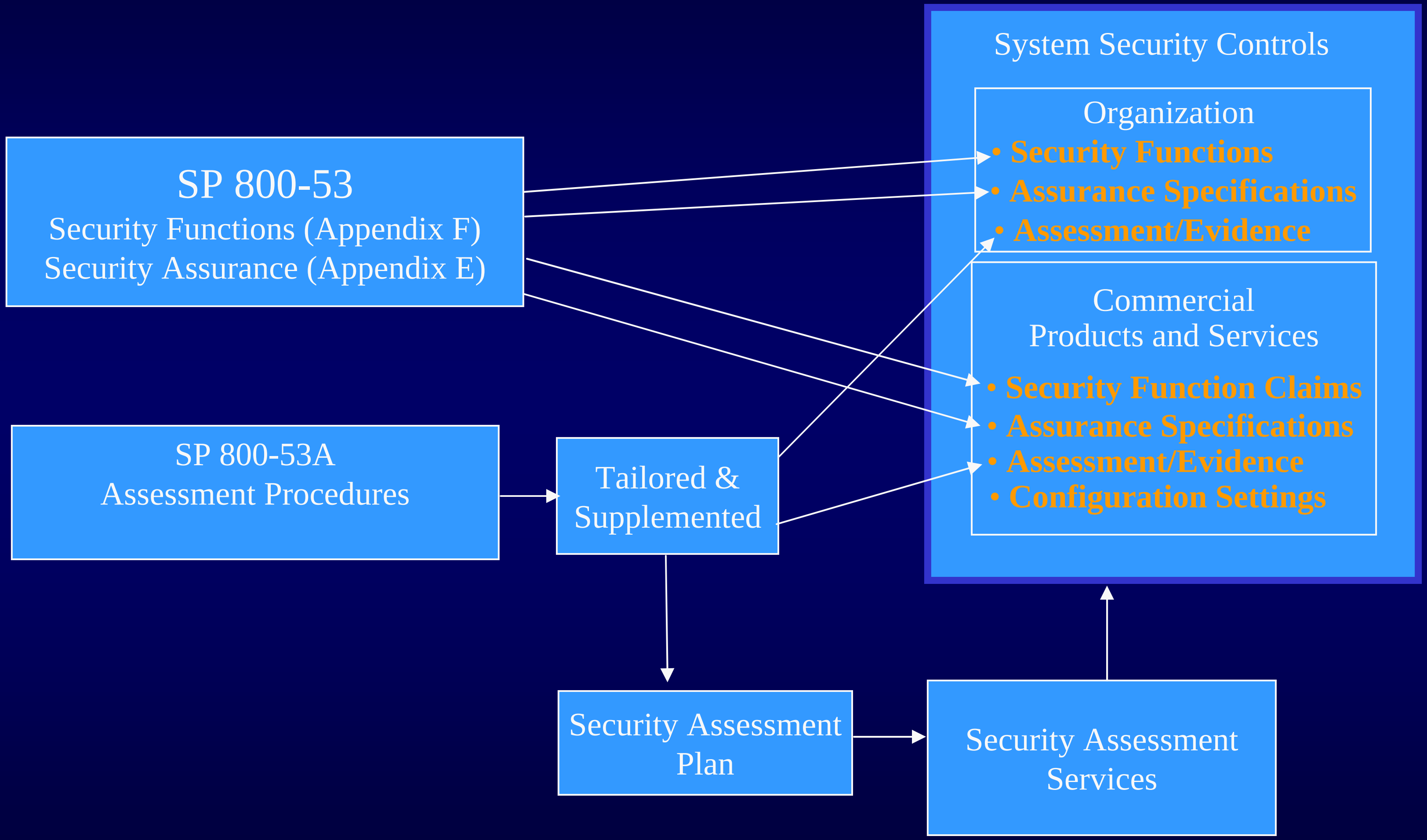


Producing evidence that supports the grounds for confidence in the design, development, implementation, and operation of information systems.

FISMA Phase II
Project Initiatives

- Transition – FISMA Phase I to Phase II
- Product and Service Supplier Assurance Initiatives
- Support Tools, Techniques, Reference Materials, Practices & Validation Program Initiatives
- Training Initiatives
- Organizational Credentialing Initiatives
- ISO Harmonization Initiatives

FISMA Phase I to Phase II Transition



SP 800-53
Security Functions (Appendix F)
Security Assurance (Appendix E)

SP 800-53A
Assessment Procedures

Tailored &
Supplemented

Security Assessment
Plan

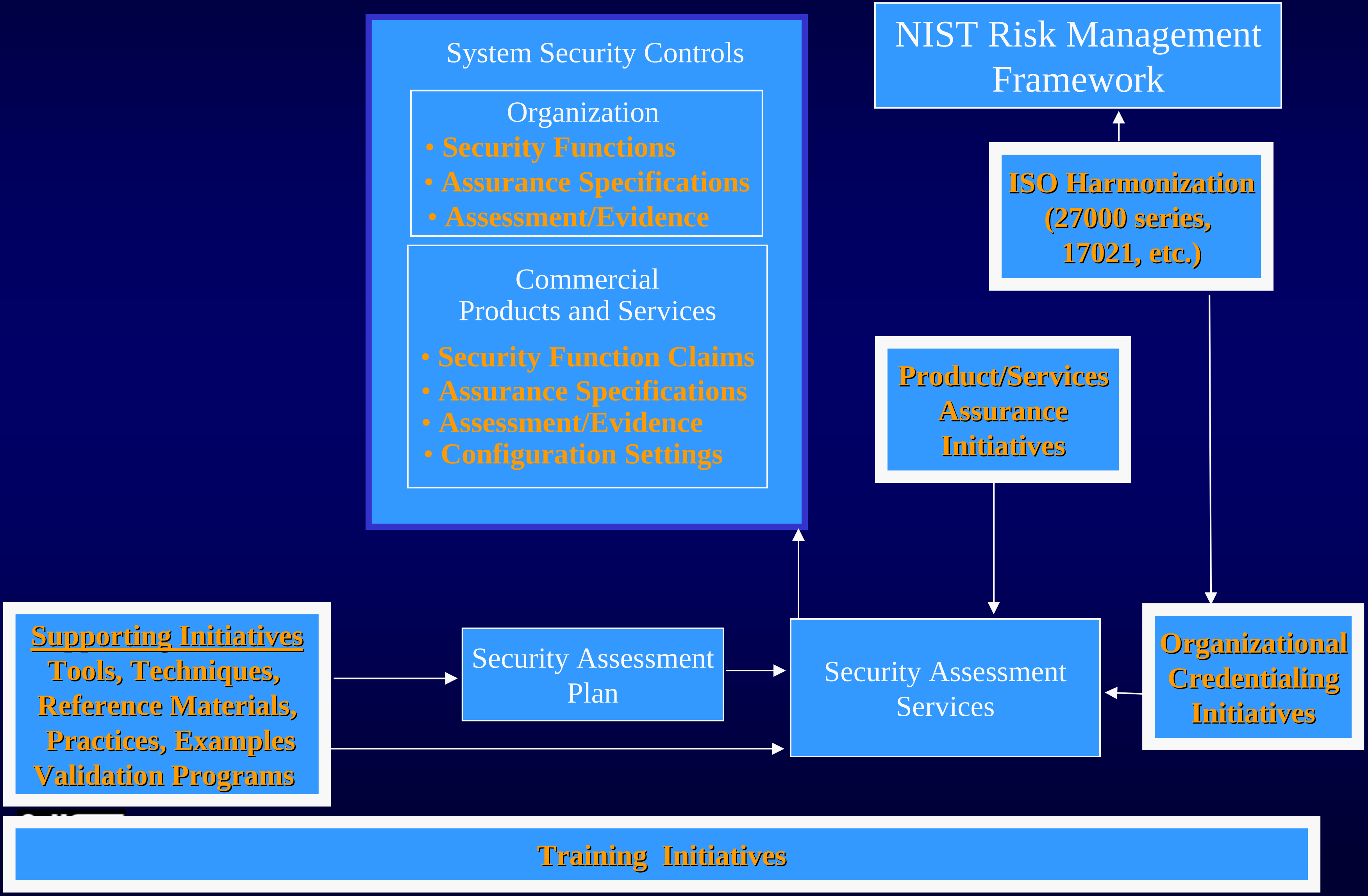
Security Assessment
Services

System Security Controls

Organization
- Security Functions
- Assurance Specifications
- Assessment/Evidence

Commercial
Products and Services
- Security Function Claims
- Assurance Specifications
- Assessment/Evidence
- Configuration Settings

FISMA Phase II Initiatives



System Security Controls

Organization
- Security Functions
- Assurance Specifications
- Assessment/Evidence

Commercial
Products and Services
- Security Function Claims
- Assurance Specifications
- Assessment/Evidence
- Configuration Settings

NIST Risk Management Framework

ISO Harmonization (27000 series, 17021, etc.)

Product/Services Assurance Initiatives

<u>Supporting Initiatives</u>
Tools, Techniques, Reference Materials, Practices, Examples Validation Programs

Security Assessment Plan

Security Assessment Services

Organizational Credentialing Initiatives

Training Initiatives

Product & Service Supplier Assurance

- Security claims specified in terms of:
  - 800-53 security control functions.
  - 800-53 assurance requirements

- Evidence provided to support claims drawing on 800-53A assessment procedures and other assessment processes.

Product & Service Supplier Claims Statement

- NIST define criteria, structure, form, guidelines, etc. for statement.
- Description of security features.
- Identification of 800-53 security controls product/service supported.
- Description of how product or service meets identified security control functional requirements.
- Assurances in context of 800-53 assurance requirements identifying targeted impact level for assurances – e.g., Low impact:
  - How insure obvious errors;
  - How demonstrate feature operates as intended;
  - How insure flaws discovered and addressed in a timely manner.
- Tailoring options for adapting to organization operating environments (e.g., configuration settings).

Product & Service Supplier Claims Statement (cont'd)

- Evidence provided to support claims.
  - Internal assessments reports.
  - External assessments reports (e.g., third party).
  - Government C & A.
- How evidence can be used or tailored to support 800-53A and system specific assessment procedures and processes.

Product & Service Supplier Claims Statement Uses

- Form of assurances that supplier's can readily provide with each product release.
- Base information for including in offers to customers.
- Base information customers can use for assessing product/service acceptance or for conducting supplemental assessments if needed.
- Base information that can be provided to third party evaluators (e.g., validation laboratories) for acquiring additional assurances.
- Base information for system security assessment providers.
- Information for SSP's and Security Assessment Plans.

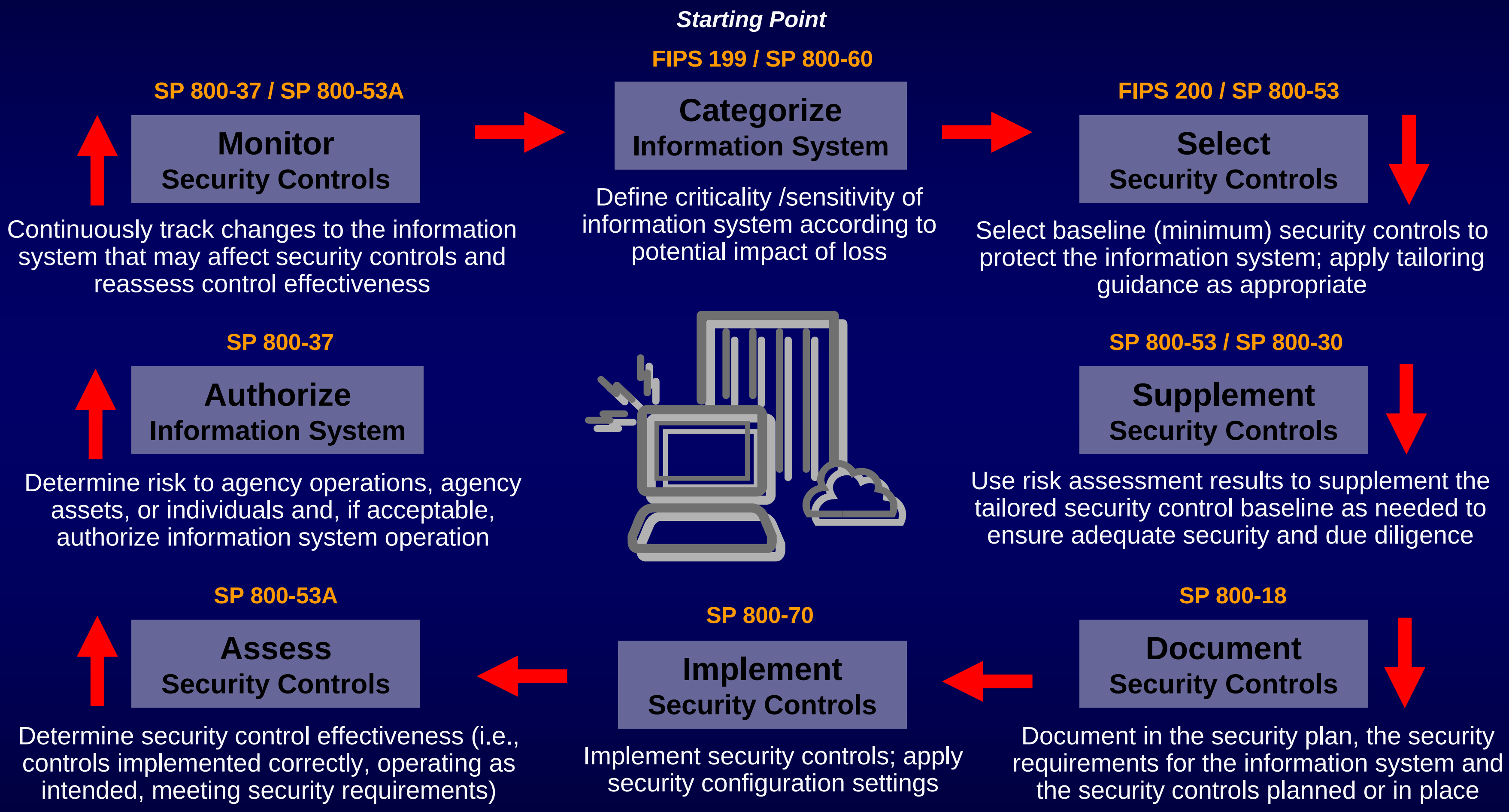
Identify/Develop Common Assessment Support Tools/References

- National Checklist Program (NCP)
- Security Content Automation Protocol (SCAP)
- Cryptographic Module Validation Program (CMVP)
- SCAP Validated Tools
- SP 800-115 Technical Guide to IS Testing
- RMF Standards and Guidelines Quick Start Guides (Summary Sheets), FAQ's …
- Personal Identity Verification Program (NPIVP)
- Etc.

Training Initiatives

- Information security training initiative underway to provide increased support to organizations using FISMA-related security standards, guidelines, programs and services.
- Training initiative includes three components—
    - Frequently Asked Questions
    - Publication Summary Guides (Quickstart Guides)
    - Formal Curriculum and Training Courses
- NIST will provide initial training in order to fine-tune the curriculum; then transition to other providers.

Risk Management Framework



Starting Point

FIPS 199 / SP 800-60

Categorize
Information System

Define criticality /sensitivity of information system according to potential impact of loss

FIPS 200 / SP 800-53

Select
Security Controls

Select baseline (minimum) security controls to protect the information system; apply tailoring guidance as appropriate

SP 800-53 / SP 800-30

Supplement
Security Controls

Use risk assessment results to supplement the tailored security control baseline as needed to ensure adequate security and due diligence

SP 800-18

Document
Security Controls

Document in the security plan, the security requirements for the information system and the security controls planned or in place

SP 800-70

Implement
Security Controls

Implement security controls; apply security configuration settings

SP 800-53A

Assess
Security Controls

Determine security control effectiveness (i.e., controls implemented correctly, operating as intended, meeting security requirements)

SP 800-37

Authorize
Information System

Determine risk to agency operations, agency assets, or individuals and, if acceptable, authorize information system operation

SP 800-37 / SP 800-53A

Monitor
Security Controls

Continuously track changes to the information system that may affect security controls and reassess control effectiveness

Organizational Credentialing Initiatives

- Draft NISTIR 7328, *Security Assessment Provider Requirements and Customer Responsibilities: Building a Security Assessment Credentialing Program for Federal Information Systems* (September 2007).
- Draft Criteria for Product & Service Supplier Claims Statement

Harmonization Initiatives

- Technical: ISO 27000 (Information Security) Harmonization
  - Define relationship between the FISMA security standards and guidelines and the ISO 27001 & 2 Information Security Management System.
  - Provide comprehensive mapping from FISMA standards and guidelines to ISO 27001 & 2.
  - Develop and publish a “delta document” that states commonalities and differences among the standards.
  - Explore possibilities for recognition and acceptance of assessment results to reduce information security costs.
- Organizational: ISO 9000, 17020, 17021, 17024, and 27006 (Management/Quality System, Inspection, System Audit/Certification, Person Certification and Organization Accreditation)
- DNI, DoD, Civilian Agencies

FISMA Phase II
Near Term Tasks and Milestones

- Update Draft NISTIR 7328 based on public comments (March 2008).
- FISMA FAQ’s (initial draft April 2008).
- Draft criteria, structure, guidelines, etc. for products and services claiming support of 800-53 security controls (April 2008)
- FISMA Phase II workshop (May 2008)

Longer Term Tasks and Milestones

- Web-based Training Courses – Fall 2008
- In-house training courses – Fall 2008
- Train the Trainers – FY2009
- Credentialing Program – FY2009

Contact Information

100 Bureau Drive Mailstop 8930
Gaithersburg, MD USA 20899-8930

Project Leader

Dr. Ron Ross
(301) 975-5390
ron.ross@nist.gov

Administrative Support

Peggy Himes
(301) 975-2489
peggy.himes@nist.gov

Senior Information Security Researchers and Technical Support

Marianne Swanson
(301) 975-3293
marianne.swanson@nist.gov

Pat Toth
(301) 975-5140
patricia.toth@nist.gov

Matt Scholl
(301) 975-2941
matthew.scholl@nist.gov

Dr. Stu Katzke
(301) 975-4768
skatzke@nist.gov

Arnold Johnson
(301) 975-3247
arnold.johnson@nist.gov

Information and Feedback
Web: csrc.nist.gov/sec-cert
Comments: sec-cert@nist.gov