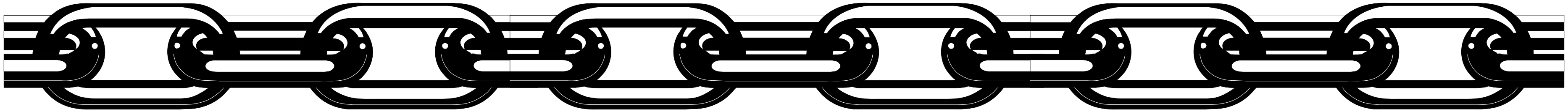

Piloting Supply Chain Risk Management Practices for Federal Information Systems

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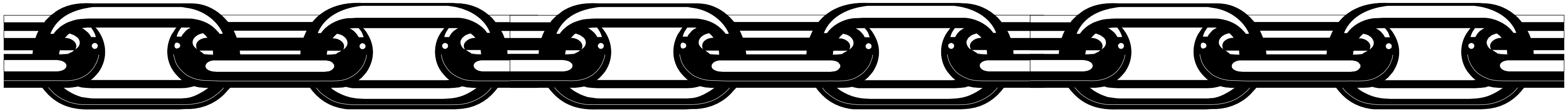
Agenda

- Terms and Background
- Implementing Supply Chain Risk Management
- Supply Chain Risk Management Practices
- Contact Information



Terms

- Supply Chain – *Set of organizations, people, activities, information, and resources for creating and moving a product/elements or service (including sub-elements) from suppliers through to an organization's customers.*

- Element – *COTS or GOTS software, hardware and firmware and is synonymous with components, devices, products, systems, and materials.*

Terms (continued)

- Supplier – *An organization that produces elements and provides them to a customer or an integrator to be integrated into the overall system; it is synonymous with vendor and manufacturer. It also applies to maintenance/disposal service providers.*

- Integrator – *A third party organization that specializes in combining products/elements of several suppliers to produce elements (information systems.)*

Background

- Comprehensive National Cybersecurity Initiative11: Develop Multi-Pronged Approach for Global Supply Chain Risk Management (SCRM)
- Provide US Government with robust toolset of supply chain methods and techniques
- Multi-tiered Approach:
  - Cost effective procurement related strategies
  - Industry input into supply chain practices and development of international standards
  - Ability to share supply chain threat information

Lifecycle Processes and Standards Working Group

Develop guidance for civilian agencies on implementing supply chain risk mitigation strategies.

- Test existing and proposed guidance during pilots in FY09 and FY10
- Collaborate with organizations and industry on developing supply chain standards and practices

Guidance

- Draft NIST Inter-Agency Report (NIST IR) 7622 *Piloting Supply Chain Risk Management Practices for Federal Information Systems*
  - First Public Draft – June, 2010
  - Final – January, 2011
- Future NIST Special Publication
  - First Public Draft – June, 2011

Supply Chain Pilots

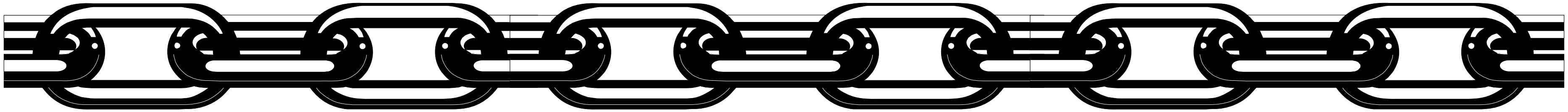
- Department of Defense
- Department of Homeland Security
- Piloting of guidance in NISTIR

Collaboration

- ISO CS-1 Global Supply Chain Risk Management Ad Hoc Meetings
- IT and Telecom Sector Coordinating Councils (SCCs) and Government Coordinating Councils GCCs)

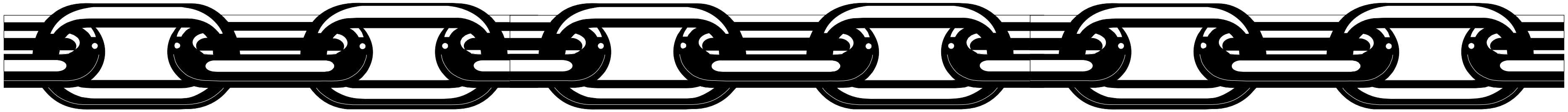
Implementing Supply Chain Risk Management

- Prerequisites for Successful SCRM Implementation
- Establish a Supply Chain Risk Management Capability (SCRMC)
- Roles and Responsibilities
- SCRMC Procurement Process



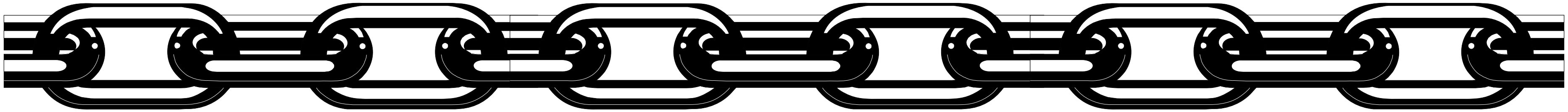
Prerequisites for Successful SCRM Implementation

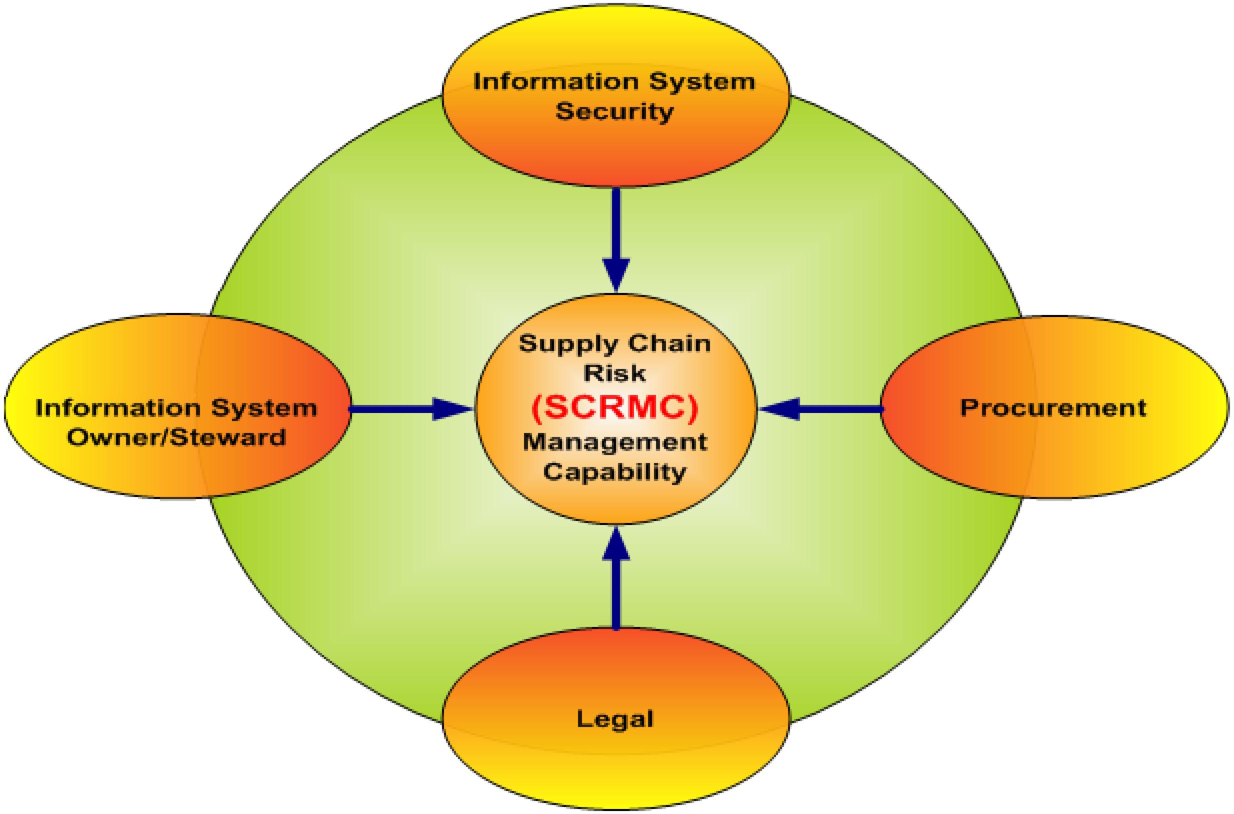
- Integrate information system security requirements from inception
- Ensure funding for information security and SCRM
- Follow consistent, well-documented repeatable system engineering and acquisition processes
- Proper oversight of suppliers
- Actively manage suppliers through Service Level Agreements/contracts
- Fully implement the NIST 800-53 security controls



Establish a SCRMC

- Ad-hoc or formal team
- Develop policy and procedures
  - When team comes together
  - Who performs requirement analysis, makes risk decisions, prepares procurement related documents, and specifies any specific training requirements.




Information System Security
Information System Owner/Steward
Supply Chain Risk (SCRMC) Management Capability
Procurement
Legal

SCRMC Implementation

Step 1: Determine Supply Chain Risk Threshold

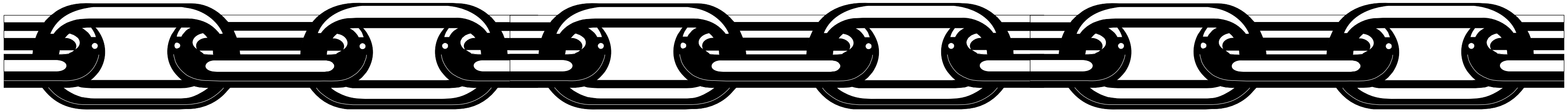
- FIPS 199 High Impact System
- NIST Special Publication 800-53 Rev. 3 Security Control: SA-12 Supply Chain Protection

Step 2: Develop Requirements

- Identify critical elements, processes, systems, and information across the program
- Determine appropriate level of risk
- Review all data gathered during the pre-solicitation
- Obtain any additional information
- Consider a procurement strategy
- Develop a Statement of Work (SOW)

Statement of Work

- Detailed description of the technical, security, and SCRM requirements
- Performance measures
- Evaluation criteria
- Measurement thresholds

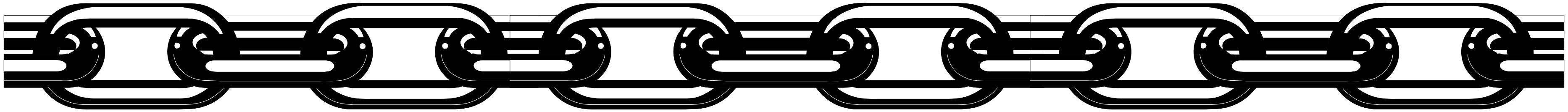


Step 3: Identify Potential Suppliers

- Conduct a market analysis
- Post a “sources sought” notification
- Gather information from open-sources

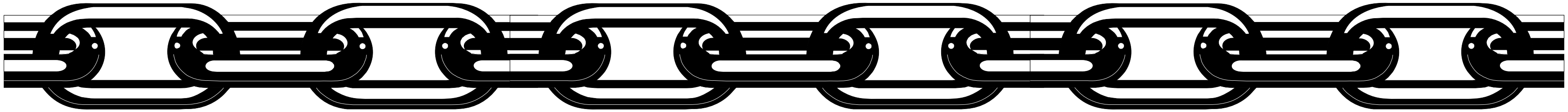
Open Sources

- Central Contractor Registry (CCR)
- Commercial & Government Entity (CAGE)
- Dunn & Bradstreet
- Business Identification Number Cross-reference (BINCS)



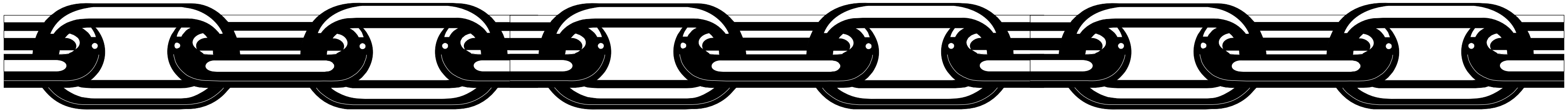
Step 4: Coordinate Acquisition Plan and Contract Execution

- Develop an Acquisition Plan
  - List of potential sources of suppliers
  - Description of how competition will be sought
  - Description of various contacting considerations
  - Strategies for mitigating supply chain risk
- Disclose any legal issues
- Perform technical review
- Select supplier



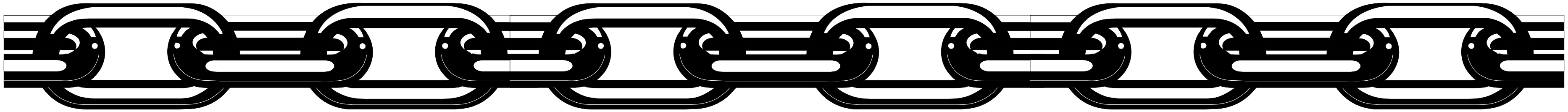
Step 5: Perform Continuous Monitoring

- Record lessons learned
- Monitor and periodically reevaluate changes in risk, suppliers, operational environment, and usage.
- Replacement components and maintenance should be reviewed for supply chain risk



Supply Chain Practices

- 21 varying practices
  - Acquirer: Programmatic and validation activities
  - Supplier or integrator: General, technical and validation requirements
- Topic areas include:
  - Procurement
  - Design/Development
  - Testing
  - Operational
  - Personnel

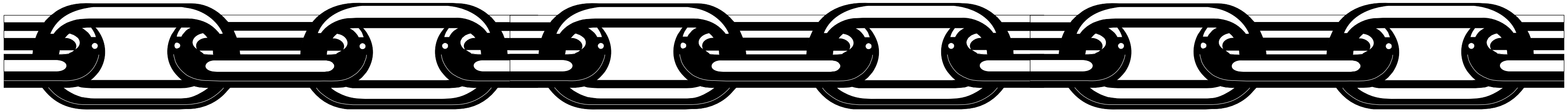


Procurement

- Maximize acquirer’s visibility into Integrators and Suppliers
- Protect confidentiality of element uses

Design/Development

- Incorporate supply chain assurance in requirements
- Select trustworthy elements
- Enable diversity
- Identify and protect critical processes and elements
- Use defensive design

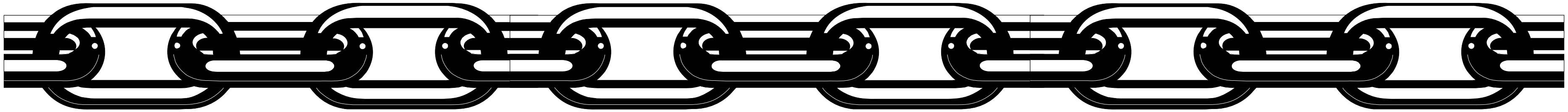


Design/Development (continued)

- Protect the supply chain environment
- Configure elements to limit access and exposure
- Harden supply chain delivery mechanisms

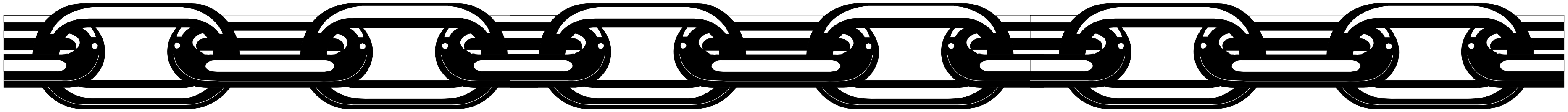
Testing

- Manual review
- Static analysis
- Dynamic analysis
- Penetration testing



Operational

- Protect/monitor/audit operational systems
- Formalize service/maintenance
- Configuration Management
- Negotiate requirement changes
- Manage supply chain vulnerabilities
- Reduce supply chain risks during software updates and patches
- Supply chain incident response
- Reduce supply chain risks during disposal



Personnel

- Personnel considerations in the supply chain
- Promote awareness, educate and train personnel on supply chain risk

Contact Information

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