

Domain 1 — Information System Auditing Process

- How can we Plan an audit to determine whether information systems are protected, controlled, and provide value to the organization?
- How can we Conduct an audit in accordance with IS audit standards and a risk-based IS audit strategy?
- How can we Communicate audit progress, findings, results and recommendations to stakeholders?
- How can we Conduct audit follow-up to evaluate whether risk has been sufficiently addressed?
- How can we Evaluate IT management and monitoring of controls?
- How can we Utilize data analytics tools to streamline audit processes?
- How can we Provide consulting services and guidance to the organization in order to improve the quality and control of information systems?
- How can we Identify opportunities for process improvement in the organization's IT policies and practices?

Domain 2 – Governance & Management of IT

- How can we Evaluate the IT strategy for alignment with the organization's strategies and objectives?
- How can we Evaluate the effectiveness of IT governance structure and IT organizational structure?
- How can we Evaluate the organization's management of IT policies and practices?
- How can we Evaluate the organization's IT policies and practices for compliance with regulatory and legal requirements?
- How can we Evaluate IT resource and portfolio management for alignment with the organization's strategies and objectives?
- How can we Evaluate the organization's risk management policies and practices?
- How can we Evaluate IT management and monitoring of controls?
- How can we Evaluate the monitoring and reporting of IT key performance indicators (KPIs)?
- How can we Evaluate whether IT supplier selection and contract management processes align with business requirements?
- How can we Evaluate whether IT service management practices align with business requirements?
- How can we Conduct periodic review of information systems and enterprise architecture?
- How can we Evaluate data governance policies and practices?
- How can we Evaluate the information security program to determine its effectiveness and alignment with the organization's strategies and objectives?
- How can we Evaluate potential opportunities and threats associated with emerging technologies, regulations, and industry practices?

Domain 3 – Information Systems Acquisition, Development, & Implementation

- How can we Evaluate whether the business case for proposed changes to information systems meet business objectives?
- How can we Evaluate the organization's project management policies and practices?
- How can we Evaluate controls at all stages of the information systems development life cycle?
- How can we Evaluate the readiness of information systems for implementation and migration into production?
- How can we Conduct post-implementation review of systems to determine whether project deliverables, controls and requirements are met?

- How can we Evaluate change, configuration, release, and patch management policies and practices?

Domain 4 – Information Systems Operations and Business Resilience

- How can we Evaluate the organization's ability to continue business operations?
- How can we Evaluate whether IT service management practices align with business requirements?
- How can we Conduct periodic review of information systems and enterprise architecture?
- How can we Evaluate IT operations to determine whether they are controlled effectively and continue to support the organization's objectives?
- How can we Evaluate IT maintenance practices to determine whether they are controlled effectively and continue to support the organization's objectives?
- How can we Evaluate database management practices?
- How can we Evaluate data governance policies and practices?
- How can we Evaluate problem and incident management policies and practices?
- How can we Evaluate change, configuration, release, and patch management policies and practices?
- How can we Evaluate end-user computing to determine whether the processes are effectively controlled?

Domain 5 – Protection of Information Assets

- How can we Conduct audit in accordance with IS audit standards and a risk-based IS audit strategy?
- How can we Evaluate problem and incident management policies and practices?
- How can we Evaluate the organization's information security and privacy policies and practices?
- How can we Evaluate physical and environmental controls to determine whether information assets are adequately safeguarded?
- How can we Evaluate logical security controls to verify the confidentiality, integrity, and availability of information?
- How can we Evaluate data classification practices for alignment with the organization's policies and applicable external requirements?
- How can we Evaluate policies and practices related to asset life cycle management?
- How can we Evaluate the information security program to determine its effectiveness and alignment with the organization's strategies and objectives?
- How can we Perform technical security testing to identify potential threats and vulnerabilities?
- How can we Evaluate potential opportunities and threats associated with emerging technologies, regulations, and industry practices?

Domain 1 – Information Security Governance

- Could you please Explain the need for and the desired outcomes of an effective information security strategy?
- Could you please Create an information security strategy aligned with organizational goals and objectives?
- How can you Gain stakeholder support using business cases?
- How can you Identify key roles and responsibilities needed to execute an action plan?
- How can you Establish metrics to measure and monitor the performance of security governance?

Domain 2 – Information Risk Management

- Could you please Explain the importance of risk management as a tool to meet business needs and develop a security management program to support these needs?
- How can you Identify, rank, and respond to a risk in a way that is appropriate as defined by organizational directives?
- How can you Assess the appropriateness and effectiveness of information security controls?
- How can you Report information security risk effectively?

Domain 3- Information Security Program Development and Management

- How effectively you Align information security program requirements with those of other business function?
- How do you Manage the information security program resources?
- How do you Design and implement information security controls ?
- How do you Incorporate information security requirements into contracts, agreements and third-party management processes?

Domain 4 – Information Security Incident Management

- Could you please confirm concepts and practices of Incident Management?
- How do you Identify the components of an Incident Response Plan and evaluate its effectiveness?
- How do you make the key concepts of Business Continuity Planning, or BCP and Disaster Recovery Planning, or DRP?
- Please confirm techniques commonly used to test incident response capabilities?

Domain 1 — Risk Management

- How do you Collect and review environmental risk data?
- How do you Identify potential vulnerabilities to people, processes and assets?
- How do you Develop IT scenarios based on information and potential impact to the organization
- Identify key stakeholders for risk scenarios?
- How do you Establish risk register?
- How do you Gain senior leadership and stakeholder approval of the risk plan?
- How do you Collaborate to create a risk awareness program and conduct training?

Domain 2 – IT Risk Assessment

- How do you Analyze risk scenarios to determine likelihood and impact?
- How do you Identify current state of risk controls and their effectiveness ?
- How do you Determine gaps between the current state of risk controls and the desired state ?
- How to Ensure risk ownership is assigned at the appropriate level ?
- How do you Communicate risk assessment data to senior management and appropriate stakeholders ?
- How do you Update the risk register with risk assessment data ?

Domain 3 – Risk Response and Mitigation

- How do you Align risk responses with business objectives?
- How to Develop consult with and assist risk owners with development risk action plans?
- How to Ensure risk mitigation controls are managed to acceptable levels?
- How to Ensure control ownership is appropriately assigned to establish accountability?
- How to Develop and document control procedures for effective control?
- How do you Update the risk register?
- How do you Validate that risk responses are executed according to risk action plans?

Domain 4 – Risk and Control Monitoring and Reporting

- How do you do Risk and control monitoring and reporting?
 - Define key risk indicators (KRIs) and identify key performance indicators (KPIs) to enable performance measurement key risk indicators (KRIs) and key performance indicators (KPIs)?
 - How do you Determine the effectiveness of control assessments?
 - How do you Identify and report trends/changes to KRIs/KPIs that affect control performance or the risk profile ?
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- Securing Unstructured Data - What You Don't Know Can & Will Hurt You
 - Auditing Big Data Systems
 - Data Sharing Risks and Controls
 - Protect Your Data Against Insider Threats
 - Assessing Data Governance at Nationwide
 - Physical Data Security
 - Agile, DevOps & Compliance
 - Why Companies Fail PCI DSS Assessments and What to Do About It
 - Blockchain & Cryptocurrency Emerging Regulations in the USA
 - The New Privacy: GDPR, California Consumer Privacy Act, and the Future of Data Regulation (panel discussion)
 - Incorporating Security Practices into Business Practices
 - What Senior Executives (And Others) Want to See in Security KPIs
 - How to Operationalize Cybersecurity: Turning Policy into Action
 - Preparing for the Security Audit: Is Your ERP Ready?
 - Review & Secure an Email Server
 - Safeguarding Web Applications: A Different Perspective
 - Using Network Forensic Techniques to Detect Threats
 - Identifying Critical Flaws in Hardened Active Directory Environments
 - An Auditor's Guide to Incident Response Plans
 - How Secure Are Your Vendors? Third Party Risk Management in Information Security
 - Secure Cloud Solutions
 - How to Ensure Vendor Compliance & the Mitigation of Third-Party Risks
 - Cloud Insecurity: The Need for Stronger Identity Management
 - SOC Reports: Reducing the Risk of Service Providers
 - AWS for Auditors

CPE on Demand: Data Security

Your bundle includes the following sessions:

- Securing Unstructured Data - What You Don't Know Can & Will Hurt You
- Auditing Big Data Systems
- Data Sharing Risks and Controls
- Protect Your Data Against Insider Threats
- Assessing Data Governance at Nationwide
- Physical Data Security

CPE on Demand: Emerging GRC Challenges

Your bundle includes the following sessions:

- Agile, DevOps & Compliance
- Why Companies Fail PCI DSS Assessments and What to Do About It
- Blockchain & Cryptocurrency Emerging Regulations in the USA
- The New Privacy: GDPR, California Consumer Privacy Act, and the Future of Data Regulation (panel discussion)

CPE on Demand: Security Practices for Business

Your bundle includes the following sessions:

- Incorporating Security Practices into Business Practices
- What Senior Executives (And Others) Want to See in Security KPIs
- How to Operationalize Cybersecurity: Turning Policy into Action
- Preparing for the Security Audit: Is Your ERP Ready?

CPE on Demand: Technical Security Insights

Your bundle includes the following sessions:

- Review & Secure an Email Server
- Safeguarding Web Applications: A Different Perspective
- Using Network Forensic Techniques to Detect Threats
- Identifying Critical Flaws in Hardened Active Directory Environments
- An Auditor's Guide to Incident Response Plans

CPE on Demand: Third-Party Services

Your bundle includes the following sessions:

- How Secure Are Your Vendors? Third Party Risk Management in Information Security
- Secure Cloud Solutions
- How to Ensure Vendor Compliance & the Mitigation of Third-Party Risks
- Cloud Insecurity: The Need for Stronger Identity Management
- SOC Reports: Reducing the Risk of Service Providers
- AWS for Auditors

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- 3 Importance of Information Security and Risk Management0
- 4 Role and Importance of CIA in ISM
- 5 Confidentiality
- 6 Integrity
- 7 Availability
- 8 Information Security
- 9 Information Security Management
- 10 Information Security Governance
- 11 IT Security and Organizational Goals, Mission, and Objectives
- 12 Goals, Mission, and Objectives
- 13 Aligning Security with Goals, Mission, and Objectives
- 14 Business Scenario
- 15 Organizational Processes
- 16 Auditing
- 17 Control Framework
- 18 Due Care
- 19 Due Diligence
- 20 Security Controls
- 21 Service Level Agreements
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- 23 Offshoring Privacy Requirements and Compliance
- 24 Business Scenario
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- 26 Security Policies
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- 28 Security Policy Implementation
- 29 Policy Chart
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- 34 Compliance
- 35 Compliance (contd.)
- 36 Compliance (contd.)
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- 38 Computer Crimes
- 39 Introduction to Computer Crimes
- 40 Categories of Computer Crimes
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- 42 Major Legal Systems
- 43 Common Law and Civil Law
- 44 Customary Law and Religious Law0
- 45 Mixed Law
- 46 Business Scenario
- 47 Introduction to Intellectual Property (IP) Law
- 48 Types of Intellectual Property (IP) Law
- 49 Types of Intellectual Property (IP) Law (contd.)

- 50 Types of Intellectual Property (IP) Law (contd.)
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- 52 Import or Export Controls and Trans - Border Data Flow
- 53 Introduction to Privacy
- 54 U.S. Privacy Laws
- 55 U.S. Privacy Laws (contd.)
- 56 U.S. Guidelines for Managing Privacy
- 57 EU Council Directive (Law) on Data Protection
- 58 The U.S.-European Union Safe Harbor
- 59 Security Definitions
- 60 Information Risk Management
- 61 Business Scenario
- 62 Introduction to Risk Analysis
- 63 Goals of Risk Analysis
- 64 Risk Analysis Team
- 65 Steps for Risk Analysis
- 66 Information and Assets Valuation
- 67 Risk Analysis Types
- 68 Quantitative Risk Analysis—Steps
- 69 Quantitative Risk Analysis—Problem
- 70 Qualitative Risk Analysis
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- 72 Quantitative vs. Qualitative
- 73 Hybrid Analysis
- 74 Countermeasure Selection—Problem
- 75 Countermeasure Selection—Other Factors
- 76 Handling Risk
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- 78 Threat Modeling
- 79 Need for Business Continuity Planning
- 80 Basic Concepts—Disruptive Events
- 81 Basic Concepts—Business Continuity Planning
- 82 Importance of Business Continuity Planning
- 83 Business Continuity Planning Phases
- 84 BCP/DRP Phase 1—Project Initiation and Scoping
- 85 BCP/DRP Phase 2—Business Impact Analysis (BIA)
- 86 BIA—Goals
- 87 BIA—Steps
- 88 BIA Steps—Business Unit Level
- 89 Maximum Tolerable Downtime (MTD)
- 90 Failure and Recovery Metrics
- 91 Failure and Recovery Metrics (contd.)
- 92 Stages of Failure and Recovery
- 93 BCP/DRP Phase 3—Identify Preventive Controls
- 94 Importance of Managing Personnel Security
- 95 Managing Personnel Security—Hiring Practices
- 96 Managing Personnel Security—Employee Termination
- 97 Vendor, Contractors, and Consultant Controls

- 98 Best Work Practices
- 99 Business Scenario
- 100 Importance of Security Awareness Training
- 101 Security Awareness Training: Awareness, Training, and Education
- 102 Implementation of Security Awareness Training Program
- 103 Importance of Content Updates
- 104 Importance of Managing Security Function
- 105 Best Practices—Budget and Establish Security Metrics
- 106 Best Practices—Resources and Develop and Implement Strategies
- 107 Best Practices—Completeness and Effectiveness of the Program
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- 18 Data Custodians (contd.)
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- 20 Data Quality—Aspects
- 21 Data Quality Assurance and Quality Control
- 22 Data Documentation
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- 24 Data Standards
- 25 Data Control Lifecycle
- 26 Data Specification and Modeling
- 27 Database Maintenance
- 28 Data Audit
- 29 Data Storage and Archiving
- 30 Data Security
- 31 Data Access, Sharing, and Dissemination
- 32 Data Publishing
- 33 Data Handling Requirements

- 34 Media Resource Protection
 - 35 Data Remanence
 - 36 Business Scenario
 - 37 Asset Management
 - 38 Software Licensing
 - 39 Equipment Lifecycle
 - 40 Protecting Privacy
 - 41 Ensuring Appropriate Retention
 - 42 Data Security Controls
 - 43 Data in Transit—Best Practices
 - 44 Scoping and Tailoring
 - 45 Scoping and Tailoring (contd.)
 - 46 Standards Selection—US DoD
 - 47 Standards Selection—International Standards
 - 48 Standards Selection National Cyber Security Framework Manual
 - 49 Standards Selection Center for Strategic and International Studies
 - 50 Standards Selection Critical Security Controls
 - 51 Standards Selection Security Content Automation Protocol0
 - 52 Framework for Improving Critical Infrastructure Cybersecurity
 - 53 Business Scenario
- 1 Domain 03 Security Engineering
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 - 4 Security Engineering
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 - 6 Zachman Framework
 - 7 TOGAF
 - 8 ITIL
 - 9 Creating a Security Architecture
 - 10 Enterprise Security Architecture
 - 11 Common Security Services in ESA
 - 12 SABSA Framework
 - 13 SABSA Matrix
 - 14 Business Scenario
 - 15 ISO/IEC 27001:2013 Security Standards
 - 16 ISO/IEC 27002 Code of Practice for Information Security Management
 - 17 Security Models
 - 18 State Machine Model
 - 19 Multilevel Security Models
 - 20 Matrix-Based Model
 - 21 Non-Interference Model
 - 22 Information flow model
 - 23 Examples of Security Models: Bell–LaPadula Confidentiality Model
 - 24 Examples of Security Models: Biba Integrity Model
 - 25 Examples of Security Models: Clark–Wilson integrity model
 - 26 Brewer Nash, Graham Denning, and Harrison Ruzzo Ullman models
 - 27 Business Scenario
 - 28 Evaluation Criteria

- 29 CSEC
- 30 Information Technology Security Evaluation Criteria0
- 31 Common Criteria
- 32 Common Criteria Evaluation Process
- 33 Common Criteria Levels
- 34 Payment Card Industry Data Security Standard
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- 37 SEI—CMMIO
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- 47 System Components Trusted Computing Base (TCB)
- 48 System Components Reference Monitor
- 49 System Components—Trusted Platform Module (TPM)
- 50 System Components Peripherals and Other Input/Output Devices
- 51 System Components Operating System
- 52 System Components Ring Model
- 53 System Components System Kernel
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- 55 Virtualization
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- 59 Grid Computing
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- 61 Business Scenario
- 62 Security Threats and Countermeasures
- 63 Assessing and Mitigating Vulnerabilities and Threats
- 64 Assessing and Mitigating Vulnerabilities and Threats (contd.)
- 65 Assessing and Mitigating Vulnerabilities and Threats (contd.)
- 66 Best Practices
- 67 Best Practices (contd.)
- 68 Best Practices Techniques and Technologies
- 69 Best Practices Techniques and Technologies (contd.)
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- 71 Best Practices Techniques and Technologies (contd.)
- 72 Best Practices Techniques and Technologies (contd.)
- 73 Introduction to Cryptography
- 74 Cryptographic Lifecycle
- 75 Algorithm or Protocol Governance
- 76 Cryptography Terms

- 77 Strength of a Cryptosystem
- 78 Cryptography Methods Substitution Cipher
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- 86 Block Cipher
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- 88 Block Cipher Designs
- 89 Data Encryption Standard (DES)
- 90 DES Algorithm0
- 91 DES Operation Modes Electronic Code Book
- 92 DES Operation Modes Cipher Block Chainins
- 93 DES Operation Modes Cipher Feed Back
- 94 DES Operation Modes Output Feed Back
- 95 DES Operation Modes—Counter
- 96 Triple DES0
- 97 Advanced Encryption Standard (AES)0
- 98 AES Algorithm
- 99 AES Algorithm Key Expansion and Initial Round
- 100 Advanced Encryption Standard (AES) Algorithm—Rounds
- 101 AES Algorithm Final Round
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- 103 Other Symmetric Systems (contd.)
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- 107 Introduction to RSA Algorithm
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- 109 Other Types of Asymmetric Cryptography Elliptic Curve Cryptosystems
- 110 Other Types of Asymmetric Cryptography Diffie-Hellman Key Exchange
- 111 Public Key Cryptography
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- 113 Advantages and Disadvantages
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- 130 Business Scenario
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- 134 Site Location
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- 2 Objectives
- 3 Importance of Communications and Network Security—Case Study
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- 5 Open Systems Interconnection
- 6 OSI Model Layers
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- 9 Network Layer
- 10 Transport Layer
- 11 Session Layer
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- 13 Application Layer
- 14 Transmission Control Protocol/Internet Protocol (TCP/IP) Model
- 15 Network Access Layer and Internet Layer
- 16 Host-to-Host Layer and Application Layer
- 17 Comparison of OSI and TCP/IP Models
- 18 Introduction to IP Addressing
- 19 IPv4 and IPv6
- 20 Classful IP Addressing
- 21 Class A
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- 24 Class D and Class E
- 25 Classless Inter-Domain Routing

- 26 Private Networks and Loopback Address
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- 29 Types of Network Protocols
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- 32 Internet Protocol
- 33 Address Resolution Protocol
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- 35 Hypertext Transfer Protocol (HTTP)
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- 69 IPsec Security Protocols—Authentication Header (AH)
- 70 IPsec Security Protocols—Encapsulating Security Payload (ESP)
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- 80 IEEE Wireless Standards and Spread-Spectrum Technologies
- 81 Direct Sequence Spread Spectrum and Frequency-Hopping Spread Spectrum
- 82 WLAN Operational Modes
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- 84 Bluetooth Attack
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- 91 Network Attacks—Countermeasures

Domain 05 - Identity and Access Management

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- 3 Importance of Identity and Access Management in Information Security
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- 5 Controlling Physical and Logical Access to Assets (contd.)
- 6 Access Subject Object and Access control
- 7 Identity and Access Management Policy
- 8 Identification Authentication and Authorization
- 9 Identity Management
- 10 Identity and Access Provisioning Lifecycle
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- 12 Guidelines for User Identification
- 13 Verifying Identification Information
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- 15 Biometrics—Characteristics
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- 18 Passwords
- 19 Password Types
- 20 Tokens
- 21 Token Device—Synchronous
- 22 Token Device—Asynchronous
- 23 Memory Cards and Smart Cards
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- 25 Access Criteria
- 26 Authorization Concepts
- 27 Identity Management Implementation
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Domain 08 - Software Development Security

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