MEP National Network™
The Go-To Experts for Advancing U.S. Manufacturing

NIST National Institute of Standards and Technology
U.S. Department of Commerce

CYBERSECURITY
Risk Management for U.S. Manufacturers

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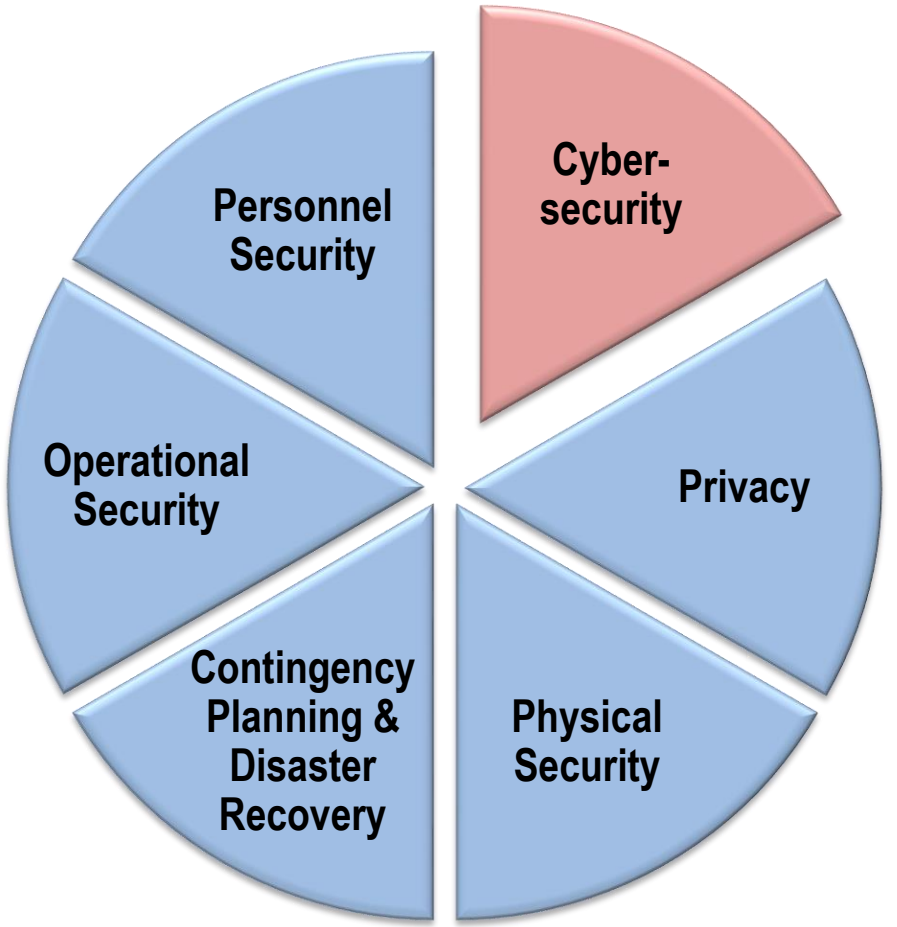
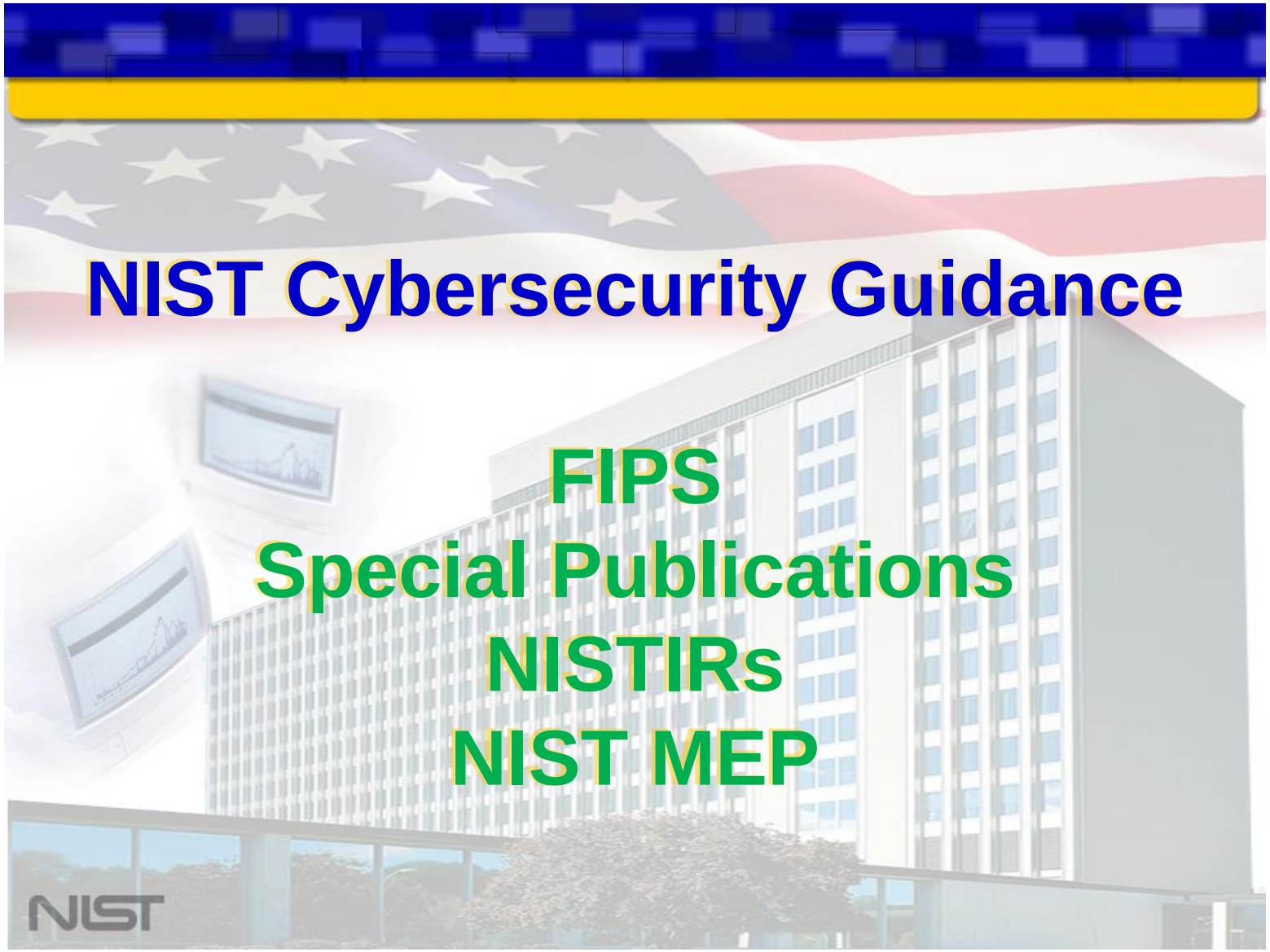
What is Information Security?



Our appetite for *advanced technology* is rapidly exceeding our ability to protect it.

We are vulnerable because our information technology is fragile and susceptible to a wide range of threats including:

- natural disasters.
- structural failures.
- cyber attacks.
- human errors.



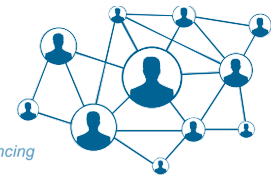
- **NIST is a non-regulatory agency of the U.S. Department of Commerce.**
- NIST serves as the **U.S. National Measurement Institute**
  - Operate Laboratory programs that support U.S. innovation, standards development.
    - *Focus on metrology and standards*
  - Manage the **MEP National Network** that provides technical assistance as trusted advisors to U.S. manufacturers in every state and Puerto Rico.
- IMPORTANT:
  - **NIST *does not regulate U.S. cybersecurity.***
  - Rather, **NIST provides neutral technical expertise, guidance, and reference materials** that underlie regulations and requirements of other government agencies and industry organizations.
  - MEP National Network provides hands-on assistance for cybersecurity implementation

MEP Summary

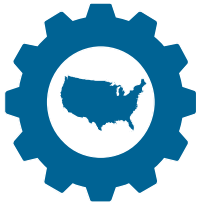
MISSION

To strengthen and empower U.S. manufacturers

MEP National Network™
The Go-To Experts for Advancing U.S. Manufacturing



- MEP Center in all 50 U.S. states plus Puerto Rico.
- System-wide non-Federal staff of over 1,200 individuals in ~600 service locations assisting U.S. manufacturers.
- Contracting with >2,500 3rd party service providers



Local ➡ National Connection

Network of Centers providing localized service to manufacturers in each State – with National reach and resources

MEP Budget & Business Model

$128M FY17 Federal Budget with Cost Share Requirements for Centers

Partnership Model

- Federal, State, Industry
- Managed by NIST at Federal level
- Well aligned with state and local economic development strategies

MEP Strategy: Global Competitiveness and Growth

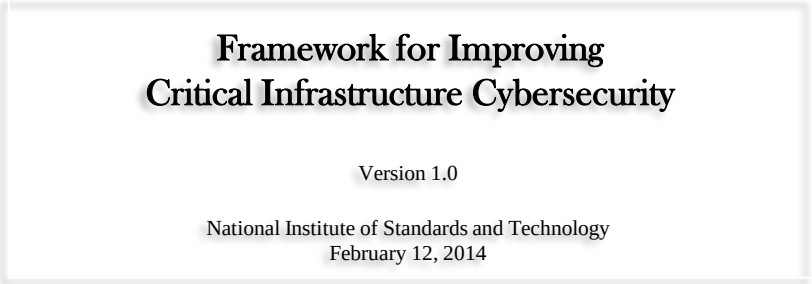
Serve as *trusted advisors* who provide direct, hands-on technical and business assistance to America's manufacturers, striving to be the go-to resource to ensure U.S. manufacturing is resilient and leads the world in manufacturing innovation

NIST Cybersecurity Framework

Presidential Executive Order 13636

"Improving Critical Infrastructure Security"

February 2013


Framework for Improving
Critical Infrastructure Cybersecurity

Version 1.0

National Institute of Standards and Technology
February 12, 2014

- Established that "[i]t is the Policy of the United States to:
  - enhance security and resilience of Nation's critical infrastructure
  - maintain a cyber environment that encourages efficiency, innovation, and economic prosperity while promoting safety, security, business confidentiality, privacy, and civil liberties."
- Called for development of voluntary risk-based Cybersecurity Framework
  - set of industry standards and best practices to help organizations manage cybersecurity risks.

NIST Cybersecurity Framework

- The NIST Cybersecurity Framework, created thru collaboration between govt. & private sector, uses common language to address and manage cybersecurity risk in cost-effective way based on business needs – without placing additional regulatory requirements on businesses.

FRAMEWORK CORE:

Identify
Protect
Detect
Respond
Recover

DFARS = Defense Federal Acquisition Regulation Supplement

What is the DFARS cybersecurity requirement?

- **DFARS clause 252.204-7012** requires defense contractors and subcontractors to:

1. **Provide adequate security to safeguard covered defense information (CDI) that resides on or is transiting through a contractor's internal information system or network**
2. Report cyber incidents that affect a covered contractor information system or the CDI residing therein, or that affect the contractor's ability to perform requirements designated as operationally critical support
3. Submit malicious software discovered and isolated in connection with a reported cyber incident to the DOD Cyber Crime Center
4. If requested, submit media and additional information to support damage assessment
5. Flow down the clause in subcontracts for operationally critical support, or for which subcontract performance will involve CDI

What is "adequate security"?

- DFARS requires that contractors and their subcontractors employ "adequate security"
- This means that protective measures are employed commensurate with consequences and probability of loss, misuse, or unauthorized access to, or modification of information.
- Contractors should implement, at a minimum, the security controls in NIST SP 800-171 rev 1, Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations."
- Contractors are obligated to rapidly report (within 72 hours of discovery) any cyber incident that affects the covered contractor's
  - info system, CDI, or the contractor's ability to provide operationally critical support.
  - Reporting obligations also require that contractors isolate and capture, if possible, an image of the malicious software (e.g., worm, virus, etc.) and provide access to covered contractor info systems and other info if requested by DoD.

Why should manufacturers who are not defense contractors care about NIST SP 800-171, DFARS, and NIST Handbook 162?

- NIST is working with many commercial entities regarding cybersecurity risk protection of business sensitive supply chain info.
- Approaches to cybersecurity risk protection for information and operational systems – regardless of markets served – tend to be rooted in NIST Cybersecurity Framework and NIST guidance documents, Special Publications, and Handbooks

What is the purpose of DFARS clause 252.204-7012?

- DFARS 252.204-7012 was structured to ensure that
  - controlled unclassified DoD info residing on a contractor's internal info system is safeguarded from cyber incidents,
  - any consequences associated with the loss of this info are assessed and minimized via the cyber incident reporting and damage assessment processes.

- Also provides single DoD-wide approach to safeguarding covered contractor information systems
  - prevent proliferation of multiple/potentially different safeguarding controlled unclassified information clauses, contract language by various entities across DoD.

When is DFARS clause 252.204-7012 required in contracts?

- DFARS clause 252.204-7012 is required in all solicitations and contracts, including solicitations and contracts using Federal Acquisition Regulation (FAR) part 12 procedures for acquisition of commercial items.

- Clause is not required for solicitations and contracts solely for acquisition of COTS items.

- The clause is not required to be applied retroactively, but that does not preclude a contracting officer from modifying an existing contract to add the clause.

When and how should DFARS clause 252.204-7012 flow down to subcontractors?

- DFARS clause 252.204-7012 flows down to subcontractors without alteration, except to ID the parties, when performance will involve operationally critical support or CDI.
- Per 252.204-7012(m)(1), the prime contractor shall determine if info required for subcontractor performance retains its identity as CDI, thus necessitating flow-down of the clause.
- Contractors should consult the appropriate DOD contracting officer if clarification is required.
- DoD emphasis is on deliberate management of info requiring protection.
  - *Prime contractors should minimize the flow down of info requiring protection.*
- Flow down is a requirement of the terms of the contract with the Government, which should be enforced by the prime contractor as a result of compliance with these terms. If a subcontractor does not agree to comply with the terms of DFARS Clause 252.204–7012, then CDI shall not be on that subcontractor's info system.

What do contractors need to do to ensure compliance with DFARS and when does this apply?

- Defense contractors are required by DFARS to provide *adequate security* on all covered contractor info systems.

- To provide adequate security, defense contractors must implement, at a minimum, the following information security protections:
  - NIST SP 800-171, as soon as practical, but ***not later than December 31, 2017***.

3-Step Process to Complying with DFARS Cybersecurity Requirements

- **STEP 1**: Develop System Security Plan (SSP) describing
  - the system boundary;
  - the operational environment;
  - how the security requirements are implemented; and
  - the relationships with or connections to other systems
  - can be where Incident Response Plan is provided
- **STEP 2:** Conduct Assessment, Produce Security Assessment Report
  - conducted against security requirements in NIST SP 800-171
  - guided by NIST MEP Handbook 162
- **STEP 3:** Produce a Plan of Action with Milestones (POAM)
  - should describe how any unimplemented security requirements will be met and how any planned improvements will be implemented
  - should include detailed milestones used to measure progress

IMPORTANT: Things to Remember Regarding Compliance with DFARS Cybersecurity Requirements

- **Compliance occurs upon approval of the SSP, Report of SP 800-171 Assessment, and POAM**
  - Approval of these items comes from the appropriate DOD Contracting Officer, or Prime Contractor – depending upon where a particular manufacturer falls within the supply chain
  - Some plans may need to be reviewed by DOD OCIO
- **A contractor's signature on a contract indicates that DFARS cybersecurity requirements have been met**
  - There is no 3rd party certification required, nor any requirement for 3rd party assessment
  - No pre-determined audit processes are planned, but audits may occur as warranted

DOD Cybersecurity FAQs from DOD Procurement Toolbox:
http://dodprocurementtoolbox.com/faqs/cybersecurity/frequently-asked-questions-faqs-dated-jan-27-2017-implementation-of-dfars-case-2013

Controlled Unclassified Information

Supports federal missions and business functions…

…that affect the economic and national security interests of the United States.

The CUI Registry

www.archives.gov/cui/registry/category-list.html

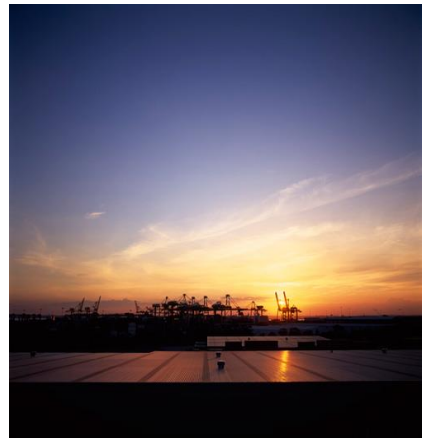
- Online repository for information, guidance, policy, and requirements on handling CUI, including issuances by the CUI Executive Agent.
- Identifies approved CUI categories and subcategories (with descriptions of each) and the basis for controls.
- Sets out procedures for the use of CUI, including but not limited to marking, safeguarding, transporting, disseminating, re-using, and disposing of the information.

CUI Registry

- Manufacturing

Category-Subcategory:	**Proprietary Business Information-Manufacturer**
Category Description:	Material and information relating to, or associated with, a company's products, business, or activities, including but not limited to financial information; data or statements; trade secrets; product research and development; existing and future product designs and performance specifications.
Subcategory Description:	Relating to the production of a consumer product to include that of a private labeler.
Marking:	MFC

Assumptions



Nonfederal Organizations —

- Have information technology infrastructures in place.
  - Not developing or acquiring systems specifically for the purpose of processing, storing, or transmitting CUI.
- Have safeguarding measures in place to protect their information.
  - May also be sufficient to satisfy the CUI requirements.
- May not have the necessary organizational structure or resources to satisfy every CUI security requirement.
  - Can implement alternative, but equally effective, security measures.
- Can implement a variety of potential security solutions.
  - Directly or through the use of managed services.

What is NIST SP 800-171 and how does a manufacturer implement it?

- NIST Special Publication (SP) 800-171 developed by NIST to further its statutory responsibilities under Federal Information Security Modernization Act (FISMA) of 2014, 44 U.S.C. § 3541 et seq., Public Law (P.L.) 113-283.
- NIST SP 800-171 provides federal agencies with recommended requirements for protecting the confidentiality of controlled unclassified information (CUI)
- NIST SP 800-171 requirements apply to all components of nonfederal info systems and organizations that process, store, or transmit CUI, or provide security protection for such components.
- CUI requirements are intended for use by federal agencies in contractual vehicles or other agreements established between those agencies and nonfederal organizations. This includes DOD and is resident within DFARS clauses that apply to defense contracts.
- For ease of use, NIST SP 800-171 security requirements are organized into 14 families.

NIST Special Publication 800-171 Rev 1

Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations

December 2016

http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-171r1.pdf

NIST SP 800-171 Security Requirements

14 Families

Obtained from FIPS 200 and NIST Special Publication 800-53

- Access Control.
- Awareness and Training.
- Audit and Accountability.
- Configuration Management.
- Identification and Authentication.
- Incident Response.
- Maintenance.
- Media Protection.
- Physical Protection.
- Personnel Security.
- Risk Assessment.
- Security Assessment.
- System and Communications Protection
- System and Information Integrity.

MEP Activities and Assistance

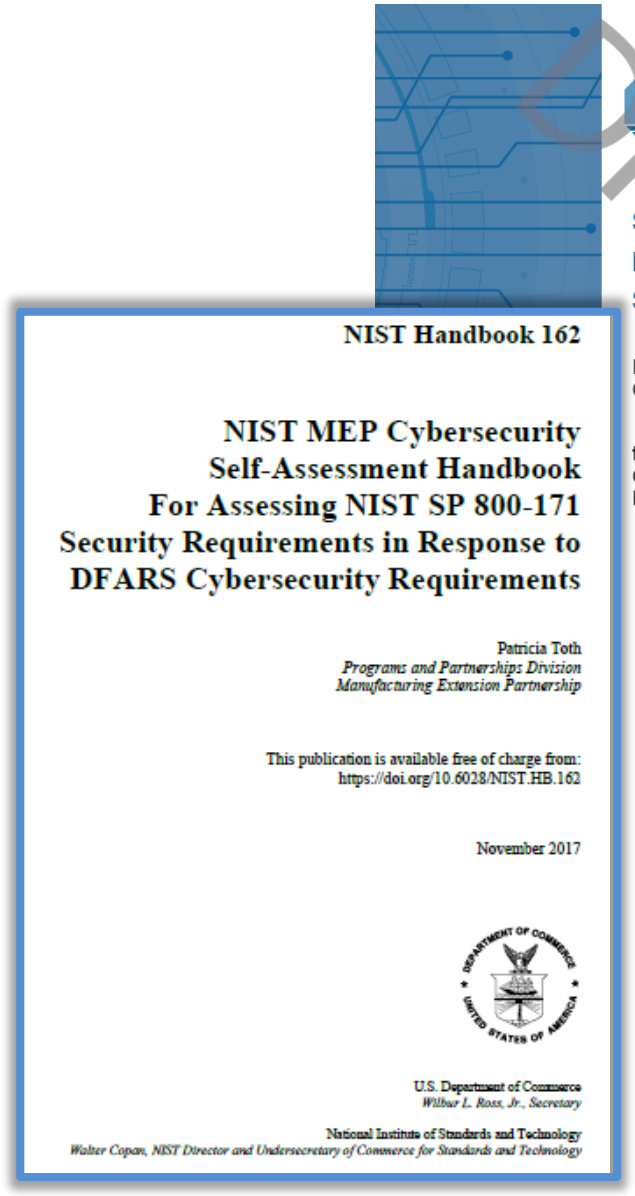
- MEP Centers offer assistance to small manufacturers implementing 800-171
  - *Training, Web-based resources, FAQs, Partnerships with 3rd Party Service Providers*
  - *Guidance and Tools: from basic to advanced*
  - *Partnership with PTACs around Nation to assist defense contractors with awareness and understanding for DFARS Cybersecurity Requirements*

- *NIST MEP Handbook 162, "NIST MEP Cybersecurity Self-Assessment Handbook For Assessing NIST SP 800-171 Security Requirements in Response to DFARS Cybersecurity Requirements."*

- NIST MEP working with NIST Labs on NIST SP 800-171A, "Assessing Security Requirements for CUI"
  - DRAFT currently available for public comment from NIST Information Technology Laboratory

NIST MEP Handbook 162

- Step-by-step guide to implementing NIST SP 800-171
- Publicly available at www.nist.gov/mep
  - Internal MEP National Network Info Repository also includes Handbook Supplement for MEP Centers to assist manufacturers in compliance with DFARS Cybersecurity Requirements
- NIST MEP providing training on usage to MEP Centers



Access Control: SP 800-171 Security Family 3.1

- Access is the ability to make use of any system resource.

- Access control is the process of granting or denying requests to:
  - use information
  - use information processing services
  - enter company facilities

- Logical access controls
  - prescribe who or what can access system resource and
  - the type of access that is permitted.
  - built into the operating system or
  - incorporated into applications programs or
  - major utilities (e.g., database management systems, communications systems), or
  - implemented through add-on security packages.
  - may be implemented internally to the system or in external devices.

Access Control: SP 800-171 Security Family 3.1

- Companies should limit:
  - system access to authorized users
  - processes acting on behalf of authorized users
  - devices, including other systems and
  - the types of transactions and functions that authorized users are permitted to exercise

- Can vary from one system to another.

- It may also be important to control the kind of access that is permitted (e.g., the ability for the average user to execute, but not change, system programs). These types of access restrictions enforce policy and help ensure that unauthorized actions are not taken.

- Controlling physical access to company facilities is also important. It provides for the protection of employees, plant equipment, hardware, software, networks and data from physical actions and events that could cause serious loss or damage to the company.

Awareness and Training: SP 800-171 Security Family 3.2

Information security awareness, training, and education

- Raises awareness of the need to protect system resources
- Develops skills and knowledge so system users can perform their jobs more securely and
- Builds in-depth knowledge as needed to design, implement, or operate security programs for organizations and systems.

All managers and users are aware of the security risks associated with their activities.

Employees are trained to carry out their information security-related duties and responsibilities.

Audit and Accountability: SP 800-171 Security Family 3.3

- Audit
  - Independent review and examination of records and activities
  - Assess the adequacy of system requirements and
  - Ensure compliance with established policies and procedures.

- Audit trail
  - Record of who has accessed system
  - What operations performed during a given period.
  - Maintains a record of system activity
  - Detect security violations, performance issues, and flaws in applications.
  - Ensure that the system not been harmed by hackers, insiders, or technical problems
  - Insurance policy, maintained but not used unless needed (e.g., after a system outage).

- Create, protect, and retain system audit records
- Enables the monitoring, analysis, investigation, and reporting of unlawful, unauthorized, or inappropriate system activity
- Actions of users can be uniquely traced
- Users can be held accountable.

Configuration Management: SP 800-171 Security Family 3.4

- Determining and documenting the appropriate specific settings for a system,
- Conducting security impact analyses,
- Managing changes through a change control board.
- Allows entire system to be reviewed
- Helps ensure that a change made on one system does not have adverse effects on another system.

Common secure configurations/security configuration checklists:

- provide recognized, standardized, and established benchmarks
- specify secure configuration settings for information technology platforms and products
- can be used to verify that changes to the system have been reviewed from a security point-of-view.

- Help determine if major changes (such as connecting to the internet) have occurred that have not yet been analyzed.
-
- NIST checklist repository, National Vulnerability Database (NVD) https://web.nvd.nist.gov/view/ncp/repository

Identification and Authentication: SP 800-171 Security Family 3.5

- Verifying the identity of a user, process, or device
- Prerequisite for granting access to resources in a system.
- Prevents unauthorized individuals or processes from entering a system.
- Basis for most types of access control and user accountability.
- Identify and differentiate between users
- User accountability requires linking activities on a system to specific individuals
- Authentication presents several challenges:
  - collecting authentication data,
  - transmitting the data securely, and
  - knowing whether the individual who was originally authenticated is still the individual using the system.
- User identity can be authenticated based on:
  - something you know – e.g., a password or Personal Identification Number (PIN)
  - something you possess (a token) – e.g., an ATM card or a smart card
  - something you are (static biometric) – e.g., fingerprint, retina, face, ear, DNA
  - something you do (dynamic biometrics) – e.g., voice pattern, handwriting, typing rhythm

Incident Response : SP 800-171 Security Family 3.6

- Standard operating procedures that can be followed in the event of an incident.
- Addressed in a company's contingency plan.
- Threat events can also result from a virus, other malicious code, or a system intruder (either an insider or an outsider).
- Definition of a threat event is somewhat flexible and may vary by company and computing environment.
- Reoccurrence of similar incidents can make it cost-beneficial to develop a standard capability for quick discovery of and response Closely related to contingency planning.
- Responds to malicious technical threats.

- Incident handling capability includes:
  - adequate preparation,
  - detection,
  - analysis,
  - containment,
  - recovery,
  - user response activities and
  - track, document, and report incidents to company management

Maintenance: SP 800-171 Security Family 3.7

- Controlled maintenance - scheduled and performed in accordance with the manufacturer's specifications.
-
- Corrective maintenance - when a system fails or generates an error condition that must be corrected
- Performed locally or non-locally.
- Nonlocal maintenance - maintenance or diagnostics performed via a network (internal or external)
- Perform periodic and timely maintenance on company systems
- Provide effective controls on the tools, techniques, mechanisms, and personnel used to conduct system maintenance.

Media Protection: SP 800-171 Security Family 3.8

- Defense of system media - both digital and non-digital.
- Digital media - diskettes, magnetic tapes, external/removable hard disk drives, flash drives, compact disks, and digital video disks.
- Non-digital media - paper or microfilm.
- Restrict access - Media only available to authorized personnel
- Apply security labels to sensitive information
- Remove information from media so that the information cannot be retrieved or reconstructed
- Physically control system media and ensure accountability
- Restricting mobile devices capable of storing and carrying information into or outside of restricted areas.
- Destroy system media before disposal or reuse.

Personnel Security: SP 800-171 Security Family 3.9

- Users play a vital role in protecting a system
- Personnel security seeks to minimize the risk that staff (permanent, temporary, or contractor) pose to company assets
- A company's status and reputation can be damaged by the actions of employees
- Employees may have access to extremely sensitive, or proprietary information
- Recruiting and hiring new employees
- Employee transfers or is terminated
- Consequences for personnel failing to comply with company security policies and procedures

Physical Protection: SP 800-171 Security Family 3.10

- Protection of systems, buildings, and related supporting infrastructure
- Natural threats
- Man-made threats
- Limit physical access to systems, equipment, and operating environments
- Protect the physical plant and support infrastructure
- Provide backup supporting utilities
- Protect systems against environmental hazards
- Provide appropriate environmental controls in facilities

Risk Assessment: SP 800-171 Security Family 3.11

- Risk assessments identify and prioritize risks to:
  - company operations,
  - assets,
  - employees, and
  - other organizations

- Risk assessment identify:
  - relevant threats or
  - threats directed against other organizations,
  - vulnerabilities both internal and external,
  - impact (i.e., harm) that may occur if threats exploit vulnerabilities and
  - the likelihood that harm will occur.

- Periodically assess risk

Security Assessment: SP 800-171 Security Family 3.12

- Testing and/or evaluation of the management, operational, and technical security requirements
- Determine if requirements are:
  - implemented correctly,
  - operating as intended, and
  - producing the desired outcome with respect to meeting the security requirements for the system.
  - most effective and cost-efficient solution
- Continuous basis to support a near real-time analysis of security posture.
- Company makes the decision to operate (for a new system) or to continue to operate.
- Document actions in the System Security Plan.

System and Communications Protection: SP 800-171 Security Family 3.13

- Confidentiality of information at rest and in transit.
- Physical or logical means.
- Establishes boundaries that restrict access to publicly-accessible information within a system.
- Monitor and control communications at external boundaries and key internal boundaries within the system.
- Employ architectural designs, software development techniques, and systems engineering principles

System and Information Integrity: SP 800-171 Security Family 3.14

- Guarding against improper information modification or destruction.
- Data can only be accessed or modified by the authorized employees.
- Assurance that information being accessed has not been meddled with or damaged by an error in the system.

Companies should:

- Identify, report, and correct information and system flaws in a timely manner
- Provide protection from malicious code at appropriate locations within company systems and
- Monitor system security alerts and advisories and respond appropriately.

Structure of Security Requirements

Security requirements have a well-defined structure that consists of the following components:

- ***Basic security requirements section.***
- ***Derived security requirements section.***

Security Requirement

Awareness and Training Example

Basic Security Requirements:

3.2.1 Ensure that managers, systems administrators, and users of organizational information systems are made aware of the security risks associated with their activities and of the applicable policies, standards, and procedures related to the security of those organizational information systems.

3.2.2 Ensure that organizational personnel are adequately trained to carry out their assigned information security-related duties and responsibilities.

Derived Security Requirements:

3.2.3 Provide security awareness training on recognizing and reporting potential indicators of insider threat.

Security Requirement

Awareness and Training Example 3.2.2

Security Requirement:

3.2.2 Ensure that organizational personnel are adequately trained to carry out their assigned information security-related duties and responsibilities.

Meeting the Requirement:

- Basic security awareness training to new employees.
- Security awareness training to users when information system changes.
- Annual security awareness refresher training.

Security Requirement

Awareness and Training Example 3.2.2

MEP Self-Assessment Handbook

Do employees with security-related duties and responsibilities receive initial and annual training on their operational, managerial, and technical roles and responsibilities? Does the training cover physical, personnel, and technical safeguards and countermeasures?

Yes No Partially Does Not Apply Alternative Approach

Does the training address required security requirements related to environmental and physical security risks?

Yes No Partially Does Not Apply Alternative Approach

Does the training include indications of potentially suspicious email or web communications, to include suspicious communications and other anomalous system behavior?

Yes No Partially Does Not Apply Alternative Approach

Is security-related technical training provided before authorizing access to the system or performing assigned duties, when required by system changes and on a periodic basis?

Yes No Partially Does Not Apply Alternative Approach

Security Requirement

Awareness and Training Example 3.2.2

Where to Look:

• security awareness and training policy • procedures addressing security awareness training implementation • appropriate codes of federal regulations • security awareness training curriculum • security awareness training materials • security plan training records • other relevant documents or records

Who to Talk to:

• employees with responsibilities for security awareness training • employees with information security responsibilities • employees with responsibilities for role-based security training • employees with assigned information system security roles and responsibilities • employees comprising the general information system user community

Perform Test On:

• automated mechanisms managing security awareness training • automated mechanisms managing role-based security training

Security Requirement

Access Control Example

Basic Security Requirements:

3.1.1 Limit system access to authorized users, processes acting on behalf of authorized users, or devices (including other systems).

3.1.2 Limit system access to the types of transactions and functions that authorized users are permitted to execute.

Derived Security Requirements:

3.1.3 Control the flow of CUI in accordance with approved authorizations.

3.1.4 Separate the duties of individuals to reduce the risk of malevolent activity without collusion.

3.1.5 Employ the principle of least privilege, including for specific security functions and privileged accounts.

3.1.6 Use non-privileged accounts or roles when accessing non-security functions.

3.1.7 Prevent non-privileged users from executing privileged functions and audit the execution of such functions.

3.1.8 Limit unsuccessful logon attempts.

Security Requirement

Access Control Example 3.1.8

Derived Security Requirements:

3.1.8 Limit unsuccessful logon attempts.

Meeting the Requirements:

- Limit number of consecutive invalid logon attempts allowed during a time period.
- Account lockout time period automatically enforced by the information system when max number of unsuccessful logon attempts is exceeded.
- Locks the account/node until released by an administrator.
- Delays next logon prompt according to the organization-defined delay algorithm.
- Access control policy and procedures addressing unsuccessful logon attempts.
- Personnel w/info security responsibilities; system developers; system/network administrators
- Access control policy and procedures addressing unsuccessful logon attempts.
- Personnel w/info security responsibilities; system developers; system/network administrators

Security Requirement

Access Control Example 3.1.8

MEP Self-Assessment Handbook

Is the system configured to limit the number of invalid login attempts?
Yes No Partially Does Not Apply Alternative Approach

Is the system configured to lock the logon mechanism for a predetermined time after a predetermined number of invalid login attempts?
Yes No Partially Does Not Apply Alternative Approach

Is the system configured to lock users out after a predetermined number of invalid logon attempts?
Yes No Partially Does Not Apply Alternative Approach

Does the system enforce a limit of a defined number of consecutive invalid access attempts during a defined time?
Yes No Partially Does Not Apply Alternative Approach

Security Requirement

Access Control Example 3.1.8

Where to Look:

• access control policy • procedures addressing unsuccessful logon attempts • security plan • information system design documentation • information system configuration settings and associated documentation information system audit records • other relevant documents or records

Who to Talk to:

• employees with information security responsibilities • system developers • system/network administrators

Perform Test On:

• automated mechanisms implementing access control policy for unsuccessful logon attempts

Meeting SP 800-171

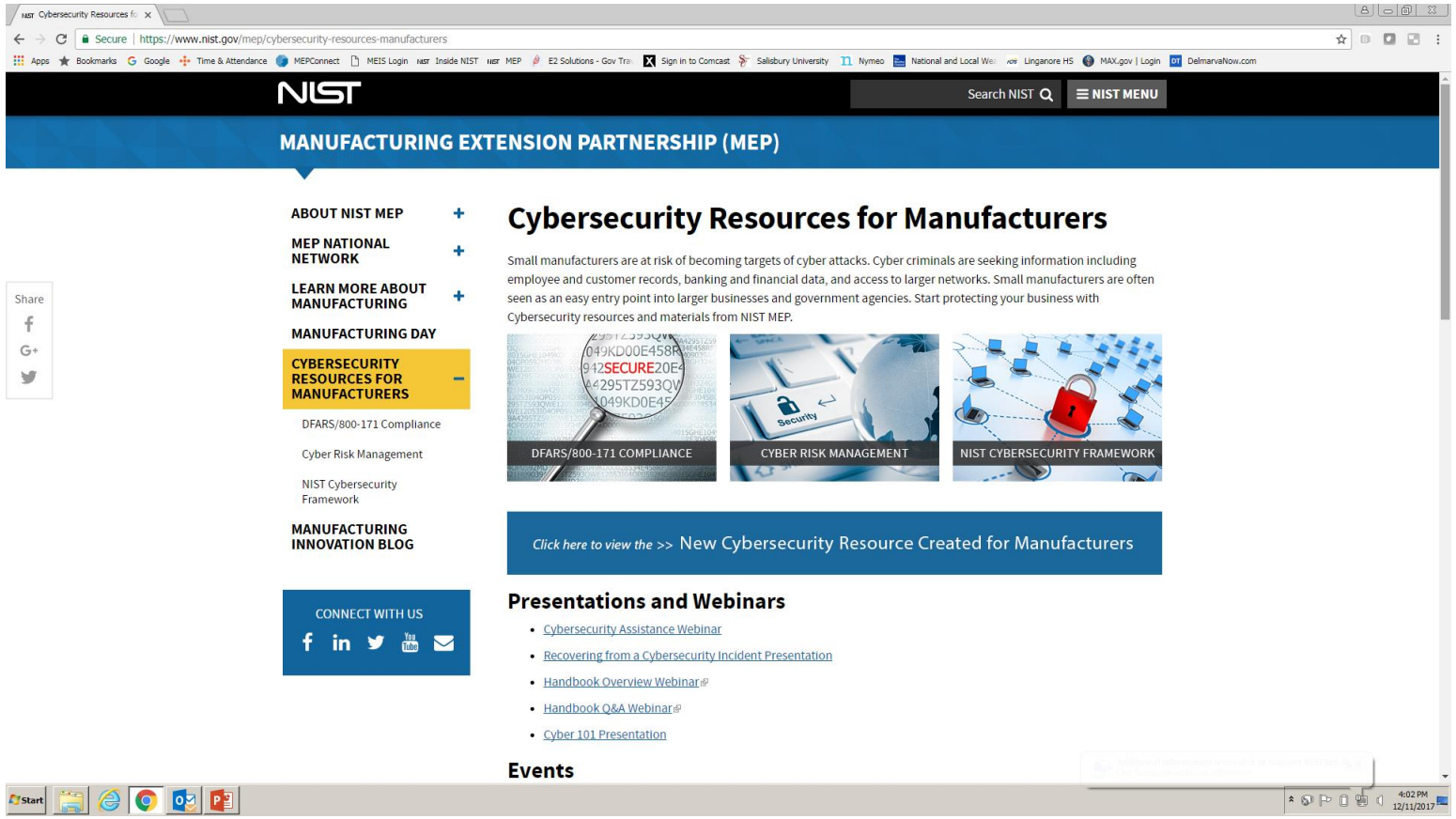
- Emphasis is risk management for a particular operating environment.
- Some security controls may not be applicable to your environment.
- Build off what you are currently doing.
- Security controls are intended to be flexible
  - Other ways to meet the requirements.
- Detailed guidance is available via NIST MEP Handbook 162

Meeting SP 800-171

- Cost effective approaches
  - Isolate CUI into its own security domain by applying architectural design concepts
  - Security domains may employ physical separation, logical separation, or a combination of both.
  - Use the same CUI infrastructure for multiple government contracts or agreements.

Cybersecurity Assistance from MEP National Network

- Guidance and resources available at www.nist.gov/mep
- Manufacturers should consult local MEP Centers to determine what they need to consider relating to cybersecurity and what approach may be appropriate for their needs
  - www.manufacturersedge.com
  - Also determine what other locally available resources can/should be accessed beyond MEP Center



Manufacturer's EDGE
TRANSFORMING COLORADO ONE COMPANY AT A TIME

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