



MISTI™ PRESENTS


**InfoSecWorld**  
Conference & Expo 2018

# ONE CYBERSECURITY STANDARD TO RULE THEM ALL?

*James McQuiggan*

*Product & Solution Security Officer*

*Siemens, Gamesa Renewable Energy*



ONE  
RING  
TO  
RULE  
THEM  
ALL

# ABSTRACT

Companies today are increasingly discovering that it is difficult to determine which standard they should implement to secure their company's data, assets and people. Manufacturing, oil and gas and electricity industries have a responsibility to themselves but also to customer's demands to be secure and compliant. Which one should they use? NIST, ISO, NERC CIP, IEC 62443?

This alphabet soup of standards certainly gets confusing. Is there a right one to use? Should more than one be used? We'll explore this issue from the purchaser standpoint regarding a long-term model for industry control systems, and how commodity hardware and software are demanding a change in paradigm, but rate cases do not allow for it.

# OBLIGATORY IMPORTANT QUOTE FROM SOMEONE IMPORTANT



*"...there are two things that concern me the most, energy storage and cybersecurity"*

Rick Perry, Secretary of Energy,  
United States of America



*".... the vulnerability to cyber threats has increased accordingly. Smart grids are not only about integration of renewables, or better management of consumer behavior – they are also about an improved management of cyber risks."*

Christoph Frei, Secretary General,  
World Energy Council

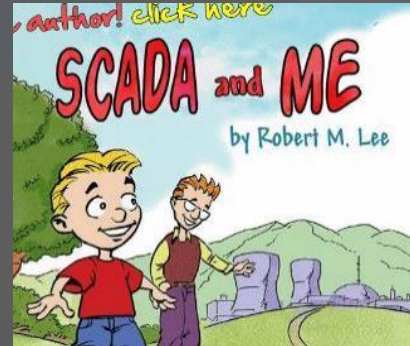
# OBJECTIVES

- Gain a strong overview of the various information security standards available to industries.
- Identify which ones are certifiable, regulatory or just a guideline.
- Understand the conflicting issues that arise between customer and vendor and security.





# WHAT IS OT?





SCADA

IT

OT

## QUICK QUESTION

Which of the following standards are used in your organization?  
(multiple selections allowed)

- ☐ NERC CIP
- ☐ IEC 62443
- ☐ Cybersecurity Capability Maturity Model (CMMI / C2M2)
- ☐ NIST Cybersecurity Framework
- ☐ CIS Critical Security Controls (Top 20)
- ☐ Other



- NERC CIP
- NIST CSFW / SP800-82 (ICS)
- C2M2
- CIS CSC Top 20
- IEC62443



# NERC CIP

## Pros

- Mandated for utility owners to implement
- Three risk impacts to cover diverse infrastructure

## Cons

- US based only
- Only 8 requirements for Low Impact Risk

NERC CIP Requirements – 23/49 Requirements Covered									
CIP – 002	CIP – 003	CIP – 004	CIP – 005	CIP – 006	CIP – 007	CIP – 008	CIP – 009	CIP – 010	CIP – 011
BES CYBER SYSTEM CATEGORIZATION	SECURITY MANAGEMENT CONTROLS	PERSONNEL AND TRAINING	ELECTRONIC SECURITY PERIMETER	PHYSICAL SECURITY OF BES	SYSTEMS SECURITY MANAGEMENT	INCIDENT REPORTING AND RESPONSE PLANNING	RECOVERY PLANS FOR BES CYBER SYSTEMS	CONFIGURATION CHANGE MGMT AND VULNERABILITY	INFORMATION PROTECTION
1. Risk based assessment method (RBAM) 2. Apply RBAM 3. Identify critical assets 4. Annual Approval	1. Cybersecurity policy 2. Leadership 3. Exceptions 4. Information Protection 5. Access Control 6. Change Control	1. Awareness 2. Training 3. Personnel Risk Assessment 4. Access	1. Electronic Security Perimeter 2. Visitor Access Control 3. Monitoring Electronic Access 4. Information Protection 5. Access Control	1. Security Plan 2. Visitor access control plan 3. Maintenance and testing program 4. Physical access controls 5. Monitoring physical access 6. Logging physical access 7. Access log retention	1. Ports and services 2. Security patch management 3. Malicious software prevention 4. Security event monitoring 5. System access controls 6. Security status monitoring 8. Cyber vulnerability assessment 9. Documentation	1. Cybersecurity incident response plan 2. Implement and test incident response plans 3. Incident response plan review and communication	1. Recovery plans specifications 2. Recovery plan implementation testing 3. Recovery plan review and communication 4. Backup and restore 5. Testing backup media	1. Configuration change mgmt processes 2. Configuration monitoring 3. Vulnerability assessment	1. Information protection process 2. BES Cyber Asset Reuse and Disposal

# CMMI / C2M2

## Pros

- Various concentrations for development, services, people
- Cybersecurity concentration model involves energy

## Cons

- Large overhead to create processes, documentation
- Additional resources & time

Domain	Domain Description
Risk Management (RM)	Establish, operate, and maintain an enterprise cybersecurity risk management program to identify, analyze, and mitigate cybersecurity risk to the organization, including its business units, subsidiaries, related interconnected infrastructure, and stakeholders
Asset, Change, and Configuration Management (ACM)	Manage the organization's operations technology (OT) and information technology (IE) assets, including both hardware and software, commensurate with the risk to critical infrastructure and organizational objectives.
Identity and Access Management (IAM)	Create and manage identities for entities that may be granted logical or physical access to the organization's assets. Control access to the organization's assets, commensurate with the risk to critical infrastructure and organizational objectives.
Threat and Vulnerability Management (TVM)	Establish and maintain plans, procedures, and technologies to detect, identify, analyze, manage, and respond to cybersecurity threats and vulnerabilities, commensurate with the risk to the organizations' infrastructure (e.g., critical, IT, operational) and organization objectives.
Situational Awareness (SA)	Establish and maintain activities and technologies to collect, analyze, alarm, present, and use operational and cybersecurity information, including status and summary information from the other model domains, to form a common operating picture (COP).
Information Sharing and Communications (ISC)	Establish and maintain relationships with internal and external entities to collect and provide cybersecurity information, including threats and vulnerabilities, to reduce risks and to increase operational resilience, commensurate with the risk to critical infrastructure and organizational objectives.
Event and Incident Response, Continuity of Operations (IR)	Establish and maintain plans, procedures, and technologies to detect, analyze, and respond to cybersecurity events and to sustain operations throughout a cybersecurity event, commensurate with the risk to critical infrastructure and organizational objectives.
Supply Chain and External Dependencies Management (EDM)	Establish and maintain controls to manage the cybersecurity risks associated with services and assets that are dependent on external entities, commensurate with the risk to critical infrastructure and organization objectives.
Workforce Management (WM)	Establish and maintain plans, procedures, technologies, and controls to create a culture of cybersecurity and to ensure the ongoing suitability and competence of personnel, commensurate with the risk to critical infrastructure and organizational objectives.
Cybersecurity Program Management (CPM)	Establish and maintain an enterprise cybersecurity program that provides governance, strategic planning, and sponsorship for the organization's cybersecurity activities in a manner that aligns cybersecurity objectives with the organization's strategic objectives and the risk to critical infrastructure.

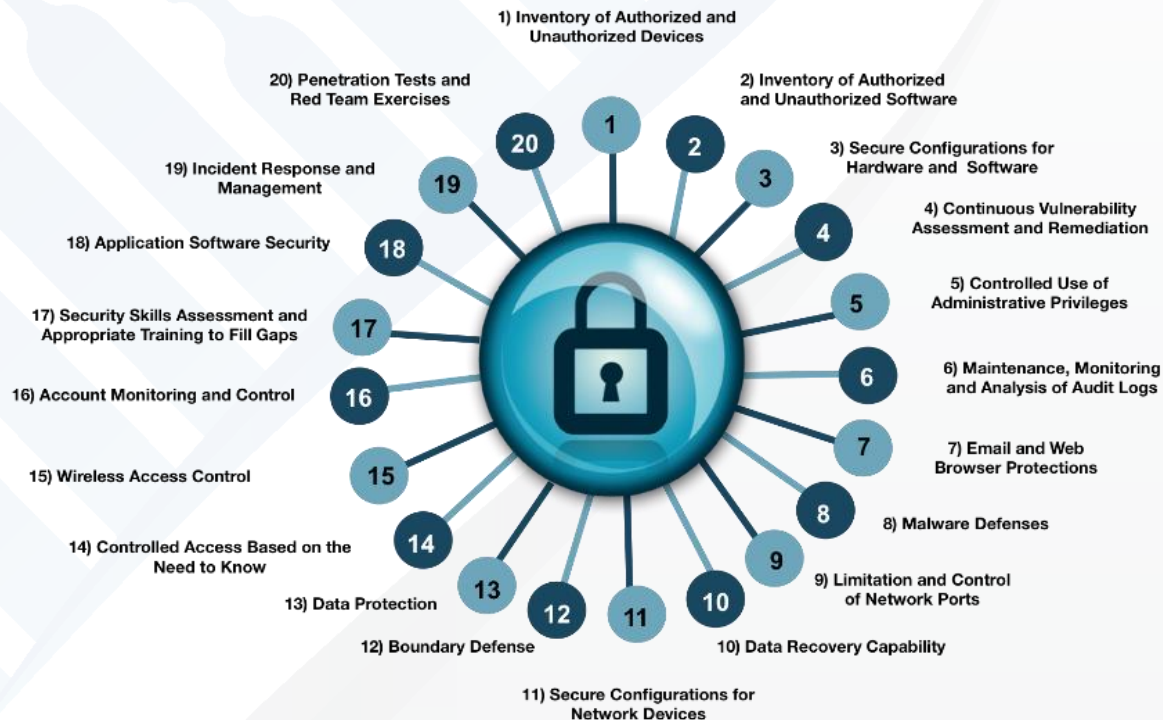
# CIS CSC

## Pros

- Internationally recognized
- 20 topics / controls
- 149 subtopics
- IT controls based
- Applicable to OT

## Cons

- No certification



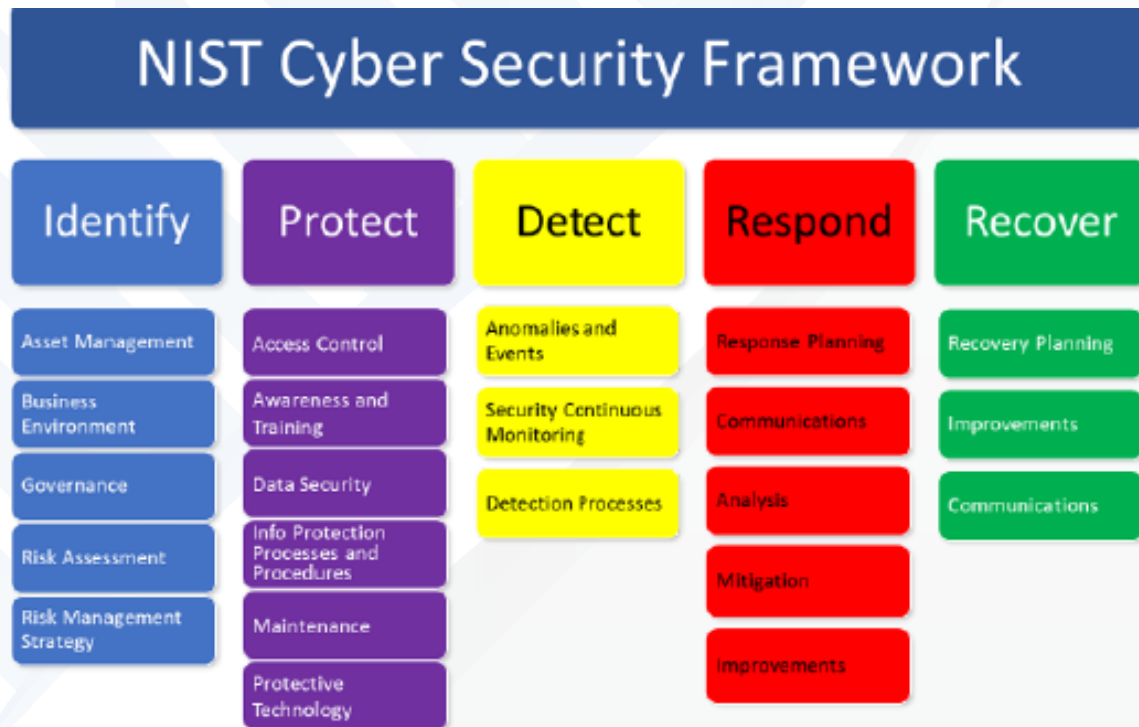
# NIST FRAMEWORK

## Pros

- Established framework from industry experts
- Federally required
- Trending framework

## Cons

- US based only





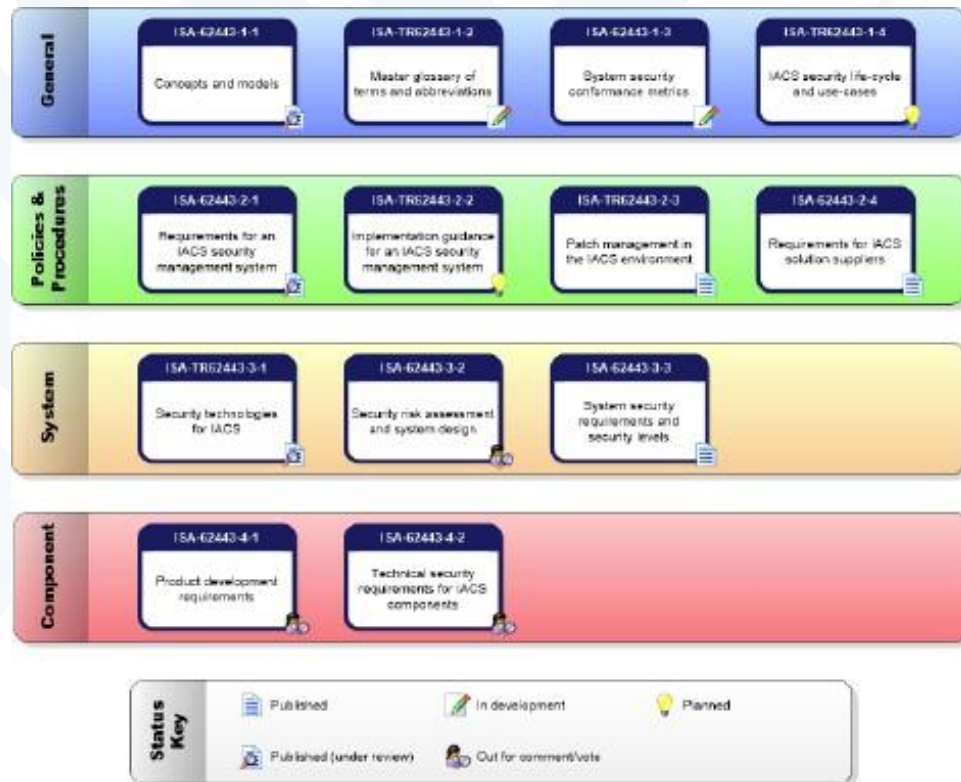
# IEC 62443

## Pros

- Established framework from industry experts
- Internationally recognized
- Specific module for Vendor compliance
- Certifiable

## Cons

- Not free to obtain the requirements or the certification



## CERTIFIABLE?

- NIST – Certificates on training
- NERC CIP – Certificates for users
  - not for requirements
- CIS CSC TOP 20
  - Hardened Cloud Servers 😊
- IEC 62443 1-1, 1-2 3-3, 4-1,4-2



# CYBERSECURITY REQUIREMENTS TO DRIVE YOUR STRATEGY...

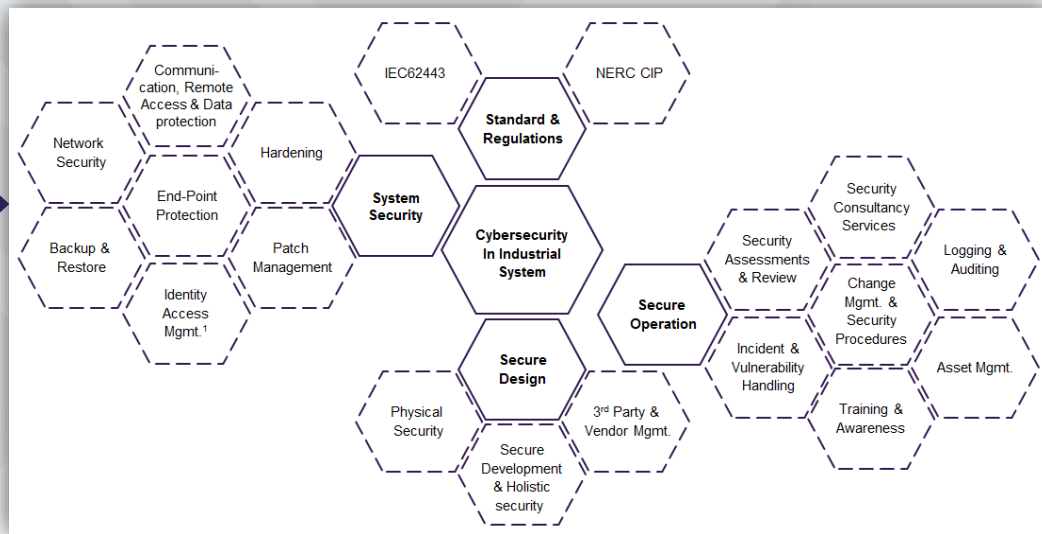
**NERC**  
NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION



Best practice



Customer



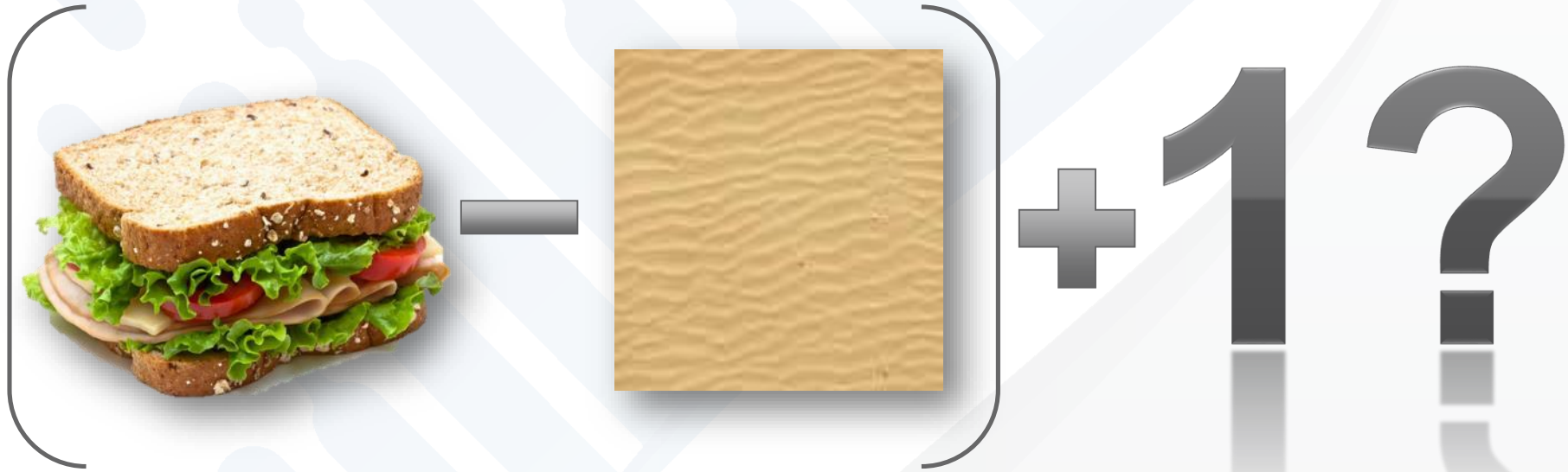
Cybersecurity Risk Scenarios ...



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SIEMENS GERMANY

# IMPORTANT QUESTION



WHICH ONE?

[illegible]

CIS CRITICAL SECURITY CONTROL				NIST 800-53 rev4*		NIST Core Framework		DHS CDM Program		ISO 27002:2013		ISO 27002:2005		NSA MNP		Au Top 35		NSA Top 10		GCHQ 10 Steps		UK Cyber Essentials	
8	Hardware Defences			1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	1.57 1.58 1.59 1.60 1.61	
9	Limitation & Control of Network Ports			1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	1.62 1.63 1.64 1.65 1.66	
10	Data Recovery Capability			1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	1.67 1.68 1.69 1.70 1.71	
11	Secure Configurations for			1.72 1.73 1.74 1.75 1.76 1.77 1.78 1.79 1.80 1.81 1.82 1.83 1.84 1.85 1.86 1.87 1.88 1.89 1.90 1.91 1.92 1.93 1.94 1.95 1.96 1.97 1.98 1.99 2.00 2.01 2.02 2.03 2.04 2.05 2.06 2.07 2.08 2.09 2.10 2.11 2.12 2.13 2.14 2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27 2.28 2.29 2.30 2.31 2.32 2.33 2.34 2.35 2.36 2.37 2.38 2.39 2.40 2.41 2.42 2.43 2.44 2.45 2.46 2.47 2.48 2.49 2.50 2.51 2.52 2.53 2.54 2.55 2.56 2.57 2.58 2.59 2.60 2.61 2.62 2.63 2.64 2.65 2.66 2.67 2.68 2.69 2.70 2.71 2.72 2.73 2.74 2.75 2.76 2.77 2.78 2.79 2.80 2.81 2.82 2.83 2.84 2.85 2.86 2.87 2.88 2.89 2.90 2.91 2.92 2.93 2.94 2.95 2.96 2.97 2.98 2.99 3.00 3.01 3.02 3.03 3.04 3.05 3.06 3.07 3.08 3.09 3.10 3.11 3.12 3.13 3.14 3.15 3.16 3.17 3.18 3.19 3.20 3.21 3.22 3.23 3.24 3.25 3.26 3.27 3.28 3.29 3.30 3.31 3.32 3.33 3.34 3.35 3.36 3.37 3.38 3.39 3.40 3.41 3.42 3.43 3.44 3.45 3.46 3.47 3.48 3.49 3.50 3.51 3.52 3.53 3.54 3.55 3.56 3.57 3.58 3.59 3.60 3.61 3.62 3.63 3.64 3.65 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ICO ecting ata	PCI DSS 3.0	HIPAA				FFIEC Examiners Handbook		COBIT 5		NERC CIP v5		NERC CIP v4		NERC CIP v3		Cloud Security Alliance		FY15 FISMA Metrics		ITIL 2011 KPIs	
12	Controlled Access Based on the Need to Know	CP-1 CP-1.1 CP-1.2 CP-1.3 CP-1.4 CP-1.5 CP-1.6 CP-1.7 CP-1.8 CP-1.9 CP-2 CP-2.1 CP-2.2 CP-2.3 CP-2.4 CP-2.5 CP-2.6 CP-2.7 CP-2.8 CP-2.9 CP-3 CP-3.1 CP-3.2 CP-3.3 CP-3.4 CP-3.5 CP-3.6 CP-3.7 CP-3.8 CP-3.9 CP-4 CP-4.1 CP-4.2 CP-4.3 CP-4.4 CP-4.5 CP-4.6 CP-4.7 CP-4.8 CP-4.9 CP-5 CP-5.1 CP-5.2 CP-5.3 CP-5.4 CP-5.5 CP-5.6 CP-5.7 CP-5.8 CP-5.9 CP-6 CP-6.1 CP-6.2 CP-6.3 CP-6.4 CP-6.5 CP-6.6 CP-6.7 CP-6.8 CP-6.9 CP-7 CP-7.1 CP-7.2 CP-7.3 CP-7.4 CP-7.5 CP-7.6 CP-7.7 CP-7.8 CP-7.9 CP-8 CP-8.1 CP-8.2 CP-8.3 CP-8.4 CP-8.5 CP-8.6 CP-8.7 CP-8.8 CP-8.9 CP-9 CP-9.1 CP-9.2 CP-9.3 CP-9.4 CP-9.5 CP-9.6 CP-9.7 CP-9.8 CP-9.9 CP-10 CP-10.1 CP-10.2 CP-10.3 CP-10.4 CP-10.5 CP-10.6 CP-10.7 CP-10.8 CP-10.9 CP-11 CP-11.1 CP-11.2 CP-11.3 CP-11.4 CP-11.5 CP-11.6 CP-11.7 CP-11.8 CP-11.9 CP-12 CP-12.1 CP-12.2 CP-12.3 CP-12.4 CP-12.5 CP-12.6 CP-12.7 CP-12.8 CP-12.9 CP-13 CP-13.1 CP-13.2 CP-13.3 CP-13.4 CP-13.5 CP-13.6 CP-13.7 CP-13.8 CP-13.9 CP-14 CP-14.1 CP-14.2 CP-14.3 CP-14.4 CP-14.5 CP-14.6 CP-14.7 CP-14.8 CP-14.9 CP-15 CP-15.1 CP-15.2 CP-15.3 CP-15.4 CP-15.5 CP-15.6 CP-15.7 CP-15.8 CP-15.9 CP-16 CP-16.1 CP-16.2 CP-16.3 CP-16.4 CP-16.5 CP-16.6 CP-16.7 CP-16.8 CP-16.9 CP-17 CP-17.1 CP-17.2 CP-17.3 CP-17.4 CP-17.5 CP-17.6 CP-17.7 CP-17.8 CP-17.9 CP-18 CP-18.1 CP-18.2 CP-18.3 CP-18.4 CP-18.5 CP-18.6 CP-18.7 CP-18.8 CP-18.9 CP-19 CP-19.1 CP-19.2 CP-19.3 CP-19.4 CP-19.5 CP-19.6 CP-19.7 CP-19.8 CP-19.9 CP-20 CP-20.1 CP-20.2 CP-20.3 CP-20.4 CP-20.5 CP-20.6 CP-20.7 CP-20.8 CP-20.9 CP-21 CP-21.1 CP-21.2 CP-21.3 CP-21.4 CP-21.5 CP-21.6 CP-21.7 CP-21.8 CP-21.9 CP-22 CP-22.1 CP-22.2 CP-22.3 CP-22.4 CP-22.5 CP-22.6 CP-22.7 CP-22.8 CP-22.9 CP-23 CP-23.1 CP-23.2 CP-23.3 CP-23.4 CP-23.5 CP-23.6 CP-23.7 CP-23.8 CP-23.9 CP-24 CP-24.1 CP-24.2 CP-24.3 CP-24.4 CP-24.5 CP-24.6 CP-24.7 CP-24.8 CP-24.9 CP-25 CP-25.1 CP-25.2 CP-25.3 CP-25.4 CP-25.5 CP-25.6 CP-25.7 CP-25.8 CP-25.9 CP-26 CP-26.1 CP-26.2 CP-26.3 CP-26.4 CP-26.5 CP-26.6 CP-26.7 CP-26.8 CP-26.9 CP-27 CP-27.1 CP-27.2 CP-27.3 CP-27.4 CP-27.5 CP-27.6 CP-27.7 CP-27.8 CP-27.9 CP-28 CP-28.1 CP-28.2 CP-28.3 CP-28.4 CP-28.5 CP-28.6 CP-28.7 CP-28.8 CP-28.9 CP-29 CP-29.1 CP-29.2 CP-29.3 CP-29.4 CP-29.5 CP-29.6 CP-29.7 CP-29.8 CP-29.9 CP-30 CP-30.1 CP-30.2 CP-30.3 CP-30.4 CP-30.5 CP-30.6 CP-30.7 CP-30.8 CP-30.9 CP-31 CP-31.1 CP-31.2 CP-31.3 CP-31.4 CP-31.5 CP-31.6 CP-31.7 CP-31.8 CP-31.9 CP-32 CP-32.1 CP-32.2 CP-32.3 CP-32.4 CP-32.5 CP-32.6 CP-32.7 CP-32.8 CP-32.9 CP-33 CP-33.1 CP-33.2 CP-33.3 CP-33.4 CP-33.5 CP-33.6 CP-33.7 CP-33.8 CP-33.9 CP-34 CP-34.1 CP-34.2 CP-34.3 CP-34.4 CP-34.5 CP-34.6 CP-34.7 CP-34.8 CP-34.9 CP-35 CP-35.1 CP-35.2 CP-35.3 CP-35.4 CP-35.5 CP-35.6 CP-35.7 CP-35.8 CP-35.9 CP-36 CP-36.1 CP-36.2 CP-36.3 CP-36.4 CP-36.5 CP-36.6 CP-36.7 CP-36.8 CP-36.9 CP-37 CP-37.1 CP-37.2 CP-37.3 CP-37.4 CP-37.5 CP-37.6 CP-37.7 CP-37.8 CP-37.9 CP-38 CP-38.1 CP-38.2 CP-38.3 CP-38.4 CP-38.5 CP-38.6 CP-38.7 CP-38.8 CP-38.9 CP-39 CP-39.1 CP-39.2 CP-39.3 CP-39.4 CP-39.5 CP-39.6 CP-39.7 CP-39.8 CP-39.9 CP-40 CP-40.1 CP-40.2 CP-40.3 CP-40.4 CP-40.5 CP-40.6 CP-40.7 CP-40.8 CP-40.9 CP-41 CP-41.1 CP-41.2 CP-41.3 CP-41.4 CP-41.5 CP-41.6 CP-41.7 CP-41.8 CP-41.9 CP-42 CP-42.1 CP-42.2 CP-42.3 CP-42.4 CP-42.5 CP-42.6 CP-42.7 CP-42.8 CP-42.9 CP-43 CP-43.1 CP-43.2 CP-43.3 CP-43.4 CP-43.5 CP-43.6 CP-43.7 CP-43.8 CP-43.9 CP-44 CP-44.1 CP-44.2 CP-44.3 CP-44.4 CP-44.5 CP-44.6 CP-44.7 CP-44.8 CP-44.9 CP-45 CP-45.1 CP-45.2 CP-45.3 CP-45.4 CP-45.5 CP-45.6 CP-45.7 CP-45.8 CP-45.9 CP-46 CP-46.1 CP-46.2 CP-46.3 CP-46.4 CP-46.5 CP-46.6 CP-46.7 CP-46.8 CP-46.9 CP-47 CP-47.1 CP-47.2 CP-47.3 CP-47.4 CP-47.5 CP-47.6 CP-47.7 CP-47.8 CP-47.9 CP-48 CP-48.1 CP-48.2 CP-48.3 CP-48.4 CP-48.5 CP-48.6 CP-48.7 CP-48.8 CP-48.9 CP-49 CP-49.1 CP-49.2 CP-49.3 CP-49.4 CP-49.5 CP-49.6 CP-49.7 CP-49.8 CP-49.9 CP-50 CP-50.1 CP-50.2 CP-50.3 CP-50.4 CP-50.5 CP-50.6 CP-50.7 CP-50.8 CP-50.9 CP-51 CP-51.1 CP-51.2 CP-51.3 CP-51.4 CP-51.5 CP-51.6 CP-51.7 CP-51.8 CP-51.9 CP-52 CP-52.1 CP-52.2 CP-52.3 CP-52.4 CP-52.5 CP-52.6 CP-52.7 CP-52.8 CP-52.9 CP-53 CP-53.1 CP-53.2 CP-53.3 CP-53.4 CP-53.5 CP-53.6 CP-53.7 CP-53.8 CP-53.9 CP-54 CP-54.1 CP-54.2 CP-54.3 CP-54.4 CP-54.5 CP-54.6 CP-54.7 CP-54.8 CP-54.9 CP-55 CP-55.1 CP-55.2 CP-55.3 CP-55.4 CP-55.5 CP-55.6 CP-55.7 CP-55.8 CP-55.9 CP-56 CP-56.1 CP-56.2 CP-56.3 CP-56.4 CP-56.5 CP-56.6 CP-56.7 CP-56.8 CP-56.9 CP-57 CP-57.1 CP-57.2 CP-57.3 CP-57.4 CP-57.5 CP-57.6 CP-57.7 CP-57.8 CP-57.9 CP-58 CP-58.1 CP-58.2 CP-58.3 CP-58.4 CP-58.5 CP-58.6 CP-58.7 CP-58.8 CP-58.9 CP-59 CP-59.1 CP-59.2 CP-59.3 CP-59.4 CP-59.5 CP-59.6 CP-59.7 CP-59.8 CP-59.9 CP-60 CP-60.1 CP-60.2 CP-60.3 CP-60.4 CP-60.5 CP-60.6 CP-60.7 CP-60.8 CP-60.9 CP-61 CP-61.1 CP-61.2 CP-61.3 CP-61.4 CP-61.5 CP-61.6 CP-61.7 CP-61.8 CP-61.9 CP-62 CP-62.1 CP-62.2 CP-62.3 CP-62.4 CP-62.5 CP-62.6 CP-62.7 CP-62.8 CP-62.9 CP-63 CP-63.1 CP-63.2 CP-63.3 CP-63.4 CP-63.5 CP-63.6 CP-63.7 CP-63.8 CP-63.9 CP-64 CP-64.1 CP-64.2 CP-64.3 CP-64.4 CP-64.5 CP-64.6 CP-64.7 CP-64.8 CP-64.9 CP-65 CP-65.1 CP-65.2 CP-65.3 CP-65.4 CP-65.5 CP-65.6 CP-65.7 CP-65.8 CP-65.9 CP-66 CP-66.1 CP-66.2 CP-66.3 CP-66.4 CP-66.5 CP-66.6 CP-66.7 CP-66.8 CP-66.9 CP-67 CP-67.1 CP-67.2 CP-67.3 CP-67.4 CP-67.5 CP-67.6 CP-67.7 CP-67.8 CP-67.9 CP-68 CP-68.1 CP-68.2 CP-68.3 CP-68.4 CP-68.5 CP-68.6 CP-68.7 CP-68.8 CP-68.9 CP-69 CP-69.1 CP-69.2 CP-69.3 CP-69.4 CP-69.5 CP-69.6 CP-69.7 CP-69.8 CP-69.9 CP-70 CP-70.1 CP-70.2 CP-70.3 CP-70.4 CP-70.5 CP-70.6 CP-70.7 CP-70.8 CP-70.9 CP-71 CP-71.1 CP-71.2 CP-71.3 CP-71.4 CP-71.5 CP-71.6 CP-71.7 CP-71.8 CP-71.9 CP-72 CP-72.1 CP-72.2 CP-72.3 CP-72.4 CP-72.5 CP-72.6 CP-72.7 CP-72.8 CP-72.9 CP-73 CP-73.1 CP-73.2 CP-73.3 CP-73.4 CP-73.5 CP-73.6 CP-73.7 CP-73.8 CP-73.9 CP-74 CP-74.1 CP-74.2 CP-74.3 CP-74.4 CP-74.5 CP-74.6 CP-74.7 CP-74.8 CP-74.9 CP-75 CP-75.1 CP-75.2 CP-75.3 CP-75.4 CP-75.5 CP-75.6 CP-75.7 CP-75.8 CP-75.9 CP-76 CP-76.1 CP-76.2 CP-76.3 CP-76.4 CP-76.5 CP-76.6 CP-76.7 CP-76.8 CP-76.9 CP-77 CP-77.1 CP-77.2 CP-77.3 CP-77.4 CP-77.5 CP-77.6 CP-77.7 CP-77.8 CP-77.9 CP-78 CP-78.1 CP-78.2 CP-78.3 CP-78.4 CP-78.5 CP-78.6 CP-78.7 CP-78.8 CP-78.9 CP-79 CP-79.1 CP-79.2 CP-79.3 CP-79.4 CP-79.5 CP-79.6 CP-79.7 CP-79.8 CP-79.9 CP-80 CP-80.1 CP-80.2 CP-80.3 CP-80.4 CP-80.5 CP-80.6 CP-80.7 CP-80.8 CP-80.9 CP-81 CP-81.1 CP-81.2 CP-81.3 CP-81.4 CP-81.5 CP-81.6 CP-81.7 CP-81.8 CP-81.9 CP-82 CP-82.1 CP-82.2 CP-82.3 CP-82.4 CP-82.5 CP-82.6 CP-82.7 CP-82.8 CP-82.9 CP-83 CP-83.1 CP-83.2 CP-83.3 CP-83.4 CP-83.5 CP-83.6 CP-83.7 CP-83.8 CP-83.9 CP-84 CP-84.1 CP-84.2 CP-84.3 CP-84.4 CP-84.5 CP-84.6 CP-84.7 CP-84.8 CP-84.9 CP-85 CP-85.1 CP-85.2 CP-85.3 CP-85.4 CP-85.5 CP-85.6 CP-85.7 CP-85.8 CP-85.9 CP-86 CP-86.1 CP-86.2 CP-86.3 CP-86.4 CP-86.5 CP-86.6 CP-86.7 CP-86.8 CP-86.9 CP-87 CP-87.1 CP-87.2 CP-87.3 CP-87.4 CP-87.5 CP-87.6 CP-87.7 CP-87.8 CP-87.9 CP-88 CP-88.1 CP-88.2 CP-88.3 CP-88.4 CP-88.5 CP-88.6 CP-88.7 CP-88.8 CP-88.9 CP-89 CP-89.1 CP-89.2 CP-89.3 CP-89.4 CP-89.5 CP-89.6 CP-89.7 CP-89.8 CP-89.9 CP-90 CP-90.1 CP-90.2 CP-90.3 CP-90.4 CP-90.5 CP-90.6 CP-90.7 CP-90.8 CP-90.9 CP-91 CP-91.1 CP-91.2 CP-91.3 CP-91.4 CP-91.5 CP-91.6 CP-91.7 CP-91.8 CP-91.9 CP-92 CP-92.1 CP-92.2 CP-92.3 CP-92.4 CP-92.5 CP-92.6 CP-92.7 CP-92.8 CP-92.9 CP-93 CP-93.1 CP-93.2 CP-93.3 CP-93.4 CP-93.5 CP-93.6 CP-93.7 CP-93.8 CP-93.9 CP-94 CP-94.1 CP-94.2 CP-94.3 CP-94.4 CP-94.5 CP-94.6 CP-94.7 CP-94.8 CP-94.9 CP-95 CP-95.1 CP-95.2 CP-95.3 CP-95.4 CP-95.5 CP-95.6 CP-95.7 CP-95.8 CP-95.9 CP-96 CP-96.1 CP-96.2 CP-96.3 CP-96.4 CP-96.5 CP-96.6 CP-96.7 CP-96.8 CP-96.9 CP-97 CP-97.1 CP-97.2 CP-97.3 CP-97.4 CP-97.5 CP-97.6 CP-97.7 CP-97.8 CP-97.9 CP-98 CP-98.1 CP-98.2 CP-98.3 CP-98.4 CP-98.5 CP-98.6 CP-98.7 CP-98.8 CP-98.9 CP-99 CP-99.1 CP-99.2 CP-99.3 CP-99.4 CP-99.5 CP-99.6 CP-99.7 CP-99.8 CP-99.9 CP-100 CP-100.1 CP-100.2 CP-100.3 CP-100.4 CP-100.5 CP-100.6 CP-100.7 CP-100.8 CP-100.9	CP-1 CP-1.1 CP-1.2 CP-1.3 CP-1.4 CP-1.5 CP-1.6 CP-1.7 CP-1.8 CP-1.9 CP-2 CP-2.1 CP-2.2 CP-2.3 CP-2.4 CP-2.5 CP-2.6 CP-2.7 CP-2.8 CP-2.9 CP-3 CP-3.1 CP-3.2 CP-3.3 CP-3.4 CP-3.5 CP-3.6 CP-3.7 CP-3.8 CP-3.9 CP-4 CP-4.1 CP-4.2 CP-4.3 CP-4.4 CP-4.5 CP-4.6 CP-4.7 CP-4.8 CP-4.9 CP-5 CP-5.1 CP-5.2 CP-5.3 CP-5.4 CP-5.5 CP-5.6 CP-5.7 CP-5.8 CP-5.9 CP-6 CP-6.1 CP-6.2 CP-6.3 CP-6.4 CP-6.5 CP-6.6 CP-6.7 CP-6.8 CP-6.9 CP-7 CP-7.1 CP-7.2 CP-7.3 CP-7.4 CP-7.5 CP-7.6 CP-7.7 CP-7.8 CP-7.9 CP-8 CP-8.1 CP-8.2 CP-8.3 CP-8.4 CP-8.5 CP-8.6 CP-8.7 CP-8.8 CP-8.9 CP-9 CP-9.1 CP-9.2 CP-9.3 CP-9.4 CP-9.5 CP-9.6 CP-9.7 CP-9.8 CP-9.9 CP-10 CP-10.1 CP-10.2 CP-10.3 CP-10.4 CP-10.5 CP-10.6 CP-10.7 CP-10.8 CP-10.9 CP-11 CP-11.1 CP-11.2 CP-11.3 CP-11.4 CP-11.5 CP-11.6 CP-11.7 CP-11.8 CP-11.9 CP-12 CP-12.1 CP-12.2 CP-12.3 CP-12.4 CP-12.5 CP-12.6 CP-12.7 CP-12.8 CP-12.9 CP-13 CP-13.1 CP-13.2 CP-13.3 CP-13.4 CP-13.5 CP-13.6 CP-13.7 CP-13.8 CP-13.9 CP-14 CP-14.1 CP-14.2 CP-14.3 CP-14.4 CP-14.5 CP-14.6 CP-14.7 CP-14.8 CP-14.9 CP-15 CP-15.1 CP-15.2 CP-15.3 CP-15.4 CP-15.5 CP-15.6 CP-15.7 CP-15.8 CP-15.9 CP-16 CP-16.1 CP-16.2 CP-16.3 CP-16.4 CP-16.5 CP-16.6 CP-16.7 CP-16.8 CP-16.9 CP-17 CP-17.1 CP-17.2 CP-17.3 CP-17.4 CP-17.5 CP-17.6 CP-17.7 CP-17.8 CP-17.9 CP-18 CP-18.1 CP-18.2 CP-18.3 CP-18.4 CP-18.5 CP-18.6 CP-18.7 CP-18.8 CP-18.9 CP-19 CP-19.1 CP-19.2 CP-19.3 CP-19.4 CP-19.5 CP-19.6 CP-19.7 CP-19.8 CP-19.9 CP-20 CP-20.1 CP-20.2 CP-20.3 CP-20.4 CP-20.5 CP-20.6 CP-20.7 CP-20.8 CP-20.9 CP-21 CP-21.1 CP-21.2 CP-21.3 CP-21.4 CP-21.5 CP-21.6 CP-21.7 CP-21.8 CP-21.9 CP-22 CP-22.1 CP-22.2 CP-22.3 CP-22.4 CP-22.5 CP-22.6 CP-22.7 CP-22.8 CP-22.9 CP-23 CP-23.1 CP-23.2 CP-23.3 CP-23.4 CP-23.5 CP-23.6 CP-23.7 CP-23.8 CP-23.9 CP-24 CP-24.1 CP-24.2 CP-24.3 CP-24.4 CP-24.5 CP-24.6 CP-24.7 CP-24.8 CP-24.9 CP-25 CP-25.1 CP-25.2 CP-25.3 CP-25.4 CP-25.5 CP-25.6 CP-25.7 CP-25.8 CP-25.9 CP-26 CP-26.1 CP-26.2 CP-26.3 CP-26.4 CP-26.5 CP-26.6 CP-26.7 CP-26.8 CP-26.9 CP-27 CP-27.1 CP-27.2 CP-27.3 CP-27.4 CP-27.5 CP-27.6 CP-27.7 CP-27.8 CP-27.9 CP-28 CP-28.1 CP-28.2 CP-28.3 CP-28.4 CP-28.5 CP-28.6 CP-28.7 CP-28.8 CP-28.9 CP-29 CP-29.1 CP-29.2 CP-29.3 CP-29.4 CP-29.5 CP-29.6 CP-29.7 CP-29.8 CP-29.9 CP-30 CP-30.1 CP-30.2 CP-30.3 CP-30.4 CP-30.5 CP-30.6 CP-30.7 CP-30.8 CP-30.9 CP-31 CP-31.1 CP-31.2 CP-31.3 CP-31.4 CP-31.5 CP-31.6 CP-31.7 CP-31.8 CP-31.9 CP-32 CP-32.1 CP-32.2 CP-32.3 CP-32.4 CP-32.5 CP-32.6 CP-32.7 CP-32.8 CP-32.9 CP-33 CP-33.1 CP-33.2 CP-33.3 CP-33.4 CP-33.5 CP-33.6 CP-33.7 CP-33.8 CP-33.9 CP-34 CP-34.1 CP-34.2 CP-34.3 CP-34.4 CP-34.5 CP-34.6 CP-34.7 CP-34.8 CP-34.9 CP-35 CP-35.1 CP-35.2 CP-35.3 CP-35.4 CP-35.5 CP-35.6 CP-35.7 CP-35.8 CP-35.9 CP-36 CP-36.1 CP-36.2 CP-36.3 CP-36.4 CP-36.5 CP-36.6 CP-36.7 CP-36.8 CP-36.9 CP-37 CP-37.1 CP-37.2 CP-37.3 CP-37.4 CP-37.5 CP-37.6 CP-37.7 CP-37.8 CP-37.9 CP-38 CP-38.1 CP-38.2 CP-38.3 CP-38.4 CP-38.5 CP-38.6 CP-38.7 CP-38.8 CP-38.9 CP-39 CP-39.1 CP-39.2 CP-39.3 CP-39.4 CP-39.5 CP-39.6 CP-39.7 CP-39.8 CP-39.9 CP-40 CP-40.1 CP-40.2 CP-40.3 CP-40.4 CP-40.5 CP-40.6 CP-40.7 CP-40.8 CP-40.9 CP-41 CP-41.1 CP-41.2 CP-41.3 CP-41.4 CP-41.5 CP-41.6 CP-41.7 CP-41.8 CP-41.9 CP-42 CP-42.1 CP-42.2 CP-42.3 CP-42.4 CP-42.5 CP-42.6 CP-42.7 CP-42.8 CP-42.9 CP-43 CP-43.1 CP-43.2 CP-43.3 CP-43.4 CP-43.5 CP-43.6 CP-43.7 CP-43.8 CP-43.9 CP-44 CP-44.1 CP-44.2 CP-44.3 CP-44.4 CP-44.5 CP-44.6 CP-44.7 CP-44.8 CP-44.9 CP-45 CP-45.1 CP-45.2 CP-45.3 CP-45.4 CP-45.5 CP-45.6 CP-45.7 CP-45.8 CP-45.9 CP-46 CP-46.1 CP-46.2 CP-46.3 CP-46.4 CP-46.5 CP-46.6 CP-46.7 CP-46.8 CP-46.9 CP-47 CP-47.1 CP-47.2 CP-47.3 CP-47.4 CP-47.5 CP-47.6 CP-47.7 CP-47.8 CP-47.9 CP-48 CP-48.1 CP-48.2 CP-48.3 CP-48.4 CP-48.5 CP-48.6 CP-48.7 CP-48.8 CP-48.9 CP-49 CP-49.1 CP-49.2 CP-49.3 CP-49.4 CP-49.5 CP-49.6 CP-49.7 CP-49.8 CP-49.9 CP-50 CP-50.1 CP-50.2 CP-50.3 CP-50.4 CP-50.5 CP-50.6 CP-50.7 CP-50.8 CP-50.9 CP-51 CP-51.1 CP-51.2 CP-51.3 CP-51.4 CP-51.5 CP-51.6 CP-51.7 CP-51.8 CP-51.9 CP-52 CP-52.1 CP-52.2 CP-52.3 CP-52.4 CP-52.5 CP-52.6 CP-52.7 CP-52.8 CP-52.9 CP-53 CP-53.1 CP-53.2 CP-53.3 CP-53.4 CP-53.5 CP-53.6 CP-53.7 CP-53.8 CP-53.9 CP-54 CP-54.1 CP-54.2 CP-54.3 CP-54.4 CP-54.5 CP-54.6 CP-54.7 CP-54.8 CP-54.9 CP-55 CP-55.1 CP-55.2 CP-55.3 CP-55.4 CP-55.5 CP-55.6 CP-55.7 CP-55.8 CP-55.9 CP-56 CP-56.1 CP-56.2 CP-56.3 CP-56.4 CP-56.5 CP-56.6 CP-56.7 CP-56.8 CP-56.9 CP-57 CP-57.1 CP-57.2 CP-57.3 CP-57.4 CP-57.5 CP-57.6 CP-57.7 CP-57.8 CP-57.9 CP-58 CP-58.1 CP-58.2 CP-58.3 CP-58.4 CP-58.5 CP-58.6 CP-58.7 CP-58.8 CP-58.9 CP-59 CP-59.1 CP-59.2 CP-59.3 CP-59.4 CP-59.5 CP-59.6 CP-59.7 CP-59.8 CP-59.9 CP-60 CP-60.1 CP-60.2 CP-60.3 CP-60.4 CP-60.5 CP-60.6 CP-60.7 CP-60.8 CP-60.9 CP-61 CP-61.1 CP-61.2 CP-61.3 CP-61.4 CP-61.5 CP-61.6 CP-61.7 CP-61.8 CP-61.9 CP-62 CP-62.1 CP-62.2 CP-62.3 CP-62.4 CP-62.5 CP-62.6 CP-62.7 CP-62.8 CP-62.9 CP-63 CP-63.1 CP-63.2 CP-63.3 CP-63.4 CP-63.5 CP-63.6 CP-63.7 CP-63.8 CP-63.9 CP-64 CP-64.1 CP-64.2 CP-64.3 CP-64.4 CP-64.5 CP-64.6 CP-64.7 CP-64.8 CP-64.9 CP-65 CP-65.1 CP-65.2 CP-65.3 CP-65.4 CP-65.5 CP-65.6 CP-65.7 CP-65.8 CP-65.9 CP-66 CP-66.1 CP-66.2 CP-66.3 CP-66.4 CP-66.5 CP-66.6 CP-66.7 CP-66.8 CP-66.9 CP-67 CP-67.1 CP-67.2 CP-67.3 CP-67.4 CP-67.5 CP-67.6 CP-67.7 CP-67.8 CP-67.9 CP-68 CP-68.1 CP-68.2 CP-68.3 CP-68.4 CP-68.5 CP-68.6 CP-68.7 CP-68.8 CP-68.9 CP-69 CP-69.1 CP-69.2 CP-69.3 CP-69.4 CP-69.5 CP-69.6 CP-69.7 CP-69.8 CP-69.9 CP-70 CP-70.1 CP-70.2 CP-70.3 CP-70.4 CP-70.5 CP-70.6 CP-70.7 CP-70.8 CP-70.9 CP-71 CP-71.1 CP-71.2 CP-71.3 CP-71.4 CP-71.5 CP-71.6 CP-71.7 CP-71.8 CP-71.9 CP-72 CP-72.1 CP-72.2 CP-72.3 CP-72.4 CP-72.5 CP-72.6 CP-72.7 CP-72.8 CP-72.9 CP-73 CP-73.1 CP-73.2 CP-73.3 CP-73.4 CP-73.5 CP-73.6 CP-73.7 CP-73.8 CP-73.9 CP-74 CP-74.1 CP-74.2 CP-74.3 CP-74.4 CP-74.5 CP-74.6 CP-74.7 CP-74.8 CP-74.9 CP-75 CP-75.1 CP-75.2 CP-75.3 CP-75.4 CP-75.5 CP-75.6 CP-75.7 CP-75.8 CP-75.9 CP-76 CP-76.1 CP-76.2 CP-76.3 CP-76.4 CP-76.5 CP-76.6 CP-76.7 CP-76.8 CP-76.9 CP-77 CP-77.1 CP-77.2 CP-77.3 CP-77.4 CP-77.5 CP-77.6 CP-77.7 CP-77.8 CP-77.9 CP-78 CP-78.1 CP-78.2 CP-78.3 CP-78.4 CP-78.5 CP-78.6 CP-78.7 CP-78.8 CP-78.9 CP-79 CP-79.1 CP-79.2 CP-79.3 CP-79.4 CP-79.5 CP-79.6 CP-79.7 CP-79.8 CP-79.9 CP-80 CP-80.1 CP-80.2 CP-80.3 CP-80.4 CP-80.5 CP-80.6 CP-80.7 CP-80.8 CP-80.9 CP-81 CP-81.1 CP-81.2 CP-81.3 CP-81.4 CP-81.5 CP-81.6 CP-81.7 CP-81.8 CP-81.9 CP-82 CP-82.1 CP-82.2 CP-82.3 CP-82.4 CP-82.5 CP-82.6 CP-82.7 CP-82.8 CP-82.9 CP-83 CP-83.1 CP-83.2 CP-83.3 CP-83.4 CP-83.5 CP-83.6 CP-83.7 CP-83.8 CP-83.9 CP-84 CP-84.1 CP-84.2 CP-84.3 CP-84.4 CP-84.5 CP-84.6 CP-84.7 CP-84.8 CP-84.9 CP-85 CP-85.1 CP-85.2 CP-85.3 CP-85.4 CP-85.5 CP-85.6 CP-85.7 CP-85.8 CP-85.9 CP-86 CP-86.1 CP-86.2 CP-86.3 CP-86.4 CP-86.5 CP-86.6 CP-86.7 CP-86.8 CP-86.9 CP-87 CP-87.1 CP-87.2 CP-87.3 CP-87.4 CP-87.5 CP-87.6 CP-87.7 CP-87.8 CP-87.9 CP-88 CP-88.1 CP-88.2 CP-88.3 CP-88.4 CP-88.5 CP-88.6 CP-88.7 CP-88.8 CP-88.9 CP-89 CP-89.1 CP-89.2 CP-89.3 CP-89.4 CP-89.5 CP-89.6 CP-89.7 CP-89.8 CP-89.9 CP-90 CP-90.1 CP-90.2 CP-90.3 CP-90.4 CP-90.5 CP-90.6 CP-90.7 CP-90.8 CP-90.9 CP-91 CP-91.1 CP-91.2 CP-91.3 CP-91.4 CP-91.5 CP-91.6 CP-91.7 CP-91.8 CP-91.9 CP-92 CP-92.1 CP-92.2 CP-92.3 CP-92.4 CP-92.5 CP-92.6 CP-92.7 CP-92.8 CP-92.9 CP-93 CP-93.1 CP-93.2 CP-93.3 CP-93.4 CP-93.5 CP-93.6 CP-93.7 CP-93.8 CP-93.9 CP-94 CP-94.1 CP-94.2 CP-94.3 CP-94.4 CP-94.5 CP-94.6 CP-94.7 CP-94.8 CP-94.9 CP-95 CP-95.1 CP-95.2 CP-95.3 CP-95.4 CP-95.5 CP-95.6 CP-95.7 CP-95.8 CP-95.9 CP-96 CP-96.1 CP-96.2 CP-96.3 CP-96.4 CP-96.5 CP-96.6 CP-96.7 CP-96.8 CP-96.9 CP-97 CP-97.1 CP-97.2 CP-97.3 CP-97.4 CP-97.5 CP-97.6 CP-97.7 CP-97.8 CP-97.9 CP-98 CP-98.1 CP-98.2 CP-98.3 CP-98.4 CP-98.5 CP-98.6 CP-98.7 CP-98.8 CP-98.9 CP-99 CP-99.1 CP-99.2 CP-99.3 CP-99.4 CP-99.5 CP-99.6 CP-99.7 CP-99.8 CP-99.9 CP-100 CP-100.1 CP-100.2 CP-100.3 CP-100.4 CP-100.5 CP-100.6 CP-100.7 CP-100.8 CP-100.9	CP-1 CP-1.1 CP-1.2 CP-1.3 CP-1.4 CP-1.5 CP-1.6 CP-1.7 CP-1.8 CP-1.9 CP-2 CP-2.1 CP-2.2 CP-2.3 CP-2.4 CP-2.5 CP-2.6 CP-2.7 CP-2.8 CP-2.9 CP-3 CP-3.1 CP-3.2 CP-3.3 CP-3.4 CP-3.5 CP-3.6 CP-3.7 CP-3.8 CP-3.9 CP-4 CP-4.1 CP-4.2 CP-4.3 CP-4.4 CP-4.5 CP-4.6 CP-4.7 CP-4.8 CP-4.9 CP-5 CP-5.1 CP-5.2 CP-5.3 CP-5.4 CP-5.5 CP-5.6 CP-5.7 CP-5.8 CP-5.9 CP-6 CP-6.1 CP-6.2 CP-6.3 CP-6.4 CP-6.5 CP-6.6 CP-6.7 CP-6.8 CP-6.9 CP-7 CP-7.1 CP-7.2 CP-7.3 CP-7.4 CP-7.5 CP-7.6 CP-7.7 CP-7.8 CP-7.9 CP-8 CP-8.1 CP-8.2 CP-8.3 CP-8.4 CP-8.5 CP-8.6 CP-8.7 CP-8.8 CP-8.9 CP-9 CP-9.1 CP-9.2 CP-9.3 CP-9.4 CP-9.5 CP-9.6 CP-9.7 CP-9.8 CP-9.9 CP-10 CP-10.1 CP-10.2 CP-10.3 CP-10.4 CP-10.5 CP-10.6 CP-10.7 CP-10.8 CP-10.9 CP-11 CP-11.1 CP-11.2 CP-11.3 CP-11.4 CP-11.5 CP-11.6 CP-11.7 CP-11.8 CP-11.9 CP-12 CP-12.1 CP-12.2 CP-12.3 CP-12.4 CP-12.5 CP-12.6 CP-12.7 CP-12.8 CP-12.9 CP-13 CP-13.1 CP-13.2 CP-13.3 CP-13.4 CP-13.5 CP-13.6 CP-13.7 CP-13.8 CP-13.9 CP-14 CP-14.1 CP-14.2 CP-14.3 CP-14.4 CP-14.5 CP-14.6 CP-14.7 CP-14.8 CP-14.9 CP-15 CP-15.1 CP-15.2																	

**\*NIST 800-53 LISTINGS**

- AC-1: Access Control Policy and Procedures
- AC-2: Access Management
- AC-3: Access Enforcement
- AC-4: Information Flow Enforcement
- AC-5: Lax Privilege
- AC-6: Unsuccessful Login Attempts
- AC-7: Session Lock
- AC-8: Session Termination
- AC-9: Remote Access
- AC-10: Wireless Access
- AC-11: Access Control for Mobile Devices

- MC-18: Use of External Information Systems
- MC-19: Data Mining Protection
- MC-24: Access Control Decisions
- MF-1: Security Awareness and Training Policy Procedures
- MF-2: Security Awareness Training
- MF-3: Role-Based Security Training
- MF-4: Security Training Records
- MA-2: Audit Events
- MA-3: Content of Audit Records
- MA-4: Audit Storage Capacity
- MA-5: Response to Audit Processing Failures

- AS-6: Audit Review, Analysis
- AS-7: Audit Redactions and Time Stamps
- AS-8: Protection of Audit
- AS-10: Non-repudiation
- AS-11: Audit Record Retention
- AS-12: Audit Generation
- AS-13: Monitoring the Information
- AS-14: Secure Audit
- CA-2: Security Assessments
- CA-3: System Interconnections
- CA-5: Plan of Action and

PL and Reporting	CS-6	5
Report Generation	CS-7	6
	CS-8	7
Information	CS-9	8
tion	CS-10	9
Source Disclosure	CS-11	10
	CS-12	11
	CS-13	12
	CS-14	13
	CS-15	14
	CS-16	15

- Security Authorization
- Continuous Monitoring
- Authorization: Issuing
- Internal System Connections
- Mobile Configuration
- Configuration Change Control
- Access Restrictions for Change
- Configuration Settings
- Asset Functionality
- Information System Component Inventory
- Configuration Management Plan
- Software Usage Reviews

- CP-11: Fire-Installed Software
- CP-8: Information System Backup
- CP-12: Information System Recovery
- WP-3: Device Identification and Labeling
- WP-5: Architectural Management
- WP-18: Adaptive Identification and Classification
- WP-4: Incident Response Policy and Plan
- WP-2: Incident Response Training
- WP-3: Incident Response Testing
- WP-4: Incident Handling
- WP-5: Incident Monitoring
- WP-4: Incident Reporting

Policy and Recommendation	18-7: Incident
Authentication	18-8: Incident
	18-9: Information
	18-10: Integrity
	18-11: Security
Authentication	18-12: Policy
Procedures	18-13: Policy
	18-14: Policy
	18-15: Information
	18-16: Information
	18-17: Information
	18-18: Security

- Response Assistance
- Response Plan
- Crisis Spillage Response
- and Information Security Analysis Team
- of Maintenance
- Fueling
- Gauging
- Transport
- Critical System Inventory
- Critical Security Features of Performance
- Critical Security Workflows
- Training & Monitoring

- PA-14: Threat Awareness Program
- PA-2: Security Categorization
- PA-5: Vulnerability Scanning
- MA-6: Technical Surveillance Countermeasures
- SA-4: Acquisition Process
- SA-9: External Information System Security
- SA-11: Developer Security Testing and Tools
- SA-13: Testworkflows
- SA-15: Development Process, Standards, and Guidelines
- SA-16: Developer-Focused Training
- SA-17: Developer Security Architecture and Design
- SA-18: Tamper Resistance and Detection

	IA-20:	Customized B
	IA-21:	Developer Sec
	IC-3:	Boundary Pro
Security Survey	IC-4:	Transmission I
	IC-5:	Collaborative
Security	IC-6:	Transmission s
Evaluation	IC-11:	Public Key In
	IC-18:	Public Code
Tools	IC-20:	Secure Hume
		(Authenticati
Design	IC-21:	Secure Hume
		(Resource us

Development of Critical Components	90%
Planning	90%
Execution	90%
Confidentiality and Integrity	90%
Computing Devices	90%
of Security Attributes	90%
Infrastructure Certificates	90%
Address Resolution Service	90%
(Source)	90%
Address Resolution Service	90%
(Routing Routers)	90%

- 22: Architecture and Prototyping for Non-
- Resolution Service
- 23: Session Authentication
- 24: Tail in Brown State
- 25: Protection of Information at Rest
- 26: Lower Channel Analysis
- 27: Non-Profitable Executable Programs
- 28: Process Isolation
- 29: Wireless Link Protection
- 30: Peer and SIP Device Access
- 31: Detonation Chambers
- 32: Flow Remediation

- 53-1: Malicious Code Protection
- 53-2: Information Systems
- 53-3: Security Functions
- 53-7: Software, Firmware
- 53-8: Spam Protection
- 53-10: Information Input
- 53-11: Error Handling
- 53-15: Information Output
- 53-16: Memory Protection

- **Access**
- **Monitoring**
- **Verification**
- **and Information Integrity**
- **Validation**
- **Filtering**



## IS CRITICAL SECURITY CONTROLS





# VENDOR + CUSTOMER = COMPROMISE?



# CHARTER OF TRUST

1 Ownership for cybersecurity

2 Responsibility throughout the digital supply chain

3 Security-by-default.

4 User-centricity

5 Innovation and co-creation

6 Education

7 Certification for critical infrastructure and solutions

8 Transparency and response

9 Regulatory framework

10 Joint initiatives

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Munich Security  
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Münchner Sicherheitskonferenz

**NXP**

 **InfoSecWorld**  
Conference & Expo 2018

# REFERENCES

Standard	Link
NERC CIP	<a href="http://www.nerc.com/pa/Stand/Pages/CIPStandards.aspx">http://www.nerc.com/pa/Stand/Pages/CIPStandards.aspx</a>
EPL	<a href="https://www.energy.gov/oe/downloads/cybersecurity-procurement-language-energy-delivery-april-2014">https://www.energy.gov/oe/downloads/cybersecurity-procurement-language-energy-delivery-april-2014</a>
NIST CSFW	<a href="https://www.nist.gov/document-3766">https://www.nist.gov/document-3766</a>
C2M2	<a href="https://energy.gov/sites/prod/files/2014/03/f13/C2M2-v1-1_cor.pdf">https://energy.gov/sites/prod/files/2014/03/f13/C2M2-v1-1_cor.pdf</a>
CIS CSC Top 20	<a href="https://www.cisecurity.org/cybersecurity-best-practices/">https://www.cisecurity.org/cybersecurity-best-practices/</a> Poster: <a href="https://www.sans.org/security-resources/posters/20-critical-security-controls/55/download">https://www.sans.org/security-resources/posters/20-critical-security-controls/55/download</a>
IEC 62443	<a href="http://www.isasecure.org/en-US/">http://www.isasecure.org/en-US/</a>

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<http://www.ucfmapper.com/overview/isc2-compliance-mapping-certificate-program>



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*Product & Solution Security Officer*

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# JAMES R. MCQUIGGAN, CISSP



- Product & Solution Security Officer , Service Americas
- Siemens Corporate InfoSec Office, ISA Program



- President – Central Florida (ISC)<sup>2</sup> Chapter
- (ISC)<sup>2</sup> North American Advisory Council
- 2017 Julie Franz Award – Volunteer Award (1<sup>st</sup>)
- 2016 President Award Winner



- ISSA President Central Florida (2012-2016)
- Content Chair – Annual Conference (2013-2017)



- Photography, Theater, Travel
- Twitter: @james\_mcquiggan



@james\_mcquiggan