



# CompTIA

## Exam Questions SY0-701

CompTIA Security+ Exam

#### NEW QUESTION 1

- (Exam Topic 1)

Which of the following is a cryptographic concept that operates on a fixed length of bits?

- A. Block cipher
- B. Hashing
- C. Key stretching
- D. Salting

**Answer:** A

#### Explanation:

Single-key or symmetric-key encryption algorithms create a fixed length of bits known as a block cipher with a secret key that the creator/sender uses to encipher data (encryption) and the receiver uses to decipher it.

#### NEW QUESTION 2

- (Exam Topic 1)

A company is planning to install a guest wireless network so visitors will be able to access the Internet. The stakeholders want the network to be easy to connect to so time is not wasted during meetings. The WAPs are configured so that power levels and antennas cover only the conference rooms where visitors will attend meetings. Which of the following would BEST protect the company's internal wireless network against visitors accessing company resources?

- A. Configure the guest wireless network to be on a separate VLAN from the company's internal wireless network
- B. Change the password for the guest wireless network every month.
- C. Decrease the power levels of the access points for the guest wireless network.
- D. Enable WPA2 using 802.1X for logging on to the guest wireless network.

**Answer:** A

#### Explanation:

Configuring the guest wireless network on a separate VLAN from the company's internal wireless network will prevent visitors from accessing company resources. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 4

#### NEW QUESTION 3

- (Exam Topic 1)

An organization is moving away from the use of client-side and server-side certificates for EAP. The company would like for the new EAP solution to have the ability to detect rogue access points. Which of the following would accomplish these requirements?

- A. PEAP
- B. EAP-FAST
- C. EAP-TLS
- D. EAP-TTLS

**Answer:** B

#### Explanation:

EAP-FAST (Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling) supports mutual authentication and is designed to simplify the deployment of strong, password-based authentication. EAP-FAST includes a mechanism for detecting rogue access points. References:

➤ CompTIA Security+ Study Guide Exam SY0-601, Chapter 4

#### NEW QUESTION 4

- (Exam Topic 1)

If a current private key is compromised, which of the following would ensure it cannot be used to decrypt all historical data?

- A. Perfect forward secrecy
- B. Elliptic-curve cryptography
- C. Key stretching
- D. Homomorphic encryption

**Answer:** A

#### Explanation:

Perfect forward secrecy would ensure that it cannot be used to decrypt all historical data. Perfect forward secrecy (PFS) is a security protocol that generates a unique session key for each session between two parties. This ensures that even if one session key is compromised, it cannot be used to decrypt other sessions.

#### NEW QUESTION 5

- (Exam Topic 1)

As part of annual audit requirements, the security team performed a review of exceptions to the company policy that allows specific users the ability to use USB storage devices on their laptops. The review yielded the following results.

- The exception process and policy have been correctly followed by the majority of users
- A small number of users did not create tickets for the requests but were granted access
- All access had been approved by supervisors.
- Valid requests for the access sporadically occurred across multiple departments.
- Access, in most cases, had not been removed when it was no longer needed

Which of the following should the company do to ensure that appropriate access is not disrupted but unneeded access is removed in a reasonable time frame?

- A. Create an automated, monthly attestation process that removes access if an employee's supervisor denies the approval

- B. Remove access for all employees and only allow new access to be granted if the employee's supervisor approves the request
- C. Perform a quarterly audit of all user accounts that have been granted access and verify the exceptions with the management team
- D. Implement a ticketing system that tracks each request and generates reports listing which employees actively use USB storage devices

**Answer:** A

**Explanation:**

According to the CompTIA Security+ SY0-601 documents, the correct answer option is A. Create an automated, monthly attestation process that removes access if an employee's supervisor denies the approval<sup>12</sup>.

This option ensures that appropriate access is not disrupted but unneeded access is removed in a reasonable time frame by requiring supervisors to approve or deny the exceptions on a regular basis. It also reduces the manual workload of the security team and improves the compliance with the company policy.

**NEW QUESTION 6**

- (Exam Topic 1)

After gaining access to a dual-homed (i.e.. wired and wireless) multifunction device by exploiting a vulnerability in the device's firmware, a penetration tester then gains shell access on another networked asset This technique is an example of:

- A. privilege escalation
- B. footprinting
- C. persistence
- D. pivoting.

**Answer:** D

**Explanation:**

The technique of gaining access to a dual-homed multifunction device and then gaining shell access on another networked asset is an example of pivoting.

References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 8: Application, Data, and Host Security, Enumeration and Penetration Testing

**NEW QUESTION 7**

- (Exam Topic 1)

Which of the following environments would MOST likely be used to assess the execution of component parts of a system at both the hardware and software levels and to measure performance characteristics?

- A. Test
- B. Staging
- C. Development
- D. Production

**Answer:** A

**Explanation:**

The test environment is used to assess the execution of component parts of a system at both the hardware and software levels and to measure performance characteristics. References: CompTIA Security+ Study Guide 601, Chapter 2

**NEW QUESTION 8**

- (Exam Topic 1)

A network engineer and a security engineer are discussing ways to monitor network operations. Which of the following is the BEST method?

- A. Disable Telnet and force SSH.
- B. Establish a continuous ping.
- C. Utilize an agentless monitor
- D. Enable SNMPv3 With passwords.

**Answer:** C

**Explanation:**

An agentless monitor is the best method to monitor network operations because it does not require any software or agents to be installed on the devices being monitored, making it less intrusive and less likely to disrupt network operations. This method can monitor various aspects of network operations, such as traffic, performance, and security.

CompTIA Security+ Study Guide, Sixth Edition (SY0-601), Chapter 4: Attacks, Threats, and Vulnerabilities, Monitoring and Detection Techniques, pg. 167-170.

**NEW QUESTION 9**

- (Exam Topic 1)

Developers are writing code and merging it into shared repositories several times a day, where it is tested automatically. Which of the following concepts does this BEST represent?

- A. Functional testing
- B. Stored procedures
- C. Elasticity
- D. Continuous integration

**Answer:** D

**Explanation:**

Continuous integration is a software development practice where developers merge their code into a shared repository several times a day, and the code is tested automatically. This ensures that code changes are tested and integrated continuously, reducing the risk of errors and conflicts.

#### NEW QUESTION 10

- (Exam Topic 1)

A Chief Information Officer is concerned about employees using company-issued laptops to steal data when accessing network shares. Which of the following should the company implement?

- A. DLP
- B. CASB
- C. HIDS
- D. EDR
- E. UEFI

**Answer:** A

#### Explanation:

The company should implement Data Loss Prevention (DLP) to prevent employees from stealing data. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 8

#### NEW QUESTION 10

- (Exam Topic 1)

A security administrator wants to implement a program that tests a user's ability to recognize attacks over the organization's email system. Which of the following would be BEST suited for this task?

- A. Social media analysis
- B. Annual information security training
- C. Gamification
- D. Phishing campaign

**Answer:** D

#### Explanation:

A phishing campaign is a simulated attack that tests a user's ability to recognize attacks over the organization's email system. Phishing campaigns can be used to train users on how to identify and report suspicious emails.

References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 2: Technologies and Tools, pp. 85-86.

#### NEW QUESTION 11

- (Exam Topic 1)

A company recently decided to allow its employees to use their personally owned devices for tasks like checking email and messaging via mobile applications. The company would like to use MDM, but employees are concerned about the loss of personal data. Which of the following should the IT department implement to BEST protect the company against company data loss while still addressing the employees' concerns?

- A. Enable the remote-wiping option in the MDM software in case the phone is stolen.
- B. Configure the MDM software to enforce the use of PINs to access the phone.
- C. Configure MDM for FDE without enabling the lock screen.
- D. Perform a factory reset on the phone before installing the company's applications.

**Answer:** C

#### Explanation:

MDM software is a type of remote asset-management software that runs from a central server. It is used by businesses to optimize the functionality and security of their mobile devices, including smartphones and tablets. It can monitor and regulate both corporate-owned and personally owned devices to the organization's policies.

FDE stands for full disk encryption, which is a method of encrypting all data on a device's storage. FDE can protect data from unauthorized access in case the device is lost or stolen.

If a company decides to allow its employees to use their personally owned devices for work tasks, it should configure MDM software to enforce FDE on those devices. This way, the company can protect its data from being exposed if the device falls into the wrong hands.

However, employees may be concerned about the loss of personal data if the company also enables the remote-wiping option in the MDM software. Remote wiping is a feature that allows the company to erase all data on a device remotely in case of theft or loss. Remote wiping can also affect personal data on the device, which may not be acceptable to employees.

Therefore, a possible compromise is to configure MDM for FDE without enabling the lock screen. This means that the device will be encrypted, but it will not require a password or PIN to unlock it. This way, employees can access their personal data easily, while the company can still protect its data with encryption.

The other options are not correct because:

- A. Enable the remote-wiping option in the MDM software in case the phone is stolen. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. Remote wiping can erase both work and personal data on the device, which may not be desirable for employees.
- B. Configure the MDM software to enforce the use of PINs to access the phone. This option may enhance the security of the device, but it may not address the company's concern about data loss. PINs can be guessed or bypassed by attackers, and they do not protect data if the device is physically accessed.
- D. Perform a factory reset on the phone before installing the company's applications. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. A factory reset will erase all data on the device, including personal data, which may not be acceptable to employees.

According to CompTIA Security+ SY0-601 Exam Objectives 2.4 Given a scenario, implement secure systems design:

"MDM software is a type of remote asset-management software that runs from a central server<sup>1</sup>. It is used by businesses to optimize the functionality and security of their mobile devices, including smartphones and tablets<sup>2</sup>."

"FDE stands for full disk encryption, which is a method of encrypting all data on a device's storage<sup>3</sup>." References:

<https://www.comptia.org/certifications/security#examdetails>

<https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>

<https://www.makeuseof.com/what-is-mobile-device-management-mdm-software/>

#### NEW QUESTION 16

- (Exam Topic 1)

A security assessment found that several embedded systems are running unsecure protocols. These Systems were purchased two years ago and the company that developed them is no longer in business Which of the following constraints BEST describes the reason the findings cannot be remediated?

- A. inability to authenticate
- B. Implied trust
- C. Lack of computing power
- D. Unavailable patch

**Answer:** D

**Explanation:**

If the systems are running unsecure protocols and the company that developed them is no longer in business, it is likely that there are no patches available to remediate the issue. References:

➤ CompTIA Security+ Study Guide, Sixth Edition, pages 35-36

**NEW QUESTION 20**

- (Exam Topic 1)

A cybersecurity administrator needs to implement a Layer 7 security control on a network and block potential attacks. Which of the following can block an attack at Layer 7? (Select TWO).

- A. HIDS
- B. NIPS
- C. HSM
- D. WAF
- E. NAC
- F. NIDS
- G. Stateless firewall

**Answer:** DF

**Explanation:**

A WAF (Web Application Firewall) and NIDS (Network Intrusion Detection System) are both examples of Layer 7 security controls. A WAF can block attacks at the application layer (Layer 7) of the OSI model by filtering traffic to and from a web server. NIDS can also detect attacks at Layer 7 by monitoring network traffic for suspicious patterns and behaviors. References: CompTIA Security+ Study Guide, pages 94-95, 116-118

**NEW QUESTION 25**

- (Exam Topic 1)

A security administrator has discovered that workstations on the LAN are becoming infected with malware.

The cause of the infections appears to be users receiving phishing emails that are bypassing the current email-filtering technology. As a result, users are being tricked into clicking on malicious URLs, as no internal controls currently exist in the environment to evaluate their safety. Which of the following would be BEST to implement to address the issue?

- A. Forward proxy
- B. HIDS
- C. Awareness training
- D. A jump server
- E. IPS

**Answer:** C

**Explanation:**

Awareness training should be implemented to educate users on the risks of clicking on malicious URLs. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 9

**NEW QUESTION 26**

- (Exam Topic 1)

Which of the following BEST describes a technique that compensates researchers for finding vulnerabilities?

- A. Penetration testing
- B. Code review
- C. Wardriving
- D. Bug bounty

**Answer:** D

**Explanation:**

A bug bounty is a technique that compensates researchers for finding vulnerabilities in software or systems. A bug bounty program is an initiative that offers rewards, usually monetary, to ethical hackers who report security flaws to the owners or developers of the software or system. Bug bounty programs are often used by companies such as Meta (formerly Facebook), Google, Microsoft, and others to improve the security of their products and services

Bug bounty programs compensate researchers, often financially, for finding vulnerabilities in software, websites, or other technology. These programs provide an additional layer of security testing and incentivize researchers to report vulnerabilities instead of exploiting them.

**NEW QUESTION 31**

- (Exam Topic 1)

An analyst is working on an email security incident in which the target opened an attachment containing a worm. The analyst wants to implement mitigation techniques to prevent further spread. Which of the following is the BEST course of action for the analyst to take?

- A. Apply a DLP solution.



- B. Implement network segmentation
- C. Utilize email content filtering,
- D. isolate the infected attachment.

**Answer:** B

**Explanation:**

Network segmentation is the BEST course of action for the analyst to take to prevent further spread of the worm. Network segmentation helps to divide a network into smaller segments, isolating the infected attachment from the rest of the network. This helps to prevent the worm from spreading to other devices within the network. Implementing email content filtering or DLP solution might help in preventing the email from reaching the target or identifying the worm, respectively, but will not stop the spread of the worm. References: CompTIA Security+ Study Guide, Chapter 5: Securing Network Infrastructure, 5.2 Implement Network Segmentation, pp. 286-289

**NEW QUESTION 35**

- (Exam Topic 1)

As part of the building process for a web application, the compliance team requires that all PKI certificates are rotated annually and can only contain wildcards at the secondary subdomain level. Which of the following certificate properties will meet these requirements?

- A. HTTPS://.comptia.org, Valid from April 10 00:00:00 2021 - April 8 12:00:00 2022
- B. HTTPS://app1.comptia.org, Valid from April 10 00:00:00 2021-April 8 12:00:00 2022
- C. HTTPS:// app1.comptia.org, Valid from April 10 00:00:00 2021-April 8 12:00:00 2022
- D. HTTPS://.comptia.org, Valid from April 10 00:00:00 2021 - April 8 12:00:00

**Answer:** A

**Explanation:**

PKI certificates are digital certificates that use public key infrastructure (PKI) to verify the identity and authenticity of a sender and a receiver of data<sup>1</sup>. PKI certificates can be used to secure web applications with HTTPS, which is a protocol that encrypts and protects the data transmitted over the internet<sup>1</sup>. One of the properties of PKI certificates is the domain name, which is the name of the website or web application that the certificate is issued for<sup>2</sup>. The domain name can be either a specific name, such as app1.comptia.org, or a wildcard name, such as \*.comptia.org<sup>2</sup>. A wildcard name means that the certificate can be used with multiple subdomains of a domain, such as payment.comptia.org or contact.comptia.org<sup>2</sup>. Another property of PKI certificates is the validity period, which is the time span during which the certificate is valid and can be used<sup>3</sup>. The validity period is determined by the certificate authority (CA) that issues the certificate, and it usually ranges from one to three years<sup>3</sup>. The validity period can be checked by looking at the valid from and valid to dates on the certificate<sup>3</sup>. Based on these properties, the certificate that will meet the requirements of rotating annually and only containing wildcards at the secondary subdomain level is A. HTTPS://\*.comptia.org, Valid from April 10 00:00:00 2021 - April 8 12:00:00 2022. This certificate has a wildcard character (\*) at the secondary subdomain level, which means it can be used with any subdomain of comptia.org<sup>2</sup>. It also has a validity period of one year, which means it needs to be rotated annually<sup>3</sup>.

**NEW QUESTION 36**

- (Exam Topic 1)

A company acquired several other small companies The company that acquired the others is transitioning network services to the cloud The company wants to make sure that performance and security remain intact Which of the following BEST meets both requirements?

- A. High availability
- B. Application security
- C. Segmentation
- D. Integration and auditing

**Answer:** A

**Explanation:**

High availability refers to the ability of a system or service to remain operational and available to users with minimal downtime. By ensuring high availability, the company can maintain good performance and ensure that users have access to the network services they need. High availability can also improve security, as it helps to prevent disruptions that could potentially be caused by security incidents or other issues.

**NEW QUESTION 38**

- (Exam Topic 1)

Which of the following authentication methods is considered to be the LEAST secure?

- A. TOTP
- B. SMS
- C. HOTP
- D. Token key

**Answer:** B

**Explanation:**

SMS-based authentication is considered to be the least secure among the given options. This is because SMS messages can be intercepted or redirected by attackers through techniques such as SIM swapping, man-in-the-middle attacks, or exploiting weaknesses in the SS7 protocol used by mobile networks. Additionally, SMS messages can be compromised if a user's phone is lost, stolen, or infected with malware. In contrast, TOTP (Time-based One-Time Password), HOTP (HMAC-based One-Time Password), and token keys are more secure as they rely on cryptographic algorithms or physical devices to generate one-time use codes, which are less susceptible to interception or unauthorized access. Reference: 1. National Institute of Standards and Technology (NIST). (2017). Digital Identity Guidelines: Authentication and Lifecycle Management (NIST SP 800-63B). <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63b.pdf>

**NEW QUESTION 41**

- (Exam Topic 1)

An organization wants to integrate its incident response processes into a workflow with automated decision points and actions based on predefined playbooks. Which of the following should the organization implement?

- A. SIEM
- B. SOAR
- C. EDR
- D. CASB

**Answer:** B

**Explanation:**

Security Orchestration, Automation, and Response (SOAR) should be implemented to integrate incident response processes into a workflow with automated decision points and actions based on predefined playbooks. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 9

**NEW QUESTION 43**

- (Exam Topic 1)

An organization's Chief Information Security Officer is creating a position that will be responsible for implementing technical controls to protect data, including ensuring backups are properly maintained. Which of the following roles would MOST likely include these responsibilities?

- A. Data protection officer
- B. Data owner
- C. Backup administrator
- D. Data custodian
- E. Internal auditor

**Answer:** D

**Explanation:**

The responsibilities of ensuring backups are properly maintained and implementing technical controls to protect data are the responsibilities of the data custodian role. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 7: Securing Hosts and Data, Data Custodian

**NEW QUESTION 47**

- (Exam Topic 1)

An information security manager for an organization is completing a PCI DSS self-assessment for the first time. which of the is following MOST likely reason for this type of assessment?

- A. An international expansion project is currently underway.
- B. Outside consultants utilize this tool to measure security maturity.
- C. The organization is expecting to process credit card information.
- D. A government regulator has requested this audit to be completed

**Answer:** C

**Explanation:**

PCI DSS (Payment Card Industry Data Security Standard) is a set of security standards designed to ensure that all companies that accept, process, store, or transmit credit card information maintain a secure environment. Any organization that accepts credit card payments is required to comply with PCI DSS.

**NEW QUESTION 49**

- (Exam Topic 1)

Which of the following environments typically hosts the current version configurations and code, compares user-story responses and workflow, and uses a modified version of actual data for testing?

- A. Development
- B. Staging
- C. Production
- D. Test

**Answer:** B

**Explanation:**

Staging is an environment in the software development lifecycle that is used to test a modified version of the actual data, current version configurations, and code. This environment compares user-story responses and workflow before the software is released to the production environment. References: CompTIA Security+ Study Guide, Sixth Edition, Sybex, pg. 496

**NEW QUESTION 51**

- (Exam Topic 1)

A security analyst is running a vulnerability scan to check for missing patches during a suspected security rodent During which of the following phases of the response process is this activity MOST likely occurring?

- A. Containment
- B. Identification
- C. Recovery
- D. Preparation

**Answer:** B

**Explanation:**

Vulnerability scanning is a proactive security measure used to identify vulnerabilities in the network and systems. References: CompTIA Security+ Study Guide 601, Chapter 4

#### NEW QUESTION 56

- (Exam Topic 1)

A systems engineer is building a new system for production. Which of the following is the FINAL step to be performed prior to promoting to production?

- A. Disable unneeded services.
- B. Install the latest security patches.
- C. Run a vulnerability scan.
- D. Encrypt all disks.

**Answer:** C

#### Explanation:

Running a vulnerability scan is the final step to be performed prior to promoting a system to production. This allows any remaining security issues to be identified and resolved before the system is put into production. References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 3

#### NEW QUESTION 58

- (Exam Topic 1)

A client sent several inquiries to a project manager about the delinquent delivery status of some critical reports. The project manager claimed the reports were previously sent via email, but then quickly generated and backdated the reports before submitting them as plain text within the body of a new email message thread. Which of the following actions MOST likely supports an investigation for fraudulent submission?

- A. Establish chain of custody.
- B. Inspect the file metadata.
- C. Reference the data retention policy.
- D. Review the email event logs

**Answer:** D

#### Explanation:

Reviewing the email event logs can support an investigation for fraudulent submission, as these logs can provide details about the history of emails, including the message content, timestamps, and sender/receiver information. Reference: CompTIA Security+ Certification Exam Objectives, Exam SY0-601, 3.2 Given a scenario, implement appropriate data security and privacy controls.

#### NEW QUESTION 60

- (Exam Topic 1)

Which of the following BEST describes the team that acts as a referee during a penetration-testing exercise?

- A. White team
- B. Purple team
- C. Green team
- D. Blue team
- E. Red team

**Answer:** A

#### Explanation:

During a penetration testing exercise, the white team is responsible for acting as a referee and providing oversight and support to ensure that the testing is conducted safely and effectively. They may also be responsible for determining the rules and guidelines of the exercise, monitoring the progress of the teams, and providing feedback and insights on the strengths and weaknesses of the organization's security measures.

#### NEW QUESTION 65

- (Exam Topic 1)

Ann, a customer, received a notification from her mortgage company stating her PII may be shared with partners, affiliates, and associates to maintain day-to-day business operations.

Which of the following documents did Ann receive?

- A. An annual privacy notice
- B. A non-disclosure agreement
- C. A privileged-user agreement
- D. A memorandum of understanding

**Answer:** A

#### Explanation:

Ann received an annual privacy notice from her mortgage company. An annual privacy notice is a statement from a financial institution or creditor that outlines the institution's privacy policy and explains how the institution collects, uses, and shares customers' personal information. It informs the customer about their rights under the Gramm-Leach-Bliley Act (GLBA) and the institution's practices for protecting their personal information. References:

➤ CompTIA Security+ Certification Exam Objectives - Exam SY0-601

#### NEW QUESTION 68

- (Exam Topic 1)

A financial institution would like to store its customer data in a cloud but still allow the data to be accessed and manipulated while encrypted. Doing so would prevent the cloud service provider from being able to decipher the data due to its sensitivity. The financial institution is not concerned about computational overheads and slow speeds. Which of the following cryptographic techniques would BEST meet the requirement?

- A. Asymmetric
- B. Symmetric
- C. Homomorphic



D. Ephemeral

**Answer:** B

**Explanation:**

Symmetric encryption allows data to be encrypted and decrypted using the same key. This is useful when the data needs to be accessed and manipulated while still encrypted. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 6

**NEW QUESTION 72**

- (Exam Topic 1)

A Chief Information Security Officer (CISO) is evaluating the dangers involved in deploying a new ERP system for the company. The CISO categorizes the system, selects the controls that apply to the system, implements the controls, and then assesses the success of the controls before authorizing the system. Which of the following is the CISO using to evaluate the environment for this new ERP system?

- A. The Diamond Model of Intrusion Analysis
- B. CIS Critical Security Controls
- C. NIST Risk Management Framework
- D. ISO 27002

**Answer:** C

**Explanation:**

The CISO is using the NIST Risk Management Framework (RMF) to evaluate the environment for the new ERP system. The RMF is a structured process for managing risks that involves categorizing the system, selecting controls, implementing controls, assessing controls, and authorizing the system.

References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 4: Risk Management, pp. 188-191.

**NEW QUESTION 73**

- (Exam Topic 1)

Which of the following biometric authentication methods is the MOST accurate?

- A. Gait
- B. Retina
- C. Signature
- D. Voice

**Answer:** B

**Explanation:**

Retina authentication is the most accurate biometric authentication method. Retina authentication is based on recognizing the unique pattern of blood vessels and other features in the retina. This makes it virtually impossible to duplicate or bypass, making it the most secure form of biometric authentication currently available.

**NEW QUESTION 76**

- (Exam Topic 1)

A security analyst is investigating multiple hosts that are communicating to external IP addresses during the hours of 2:00 a.m. - 4:00 a.m. The malware has evaded detection by traditional antivirus software. Which of the following types of malware is MOST likely infecting the hosts?

- A. A RAT
- B. Ransomware
- C. Polymorphic
- D. A worm

**Answer:** A

**Explanation:**

Based on the given information, the most likely type of malware infecting the hosts is a RAT (Remote Access Trojan). RATs are often used for stealthy unauthorized access to a victim's computer, and they can evade traditional antivirus software through various sophisticated techniques. In particular, the fact that the malware is communicating with external IP addresses during specific hours suggests that it may be under the control of an attacker who is issuing commands from a remote location. Ransomware, polymorphic malware, and worms are also possible culprits, but the context of the question suggests that a RAT is the most likely answer.

**NEW QUESTION 81**

- (Exam Topic 1)

A security researcher is tracking an adversary by noting its attacks and techniques based on its capabilities, infrastructure, and victims. Which of the following is the researcher MOST likely using?

- A. The Diamond Model of Intrusion Analysis
- B. The Cyber Kill Chain
- C. The MITRE CVE database
- D. The incident response process

**Answer:** A

**Explanation:**

The Diamond Model is a framework for analyzing cyber threats that focuses on four key elements: adversary, capability, infrastructure, and victim. By analyzing these elements, security researchers can gain a better understanding of the threat landscape and develop more effective security strategies.

**NEW QUESTION 86**

- (Exam Topic 1)

An employee, receives an email stating he won the lottery. The email includes a link that requests a name, mobile phone number, address, and date of birth be provided to confirm employee's identity before sending him the prize. Which of the following BEST describes this type of email?

- A. Spear phishing
- B. Whaling
- C. Phishing
- D. Vishing

**Answer:** C

**Explanation:**

Phishing is a type of social engineering attack that uses fraudulent emails or other forms of communication to trick users into revealing sensitive information, such as passwords, credit card numbers, or personal details. Phishing emails often impersonate legitimate entities, such as banks, online services, or lottery organizations, and entice users to click on malicious links or attachments that lead to fake websites or malware downloads. Phishing emails usually target a large number of users indiscriminately, hoping that some of them will fall for the scam.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>  
<https://www.kaspersky.com/resource-center/definitions/what-is-phishing>

**NEW QUESTION 89**

- (Exam Topic 1)

A company has discovered unauthorized devices are using its WiFi network, and it wants to harden the access point to improve security. Which of the following configuration should an analysis enable To improve security? (Select TWO.)

- A. RADIUS
- B. PEAP
- C. WPS
- D. WEP-EKIP
- E. SSL
- F. WPA2-PSK

**Answer:** AF

**Explanation:**

To improve the security of the WiFi network and prevent unauthorized devices from accessing the network, the configuration options of RADIUS and WPA2-PSK should be enabled. RADIUS (Remote Authentication Dial-In User Service) is an authentication protocol that can be used to control access to the WiFi network. It can provide stronger authentication and authorization than WEP and WPA. WPA2-PSK (WiFi Protected Access 2 with Pre-Shared Key) is a security protocol that uses stronger encryption than WEP and WPA. It requires a pre-shared key (PSK) to be entered on each device that wants to access the network. This helps prevent unauthorized devices from accessing the network.

**NEW QUESTION 92**

- (Exam Topic 1)

Certain users are reporting their accounts are being used to send unauthorized emails and conduct suspicious activities. After further investigation, a security analyst notices the following:

- All users share workstations throughout the day.
- Endpoint protection was disabled on several workstations throughout the network.
- Travel times on logins from the affected users are impossible.
- Sensitive data is being uploaded to external sites.
- All user account passwords were forced to be reset and the issue continued. Which of the following attacks is being used to compromise the user accounts?

- A. Brute-force
- B. Keylogger
- C. Dictionary
- D. Rainbow

**Answer:** B

**Explanation:**

The symptoms suggest a keylogger is being used to compromise the user accounts, allowing the attackers to obtain the users' passwords and other sensitive information. References:

➤ [CompTIA Security+ Study Guide Exam SY0-601, Chapter 6](#)

**NEW QUESTION 97**

- (Exam Topic 1)

A security analyst wants to verify that a client-server (non-web) application is sending encrypted traffic. Which of the following should the analyst use?

- A. openssl
- B. hping
- C. netcat
- D. tcpdump

**Answer:** A

**Explanation:**

To verify that a client-server (non-web) application is sending encrypted traffic, a security analyst can use OpenSSL. OpenSSL is a software library that provides cryptographic functions, including encryption and decryption, in support of various security protocols, including SSL/TLS. It can be used to check whether a client-server application is using encryption to protect traffic. References:

➤ CompTIA Security+ Certification Exam Objectives - Exam SY0-601

**NEW QUESTION 100**

- (Exam Topic 1)

A network analyst is investigating compromised corporate information. The analyst leads to a theory that network traffic was intercepted before being transmitted to the internet. The following output was captured on an internal host:

```
IPv4 Address ..... 10.0.0.87
Subnet Mask ..... 255.255.255.0
Default Gateway ..... 10.0.0.1
```

Internet Address	Physical Address
10.10.255.255	ff-ff-ff-ff-ff-ff
10.0.0.1	aa-aa-aa-aa-aa-aa
10.0.0.254	aa-aa-aa-aa-aa-aa
224.0.0.2	01-00-5e-00-00-02

Based on the loCS, which of the following was the MOST likely attack used to compromise the network communication?

- A. Denial of service
- B. ARP poisoning
- C. Command injection
- D. MAC flooding

**Answer:** B

**Explanation:**

ARP poisoning (also known as ARP spoofing) is a type of attack where an attacker sends falsified ARP messages over a local area network to link the attacker's MAC address with the IP address of another host on the network. References: CompTIA Security+ Certification Exam Objectives - 2.5 Given a scenario, analyze potential indicators to determine the type of attack. Study Guide: Chapter 6, page 271.

**NEW QUESTION 104**

- (Exam Topic 1)

Which of the following cryptographic concepts would a security engineer utilize while implementing non-repudiation? (Select TWO)

- A. Block cipher
- B. Hashing
- C. Private key
- D. Perfect forward secrecy
- E. Salting
- F. Symmetric keys

**Answer:** BC

**Explanation:**

Non-repudiation is the ability to ensure that a party cannot deny a previous action or event. Cryptographic concepts that can be used to implement non-repudiation include hashing and digital signatures, which use a private key to sign a message and ensure that the signature is unique to the signer. References: CompTIA Security+ Certification Exam Objectives (SY0-601)

**NEW QUESTION 105**

- (Exam Topic 1)

Which of the following identifies the point in time when an organization will recover data in the event of an outage?

- A. SLA
- B. RPO
- C. MTBF
- D. ARO

**Answer:** B

**Explanation:**

Detailed  
Recovery Point Objective (RPO) is the maximum duration of time that an organization can tolerate data loss in the event of an outage. It identifies the point in time when data recovery must begin, and any data loss beyond that point is considered unacceptable.  
Reference: CompTIA Security+ Certification Guide, Exam SY0-601 by Mike Chapple and David Seidl, Chapter-7: Incident Response and Recovery, Objective 7.2: Compare and contrast business continuity and disaster recovery concepts, pp. 349-350.

**NEW QUESTION 110**

- (Exam Topic 1)

An organization recently acquired an ISO 27001 certification. Which of the following would MOST likely be considered a benefit of this certification?

- A. It allows for the sharing of digital forensics data across organizations
- B. It provides insurance in case of a data breach
- C. It provides complimentary training and certification resources to IT security staff.
- D. It certifies the organization can work with foreign entities that require a security clearance
- E. It assures customers that the organization meets security standards

**Answer:** E

**Explanation:**

ISO 27001 is an international standard that outlines the requirements for an Information Security Management System (ISMS). It provides a framework for managing and protecting sensitive information using risk management processes. Acquiring an ISO 27001 certification assures customers that the organization meets security standards and follows best practices for information security management. It helps to build customer trust and confidence in the organization's ability to protect their sensitive information. References: CompTIA Security+ Certification Exam Objectives, Exam Domain 1.0: Attacks, Threats, and Vulnerabilities, 1.2 Given a scenario, analyze indicators of compromise and determine the type of malware, p. 7

**NEW QUESTION 113**

- (Exam Topic 1)

A user reports trouble using a corporate laptop. The laptop freezes and responds slowly when writing documents and the mouse pointer occasional disappears. The task list shows the following results

Name	CPU %	Memory	Network %
Calculator	0%	4.1 MB	0 Mbps
Chrome	0.2%	207.1 MB	0.1 Mbps
Explorer	99.7%	2.15 GB	0.1 Mbps
Notepad	0%	3.9 MB	0 Mbps

Which of the following is MOST likely the issue?

- A. RAT
- B. PUP
- C. Spyware
- D. Keylogger

**Answer: C**

**Explanation:**

Spyware is malicious software that can cause a computer to slow down or freeze. It can also cause the mouse pointer to disappear. The task list shows an application named "spyware.exe" running, indicating that spyware is likely the issue. References:

- > CompTIA Security+ Certification Exam Objectives 6.0: Given a scenario, analyze indicators of compromise and determine the type of malware.
- > CompTIA Security+ Study Guide, Sixth Edition, pages 125-126

**NEW QUESTION 117**

- (Exam Topic 1)

A security analyst notices several attacks are being blocked by the NIPS but does not see anything on the boundary firewall logs. The attack seems to have been thwarted Which of the following resiliency techniques was applied to the network to prevent this attack?

- A. NIC Teaming
- B. Port mirroring
- C. Defense in depth
- D. High availability
- E. Geographic dispersal

**Answer: C**

**Explanation:**

Defense in depth is a resiliency technique that involves implementing multiple layers of security controls to protect against different types of threats. In this scenario, the NIPS likely provided protection at a different layer than the boundary firewall, demonstrating the effectiveness of defense in depth. References: CompTIA Security+ Certification Exam Objectives (SY0-601)

**NEW QUESTION 121**

- (Exam Topic 1)

A grocery store is expressing security and reliability concerns regarding the on-site backup strategy currently being performed by locally attached disks. The main concerns are the physical security of the backup media and the durability of the data stored on these devices Which of the following is a cost-effective approach to address these concerns?

- A. Enhance resiliency by adding a hardware RAID.
- B. Move data to a tape library and store the tapes off-site
- C. Install a local network-attached storage.
- D. Migrate to a cloud backup solution

**Answer: D**

**Explanation:**

a backup strategy is a plan that defines how to protect data from loss or corruption by creating and storing copies of data on a different medium or location<sup>1</sup>. A backup strategy should consider the security and reliability of the backup data and the backup storage<sup>234</sup>.

Based on these definitions, the best option that is a cost-effective approach to address the security and reliability concerns regarding the on-site backup strategy would be D. Migrate to a cloud backup solution<sup>2n4</sup>. A cloud backup solution can provide several benefits, such as:

- > Enhanced physical security of the backup data by storing it in a remote location that is protected by multiple layers of security measures.
- > Enhanced durability of the backup data by storing it on highly reliable storage devices that are replicated across multiple availability zones or regions.
- > Reduced costs of backup storage by paying only for the amount of data stored and transferred, and by using features such as compression, deduplication, encryption, and lifecycle management.
- > Increased flexibility and scalability of backup storage by choosing from various storage classes and tiers that match the performance and availability requirements of the backup data.

**NEW QUESTION 125**

- (Exam Topic 1)



A security architect is implementing a new email architecture for a company. Due to security concerns, the Chief Information Security Officer would like the new architecture to support email encryption, as well as provide for digital signatures. Which of the following should the architect implement?

- A. TOP
- B. IMAP
- C. HTTPS
- D. S/MIME

**Answer:** D

**Explanation:**

S/MIME (Secure/Multipurpose Internet Mail Extensions) is a protocol that enables secure email messages to be sent and received. It provides email encryption, as well as digital signatures, which can be used to verify the authenticity of the sender. S/MIME can be used with a variety of email protocols, including POP and IMAP.

References:

- > <https://www.comptia.org/content/guides/what-is-smime>
- > CompTIA Security+ Study Guide, Sixth Edition (SY0-601), page 139

**NEW QUESTION 130**

- (Exam Topic 1)

While reviewing pcap data, a network security analyst is able to locate plaintext usernames and passwords being sent from workstations to network switches. Which of the following is the security analyst MOST likely observing?

- A. SNMP traps
- B. A Telnet session
- C. An SSH connection
- D. SFTP traffic

**Answer:** B

**Explanation:**

The security analyst is likely observing a Telnet session, as Telnet transmits data in plain text format, including usernames and passwords. Reference: CompTIA Security+ Certification Exam Objectives, Exam SY0-601, 1.2 Given a scenario, analyze indicators of compromise and determine the type of malware.

**NEW QUESTION 133**

- (Exam Topic 1)

Which of the following are the MOST likely vectors for the unauthorized inclusion of vulnerable code in a software company's final software releases? (Select TWO.)

- A. Unsecure protocols
- B. Use of penetration-testing utilities
- C. Weak passwords
- D. Included third-party libraries
- E. Vendors/supply chain
- F. Outdated anti-malware software

**Answer:** DE

**Explanation:**

The most likely vectors for the unauthorized inclusion of vulnerable code in a software company's final software releases are included third-party libraries and vendors/supply chain. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 8: Application, Data, and Host Security, Supply Chain and Software Development Life Cycle

**NEW QUESTION 137**

- (Exam Topic 1)

Which of the following is required in order for an IDS and a WAF to be effective on HTTPS traffic?

- A. Hashing
- B. DNS sinkhole
- C. TLS inspection
- D. Data masking

**Answer:** C

**Explanation:**

an IDS (Intrusion Detection System) and a WAF (Web Application Firewall) are both used to monitor and protect web applications from common attacks such as cross-site scripting and SQL injection<sup>12</sup>. However, these attacks can also be hidden in encrypted HTTPS traffic, which uses the TLS (Transport Layer Security) protocol to provide cryptography and authentication between two communicating applications<sup>34</sup>. Therefore, in order for an IDS and a WAF to be effective on HTTPS traffic, they need to be able to decrypt and inspect the data that flows in the TLS tunnel. This is achieved by using a feature called TLS inspection<sup>34</sup>, which creates two dedicated TLS connections: one with the web server and another with the client. The firewall then uses a customer-provided CA (Certificate Authority) certificate to generate an on-the-fly certificate that replaces the web server certificate and shares it with the client. This way, the firewall can see the content of the HTTPS traffic and apply the IDS and WAF rules accordingly<sup>34</sup>.

**NEW QUESTION 141**

- (Exam Topic 1)

A security manager needs to assess the security posture of one of the organization's vendors. The contract with the vendor does not allow for auditing of the vendor's security controls. Which of the following should the manager request to complete the assessment?



- A. A service-level agreement
- B. A business partnership agreement
- C. A SOC 2 Type 2 report
- D. A memorandum of understanding

**Answer:** C

**Explanation:**

SOC 2 (Service Organization Control 2) is a type of audit report that evaluates the controls of service providers to verify their compliance with industry standards for security, availability, processing integrity, confidentiality, and privacy. A Type 2 report is based on an audit that tests the effectiveness of the controls over a period of time, unlike a Type 1 report which only evaluates the design of the controls at a specific point in time.

A SOC 2 Type 2 report would provide evidence of the vendor's security controls and how effective they are over time, which can help the security manager assess the vendor's security posture despite the vendor not allowing for a direct audit.

The security manager should request a SOC 2 Type 2 report to assess the security posture of the vendor. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 5

**NEW QUESTION 145**

- (Exam Topic 1)

The security team received a report of copyright infringement from the IP space of the corporate network. The report provided a precise time stamp for the incident as well as the name of the copyrighted files. The analyst has been tasked with determining the infringing source machine and instructed to implement measures to prevent such incidents from occurring again. Which of the following is MOST capable of accomplishing both tasks?

- A. HIDS
- B. Allow list
- C. TPM
- D. NGFW

**Answer:** D

**Explanation:**

Next-Generation Firewalls (NGFWs) are designed to provide advanced threat protection by combining traditional firewall capabilities with intrusion prevention, application control, and other security features. NGFWs can detect and block unauthorized access attempts, malware infections, and other suspicious activity. They can also be used to monitor file access and detect unauthorized copying or distribution of copyrighted material.

A next-generation firewall (NGFW) can be used to detect and prevent copyright infringement by analyzing network traffic and blocking unauthorized transfers of copyrighted material. Additionally, NGFWs can be configured to enforce access control policies that prevent unauthorized access to sensitive resources.

References:

➤ CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 6

**NEW QUESTION 147**

- (Exam Topic 1)

During a security assessment, a security finds a file with overly permissive permissions. Which of the following tools will allow the analyst to reduce the permission for the existing users and groups and remove the set-user-ID from the file?

- A. 1s
- B. chflags
- C. chmod
- D. lsof
- E. setuid

**Answer:** C

**Explanation:**

The chmod command is used to change the permissions of a file or directory. The analyst can use chmod to reduce the permissions for existing users and groups and remove the set-user-ID bit from the file. References:

➤ CompTIA Security+ Study Guide Exam SY0-601, Chapter 6

**NEW QUESTION 150**

- (Exam Topic 1)

Which of the following would MOST likely be identified by a credentialed scan but would be missed by an uncredentialed scan?

- A. Vulnerabilities with a CVSS score greater than 6.9.
- B. Critical infrastructure vulnerabilities on non-IP protocols.
- C. CVEs related to non-Microsoft systems such as printers and switches.
- D. Missing patches for third-party software on Windows workstations and servers.

**Answer:** D

**Explanation:**

An uncredentialed scan would miss missing patches for third-party software on Windows workstations and servers. A credentialed scan, however, can scan the registry and file system to determine the patch level of third-party applications. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 4: Identity and Access Management, The Importance of Credentialing Scans

**NEW QUESTION 155**

- (Exam Topic 1)

The spread of misinformation surrounding the outbreak of a novel virus on election day led to eligible voters choosing not to take the risk of going the polls. This is an example of:

- A. prepending.

- B. an influence campaign.
- C. a watering-hole attack.
- D. intimidation.
- E. information elicitation.

**Answer:** B

**Explanation:**

This scenario describes an influence campaign, where false information is spread to influence or manipulate people's beliefs or actions. In this case, the misinformation led eligible voters to avoid polling places, which influenced the outcome of the election.

**NEW QUESTION 158**

- (Exam Topic 1)

Which of the following describes a maintenance metric that measures the average time required to troubleshoot and restore failed equipment?

- A. RTO
- B. MTBF
- C. MTTR
- D. RPO

**Answer:** C

**Explanation:**

Mean Time To Repair (MTTR) is a maintenance metric that measures the average time required to troubleshoot and restore failed equipment. References: CompTIA Security+ Certification Exam Objectives 4.6 Explain the importance of secure coding practices. Study Guide: Chapter 7, page 323.

**NEW QUESTION 162**

- (Exam Topic 1)

The help desk has received calls from users in multiple locations who are unable to access core network services The network team has identified and turned off the network switches using remote commands. Which of the following actions should the network team take NEXT?

- A. Disconnect all external network connections from the firewall
- B. Send response teams to the network switch locations to perform updates
- C. Turn on all the network switches by using the centralized management software
- D. Initiate the organization's incident response plan.

**Answer:** D

**Explanation:**

An incident response plan is a set of procedures and guidelines that defines how an organization should respond to a security incident. An incident response plan typically includes the following phases: preparation, identification, containment, eradication, recovery, and lessons learned.

If the help desk has received calls from users in multiple locations who are unable to access core network services, it could indicate that a network outage or a denial-of-service attack has occurred. The network team has identified and turned off the network switches using remote commands, which could be a containment measure to isolate the affected devices and prevent further damage.

The next action that the network team should take is to initiate the organization's incident response plan, which would involve notifying the appropriate stakeholders, such as management, security team, legal team, etc., and following the predefined steps to investigate, analyze, document, and resolve the incident. The other options are not correct because:

- A. Disconnect all external network connections from the firewall. This could be another containment measure to prevent external attackers from accessing the network, but it would also disrupt legitimate network traffic and services. This action should be taken only if it is part of the incident response plan and after notifying the relevant parties.
- B. Send response teams to the network switch locations to perform updates. This could be a recovery measure to restore normal network operations and apply patches or updates to prevent future incidents, but it should be done only after the incident has been properly identified, contained, and eradicated.
- C. Turn on all the network switches by using the centralized management software. This could be a recovery measure to restore normal network operations, but it should be done only after the incident has been properly identified, contained, and eradicated.

According to CompTIA Security+ SY0-601 Exam Objectives 1.5 Given a scenario, analyze indicators of compromise and determine the type of malware:

"An incident response plan is a set of procedures and guidelines that defines how an organization should respond to a security incident. An incident response plan typically includes the following phases: preparation, identification, containment, eradication, recovery, and lessons learned."

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>

**NEW QUESTION 167**

- (Exam Topic 1)

A company is required to continue using legacy software to support a critical service. Which of the following BEST explains a risk of this practice?

- A. Default system configuration
- B. Unsecure protocols
- C. Lack of vendor support
- D. Weak encryption

**Answer:** C

**Explanation:**

One of the risks of using legacy software is the lack of vendor support. This means that the vendor may no longer provide security patches, software updates, or technical support for the software. This leaves the software vulnerable to new security threats and vulnerabilities that could be exploited by attackers.

**NEW QUESTION 168**

- (Exam Topic 1)

Which of the following BEST describes a social-engineering attack that relies on an executive at a small business visiting a fake banking website where credit card and account details are harvested?

- A. Whaling
- B. Spam
- C. Invoice scam
- D. Pharming

**Answer:** A

**Explanation:**

A social engineering attack that relies on an executive at a small business visiting a fake banking website where credit card and account details are harvested is known as whaling. Whaling is a type of phishing attack that targets high-profile individuals, such as executives, to steal sensitive information or gain access to their accounts.

**NEW QUESTION 173**

- (Exam Topic 1)

A security engineer is reviewing the logs from a SAML application that is configured to use MFA, during this review the engineer notices a high volume of successful logins that did not require MFA from users who were traveling internationally. The application, which can be accessed without a VPB, has a policy that allows time-based tokens to be generated. Users who changed locations should be required to reauthenticate but have been Which of the following statements BEST explains the issue?

- A. OpenID is mandatory to make the MFA requirements work
- B. An incorrect browser has been detected by the SAML application
- C. The access device has a trusted certificate installed that is overwriting the session token
- D. The user's IP address is changing between logins, but the application is not invalidating the token

**Answer:** D

**NEW QUESTION 174**

- (Exam Topic 1)

A business is looking for a cloud service provider that offers a la carte services, including cloud backups, VM elasticity, and secure networking. Which of the following cloud service provider types should business engage?

- A. A IaaS
- B. PaaS
- C. XaaS
- D. SaaS

**Answer:** A

**Explanation:**

Infrastructure as a Service (IaaS) providers offer a la carte services, including cloud backups, VM elasticity, and secure networking. With IaaS, businesses can rent infrastructure components such as virtual machines, storage, and networking from a cloud service provider. References: CompTIA Security+ Study Guide, pages 233-234

**NEW QUESTION 177**

- (Exam Topic 1)

A large enterprise has moved all its data to the cloud behind strong authentication and encryption. A sales director recently had a laptop stolen, and later, enterprise data was found to have been compromised from a local database. Which of the following was the MOST likely cause?

- A. Shadow IT
- B. Credential stuffing
- C. SQL injection
- D. Man in the browser
- E. Bluejacking

**Answer:** A

**Explanation:**

The most likely cause of the enterprise data being compromised from a local database is Shadow IT. Shadow IT is the use of unauthorized applications or devices by employees to access company resources. In this case, the sales director's laptop was stolen, and the attacker was able to use it to access the local database, which was not secured properly, allowing unauthorized access to sensitive data. References:

➤ [CompTIA Security+ Certification Exam Objectives - Exam SY0-601](#)

**NEW QUESTION 182**

- (Exam Topic 1)

A Chief Information Officer receives an email stating a database will be encrypted within 24 hours unless a payment of \$20,000 is credited to the account mentioned in the email. This BEST describes a scenario related to:

- A. whaling.
- B. smishing.
- C. spear phishing
- D. vishing

**Answer:** C

**Explanation:**

The scenario of receiving an email stating a database will be encrypted unless a payment is made is an example of spear phishing. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 2: Threats, Attacks, and Vulnerabilities, Social Engineering

### NEW QUESTION 183

- (Exam Topic 1)

A security analyst has been tasked with creating a new WiFi network for the company. The requirements received by the analyst are as follows:

- Must be able to differentiate between users connected to WiFi
- The encryption keys need to change routinely without interrupting the users or forcing reauthentication
- Must be able to integrate with RADIUS
- Must not have any open SSIDs

Which of the following options BEST accommodates these requirements?

- A. WPA2-Enterprise
- B. WPA3-PSK
- C. 802.11n
- D. WPS

**Answer:** A

#### Explanation:

Detailed

WPA2-Enterprise can accommodate all of the requirements listed. WPA2-Enterprise uses 802.1X authentication to differentiate between users, supports the use of RADIUS for authentication, and allows for the use of dynamic encryption keys that can be changed without disrupting the users or requiring reauthentication. Additionally, WPA2-Enterprise does not allow for open SSIDs.

References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 7: Securing Networks, p. 317

### NEW QUESTION 185

- (Exam Topic 1)

A company's public-facing website, <https://www.organization.com>, has an IP address of 166.18.75.6. However, over the past hour the SOC has received reports of the site's homepage displaying incorrect information. A quick nslookup search shows <https://www.organization.com> is pointing to 151.191.122.115. Which of the following is occurring?

- A. DoS attack
- B. ARP poisoning
- C. DNS spoofing
- D. NXDOMAIN attack

**Answer:** C

#### Explanation:

The issue is DNS spoofing, where the DNS resolution has been compromised and is pointing to a malicious IP address. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 7

### NEW QUESTION 190

- (Exam Topic 1)

After segmenting the network, the network manager wants to control the traffic between the segments. Which of the following should the manager use to control the network traffic?

- A. A DMZ
- B. A VPN a
- C. A VLAN
- D. An ACL

**Answer:** D

#### Explanation:

After segmenting the network, a network manager can use an access control list (ACL) to control the traffic between the segments. An ACL is a set of rules that permit or deny traffic based on its characteristics, such as the source and destination IP addresses, protocol type, and port number. References: CompTIA Security+ Certification Guide, Exam SY0-501

### NEW QUESTION 191

- (Exam Topic 1)

Which of the following conditions impacts data sovereignty?

- A. Rights management
- B. Criminal investigations
- C. Healthcare data
- D. International operations

**Answer:** D

#### Explanation:

Data sovereignty refers to the legal concept that data is subject to the laws and regulations of the country in which it is located. International operations can impact data sovereignty as companies operating in multiple countries may need to comply with different laws and regulations. References:

➤ CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 5

### NEW QUESTION 193

- (Exam Topic 1)

A security analyst is investigating a phishing email that contains a malicious document directed to the company's Chief Executive Officer (CEO). Which of the following should the analyst perform to understand the threat and retrieve possible IoCs?



- A. Run a vulnerability scan against the CEOs computer to find possible vulnerabilities
- B. Install a sandbox to run the malicious payload in a safe environment
- C. Perform a traceroute to identify the communication path
- D. Use netstat to check whether communication has been made with a remote host

**Answer:** B

**Explanation:**

To understand the threat and retrieve possible Indicators of Compromise (IoCs) from a phishing email containing a malicious document, a security analyst should install a sandbox to run the malicious payload in a safe environment. References: CompTIA Security+ Certification Exam Objectives - 2.5 Given a scenario, analyze potential indicators to determine the type of attack. Study Guide: Chapter 5, page 209.

**NEW QUESTION 194**

- (Exam Topic 1)

Which of the following would be BEST for a technician to review to determine the total risk an organization can bear when assessing a "cloud-first" adoption strategy?

- A. Risk matrix
- B. Risk tolerance
- C. Risk register
- D. Risk appetite

**Answer:** B

**Explanation:**

To determine the total risk an organization can bear, a technician should review the organization's risk tolerance, which is the amount of risk the organization is willing to accept. This information will help determine the organization's "cloud-first" adoption strategy. References: CompTIA Security+ Certification Exam Objectives (SY0-601)

**NEW QUESTION 199**

- (Exam Topic 1)

A user attempts to load a web-based application, but the expected login screen does not appear A help desk analyst troubleshoots the issue by running the following command and reviewing the output on the user's PC

```
user> nslookup software-solution.com
Server: rogue.comptia.com
Address: 172.16.1.250
Non-authoritative answer:
Name: software-solution.com
Address: 10.20.10.10
```

The help desk analyst then runs the same command on the local PC

```
helpdesk> nslookup software-solution.com
Server: dns.comptia.com
Address: 172.16.1.1
Non-authoritative answer:
Name: software-solution.com
Address: 172.16.1.10
```

Which of the following BEST describes the attack that is being detected?

- A. Domain hijacking
- B. DNS poisoning
- C. MAC flooding
- D. Evil twin

**Answer:** B

**Explanation:**

DNS poisoning, also known as DNS spoofing or DNS cache poisoning, is a form of computer security hacking in which corrupt Domain Name System (DNS) data is introduced into the DNS resolver's cache, causing the name server to return an incorrect result record, such as an IP address. This results in traffic being diverted to the attacker's computer (or any other malicious destination).

DNS poisoning can be performed by various methods, such as:

- > Intercepting and forging DNS responses from legitimate servers
  - > Compromising DNS servers and altering their records
  - > Exploiting vulnerabilities in DNS protocols or implementations
  - > Sending malicious emails or links that trigger DNS queries with poisoned responses
- According to CompTIA Security+ SY0-601 Exam Objectives 1.4 Given a scenario, analyze potential

indicators to determine the type of attack:

"DNS poisoning, also known as DNS spoofing or DNS cache poisoning, is a form of computer security hacking in which corrupt Domain Name System (DNS) data is introduced into the DNS resolver's cache, causing the name server to return an incorrect result record."

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>  
<https://www.cloudflare.com/learning/dns/dns-cache-poisoning/>

**NEW QUESTION 203**

- (Exam Topic 1)

The technology department at a large global company is expanding its Wi-Fi network infrastructure at the headquarters building Which of the following should be closely coordinated between the technology, cybersecurity, and physical security departments?

- A. Authentication protocol
- B. Encryption type
- C. WAP placement



D. VPN configuration

**Answer:** C

**Explanation:**

WAP stands for wireless access point, which is a device that allows wireless devices to connect to a wired network using Wi-Fi or Bluetooth. WAP placement refers to where and how WAPs are installed in a building or area.

WAP placement should be closely coordinated between the technology, cybersecurity, and physical security departments because it affects several aspects of network performance and security, such as:

- Coverage: WAP placement determines how well wireless devices can access the network throughout the building or area. WAPs should be placed in locations that provide optimal signal strength and avoid interference from other sources.
- Capacity: WAP placement determines how many wireless devices can connect to the network simultaneously without affecting network speed or quality. WAPs should be placed in locations that balance network load and avoid congestion or bottlenecks.
- Security: WAP placement determines how vulnerable wireless devices are to eavesdropping or hacking attacks from outside or inside sources. WAPs should be placed in locations that minimize exposure to unauthorized access and maximize encryption and authentication methods.

**NEW QUESTION 206**

- (Exam Topic 1)

A security analyst is responding to an alert from the SIEM. The alert states that malware was discovered on a host and was not automatically deleted. Which of the following would be BEST for the analyst to perform?

- A. Add a deny-all rule to that host in the network ACL
- B. Implement a network-wide scan for other instances of the malware.
- C. Quarantine the host from other parts of the network
- D. Revoke the client's network access certificates

**Answer:** C

**Explanation:**

When malware is discovered on a host, the best course of action is to quarantine the host from other parts of the network. This prevents the malware from spreading and potentially infecting other hosts. Adding a

deny-all rule to the host in the network ACL may prevent legitimate traffic from being processed, implementing a network-wide scan is time-consuming and may not be necessary, and revoking the client's network access certificates is an extreme measure that may not be warranted. References: CompTIA Security+ Study Guide, pages 113-114

**NEW QUESTION 209**

- (Exam Topic 1)

Per company security policy, IT staff members are required to have separate credentials to perform administrative functions using just-in-time permissions. Which of the following solutions is the company implementing?

- A. Privileged access management
- B. SSO
- C. RADIUS
- D. Attribute-based access control

**Answer:** A

**Explanation:**

The company is implementing privileged access management, which provides just-in-time permissions for administrative functions.

**NEW QUESTION 213**

- (Exam Topic 1)

Hackers recently attacked a company's network and obtained several unfavorable pictures from the Chief Executive Officer's workstation. The hackers are threatening to send the images to the press if a ransom is not paid. Which of the following is impacted the MOST?

- A. Identify theft
- B. Data loss
- C. Data exfiltration
- D. Reputation

**Answer:** D

**Explanation:**

The best option that describes what is impacted the most by the hackers' attack and threat would be D. Reputation. Reputation is the perception or opinion that others have about a person or an organization. Reputation can affect the trust, credibility, and success of a person or an organization. In this scenario, if the hackers send the unfavorable pictures to the press, it can damage the reputation of the Chief Executive Officer and the company, and cause negative consequences such as loss of customers, partners, investors, or employees.

**NEW QUESTION 214**

- (Exam Topic 1)

An organization would like to remediate the risk associated with its cloud service provider not meeting its advertised 99.999% availability metrics. Which of the following should the organization consult for the exact requirements for the cloud provider?

- A. SLA
- B. BPA
- C. NDA
- D. MOU

**Answer:** A

**Explanation:**

The Service Level Agreement (SLA) is a contract between the cloud service provider and the organization that stipulates the exact requirements for the cloud provider. It outlines the level of service that the provider must deliver, including the minimum uptime percentage, support response times, and the remedies and penalties for failing to meet the agreed-upon service levels.

**NEW QUESTION 219**

- (Exam Topic 1)

A security engineer needs to create a network segment that can be used for servers that require connections from untrusted networks. Which of the following should the engineer implement?

- A. An air gap
- B. A hot site
- C. A VUAN
- D. A screened subnet

**Answer:** D

**Explanation:**

A screened subnet is a network segment that can be used for servers that require connections from untrusted networks. It is placed between two firewalls, with one firewall facing the untrusted network and the other facing the trusted network. This setup provides an additional layer of security by screening the traffic that flows between the two networks. References: CompTIA Security+ Certification Guide, Exam SY0-501

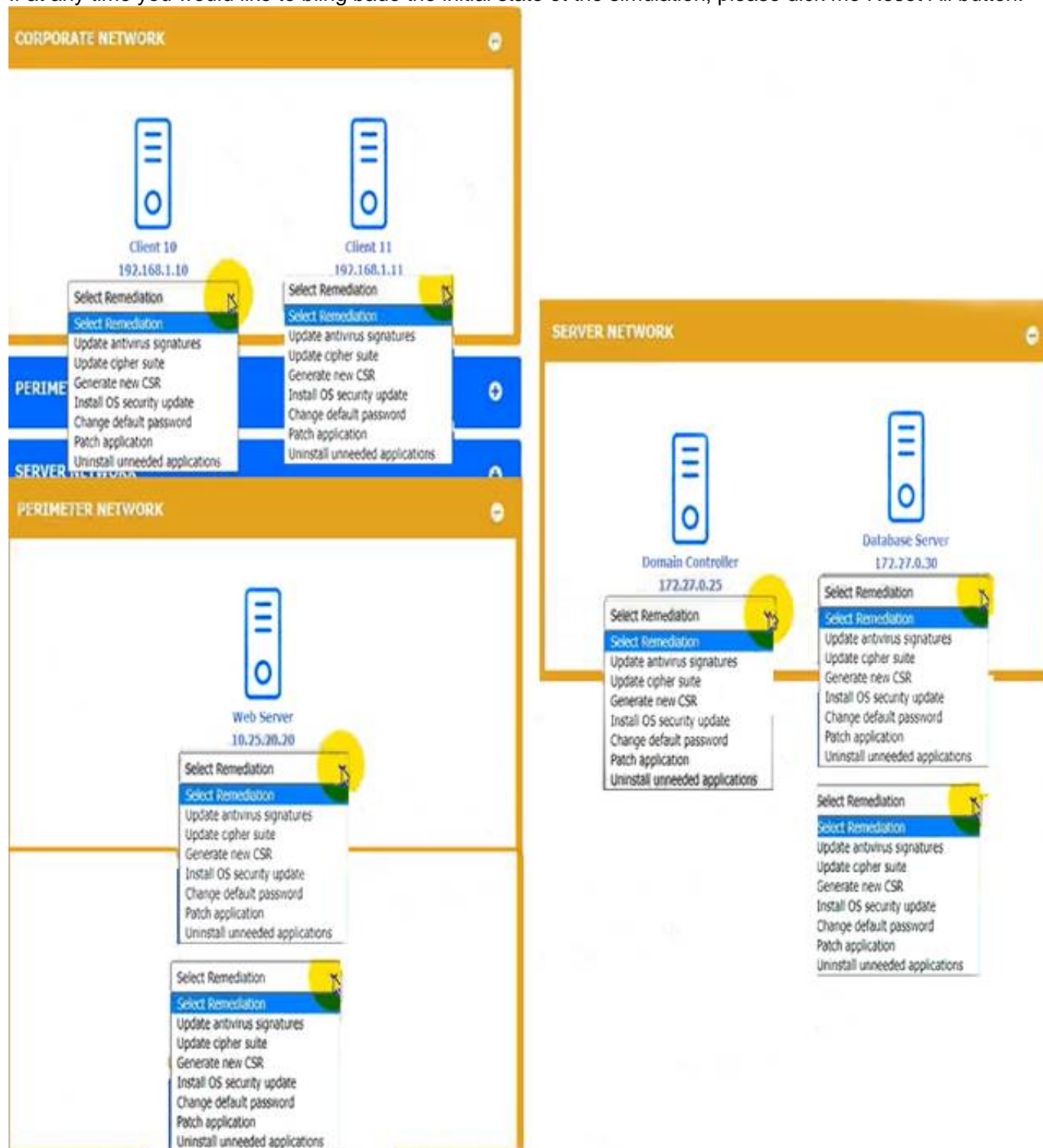
**NEW QUESTION 223**

- (Exam Topic 1)

You received the output of a recent vulnerability assessment.

Review the assessment and scan output and determine the appropriate remediation(s) for each device. Remediation options may be selected multiple times, and some devices may require more than one remediation.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



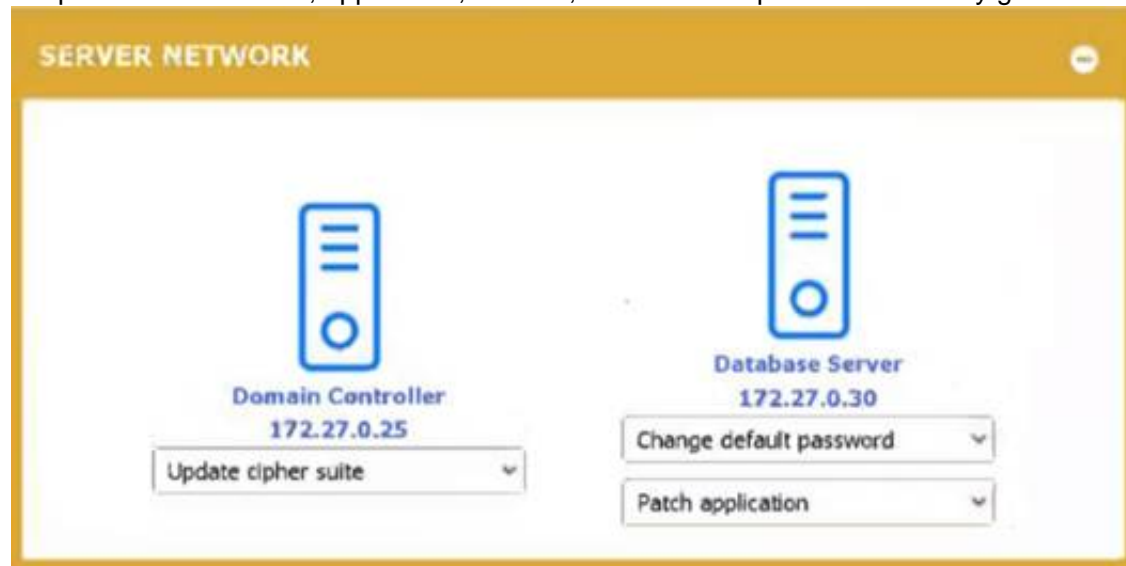
- A. Mastered
- B. Not Mastered

**Answer:** A

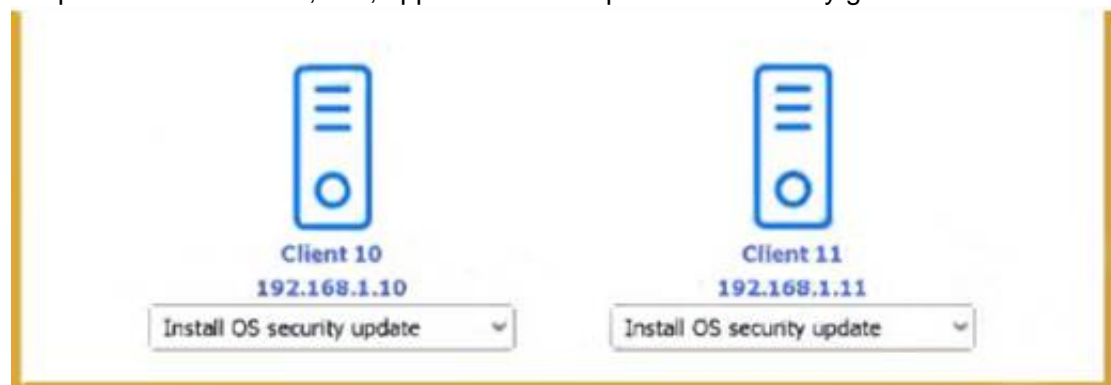
#### Explanation:



Graphical user interface, application, website, Teams Description automatically generated



Graphical user interface, text, application Description automatically generated



#### NEW QUESTION 225

- (Exam Topic 1)

The compliance team requires an annual recertification of privileged and non-privileged user access. However, multiple users who left the company six months ago still have access. Which of the following would have prevented this compliance violation?

- A. Account audits
- B. AUP
- C. Password reuse
- D. SSO

**Answer:** A

#### Explanation:

Account audits are periodic reviews of user accounts to ensure that they are being used appropriately and that access is being granted and revoked in accordance with the organization's policies and procedures. If the compliance team had been conducting regular account audits, they would have identified the users who left the company six months ago and ensured that their access was revoked in a timely manner. This would have prevented the compliance violation caused by these users still having access to the company's systems.

To prevent this compliance violation, the company should implement account audits. An account audit is a regular review of all user accounts to ensure that they are being used properly and that they are in compliance with the company's security policies. By conducting regular account audits, the company can identify inactive or unused accounts and remove access for those users. This will help to prevent compliance violations and ensure that only authorized users have access to the company's systems and data.

#### NEW QUESTION 229

- (Exam Topic 1)

An employee's company account was used in a data breach Interviews with the employee revealed:

- The employee was able to avoid changing passwords by using a previous password again.
- The account was accessed from a hostile, foreign nation, but the employee has never traveled to any other countries.

Which of the following can be implemented to prevent these issues from reoccurring? (Select TWO)

- A. Geographic dispersal
- B. Password complexity
- C. Password history
- D. Geotagging
- E. Password lockout
- F. Geofencing

**Answer:** CF

**Explanation:**

two possible solutions that can be implemented to prevent these issues from reoccurring are password history and geofencing. Password history is a feature that prevents users from reusing their previous passwords. This can enhance password security by forcing users to create new and unique passwords periodically. Password history can be configured by setting a policy that specifies how many previous passwords are remembered and how often users must change their passwords.

Geofencing is a feature that restricts access to a system or network based on the geographic location of the user or device. This can enhance security by preventing unauthorized access from hostile or foreign regions. Geofencing can be implemented by using GPS, IP address, or other methods to determine the location of the user or device and compare it with a predefined set of boundaries.

**NEW QUESTION 234**

- (Exam Topic 1)

A network analyst is setting up a wireless access point for a home office in a remote, rural location. The requirement is that users need to connect to the access point securely but do not want to have to remember passwords. Which of the following should the network analyst enable to meet the requirement?

- A. MAC address filtering
- B. 802.1X
- C. Captive portal
- D. WPS

**Answer:** D

**Explanation:**

The network analyst should enable Wi-Fi Protected Setup (WPS) to allow users to connect to the wireless access point securely without having to remember passwords. WPS allows users to connect to a wireless network by pressing a button or entering a PIN instead of entering a password.

Reference: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 4: Identity and Access Management

**NEW QUESTION 239**

- (Exam Topic 1)

As part of a company's ongoing SOC maturation process, the company wants to implement a method to share cyberthreat intelligence data with outside security partners. Which of the following will the company MOST likely implement?

- A. TAXII
- B. TLP
- C. TTP
- D. STIX

**Answer:** A

**Explanation:**

Trusted Automated Exchange of Intelligence Information (TAXII) is a standard protocol that enables the sharing of cyber threat intelligence between organizations. It allows organizations to automate the exchange of information in a secure and timely manner. References: CompTIA Security+ Certification Exam Objectives 3.6 Given a scenario, implement secure network architecture concepts. Study Guide: Chapter 4, page 167.

**NEW QUESTION 242**

- (Exam Topic 1)

An attacker replaces a digitally signed document with another version that goes unnoticed. Upon reviewing the document's contents, the author notices some additional verbiage that was not originally in the document but cannot validate an integrity issue. Which of the following attacks was used?

- A. Cryptomalware
- B. Hash substitution
- C. Collision
- D. Phishing

**Answer:** B

**Explanation:**

This type of attack occurs when an attacker replaces a digitally signed document with another version that has a different hash value. The author would be able to notice the additional verbiage, however, since the hash value would have changed, they would not be able to validate an integrity issue.

**NEW QUESTION 244**

- (Exam Topic 1)

The Chief Information Security Officer directed a risk reduction in shadow IT and created a policy requiring all unsanctioned high-risk SaaS applications to be blocked from user access. Which of the following is the BEST security solution to reduce this risk?

- A. CASB
- B. VPN concentrator
- C. MFA
- D. VPC endpoint

**Answer:** A

**Explanation:**

A Cloud Access Security Broker (CASB) can be used to monitor and control access to cloud-based applications, including unsanctioned SaaS applications. It can help enforce policies that prevent access to high-risk SaaS applications and provide visibility into the use of such applications by employees. References: CompTIA Security+ SY0-601 Exam Objectives: 3.3 Given a scenario, implement secure mobile solutions.



#### NEW QUESTION 247

- (Exam Topic 1)

An application owner reports suspicious activity on an internal financial application from various internal users within the past 14 days. A security analyst notices the following:

- Financial transactions were occurring during irregular time frames and outside of business hours by unauthorized users.
- Internal users in question were changing their passwords frequently during that time period.
- A jump box that several domain administrator users use to connect to remote devices was recently compromised.
- The authentication method used in the environment is NTLM.

Which of the following types of attacks is MOST likely being used to gain unauthorized access?

- A. Pass-the-hash
- B. Brute-force
- C. Directory traversal
- D. Replay

**Answer:** A

#### Explanation:

The suspicious activity reported by the application owner, combined with the recent compromise of the jump box and the use of NTLM authentication, suggests that an attacker is likely using a pass-the-hash attack to gain unauthorized access to the financial application. This type of attack involves stealing hashed passwords from memory and then using them to authenticate as the compromised user without needing to know the user's plaintext password. References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 5

#### NEW QUESTION 252

- (Exam Topic 1)

A security analyst needs an overview of vulnerabilities for a host on the network. Which of the following is the BEST type of scan for the analyst to run to discover which vulnerable services are running?

- A. Non-credentialed
- B. Web application
- C. Privileged
- D. Internal

**Answer:** C

#### Explanation:

Privileged scanning, also known as credentialed scanning, is a type of vulnerability scanning that uses a valid user account to log in to the target host and examine vulnerabilities from a trusted user's perspective. It can provide more accurate and comprehensive results than unprivileged scanning, which does not use any credentials and only scans for externally visible vulnerabilities.

#### NEW QUESTION 254

- (Exam Topic 2)

Multiple beaconing activities to a malicious domain have been observed. The malicious domain is hosting malware from various endpoints on the network. Which of the following technologies would be best to correlate the activities between the different endpoints?

- A. Firewall
- B. SIEM
- C. IPS
- D. Protocol analyzer

**Answer:** B

#### Explanation:

SIEM stands for Security Information and Event Management, which is a technology that collects, analyzes, and correlates data from multiple sources, such as firewall logs, IDS/IPS alerts, network devices, applications, and endpoints. SIEM provides real-time monitoring and alerting of security events, as well as historical analysis and reporting for compliance and forensic purposes.

A SIEM technology would be best to correlate the activities between the different endpoints that are beaconing to a malicious domain. A SIEM can detect the malicious domain by comparing it with threat intelligence feeds or known indicators of compromise (IOCs). A SIEM can also identify the endpoints that are communicating with the malicious domain by analyzing the firewall logs and other network traffic data. A SIEM can alert the security team of the potential compromise and provide them with relevant information for investigation and remediation.

#### NEW QUESTION 255

- (Exam Topic 2)

Which of the following can reduce vulnerabilities by avoiding code reuse?

- A. Memory management
- B. Stored procedures
- C. Normalization
- D. Code obfuscation

**Answer:** A

#### Explanation:

Memory management is a technique that can allocate and deallocate memory for applications and processes. Memory management can reduce vulnerabilities by avoiding code reuse, which is a technique that exploits a memory corruption vulnerability to execute malicious code that already exists in memory. Memory management can prevent code reuse by implementing features such as address space layout randomization (ASLR), data execution prevention (DEP), or stack canaries.

#### NEW QUESTION 260



- (Exam Topic 2)

The application development teams have been asked to answer the following questions:

- > Does this application receive patches from an external source?
- > Does this application contain open-source code?
- > Is this application accessible by external users?
- > Does this application meet the corporate password standard? Which of the following are these questions part of?

- A. Risk control self-assessment
- B. Risk management strategy
- C. Risk acceptance
- D. Risk matrix

**Answer:** A

**Explanation:**

A risk control self-assessment (RCSA) is a process that allows an organization to identify, evaluate, and mitigate the risks associated with its activities, processes, systems, and products. A RCSA involves asking relevant questions to assess the effectiveness of existing controls and identify any gaps or weaknesses that need improvement. A RCSA also helps to align the risk appetite and tolerance of the organization with its strategic objectives and performance.

The application development teams have been asked to answer questions related to their applications' security posture, such as whether they receive patches from an external source, contain open-source code, are accessible by external users, or meet the corporate password standard. These questions are part of a RCSA process that aims to evaluate the potential risks and vulnerabilities associated with each application and determine how well they are managed and mitigated.

**NEW QUESTION 262**

- (Exam Topic 2)

Which of the following procedures would be performed after the root cause of a security incident has been identified to help avoid future incidents from occurring?

- A. Walk-throughs
- B. Lessons learned
- C. Attack framework alignment
- D. Containment

**Answer:** B

**Explanation:**

After the root cause of a security incident has been identified, it is important to take the time to analyze what went wrong and how it could have been prevented. This process is known as "lessons learned" and allows organizations to identify potential improvements to their security processes and protocols. Lessons learned typically involve a review of the incident and the steps taken to address it, a review of the security systems and procedures in place, and an analysis of any potential changes that can be made to prevent similar incidents from occurring in the future.

**NEW QUESTION 266**

- (Exam Topic 2)

A company is adding a clause to its AUP that states employees are not allowed to modify the operating system on mobile devices. Which of the following vulnerabilities is the organization addressing?

- A. Cross-site scripting
- B. Buffer overflow
- C. Jailbreaking
- D. Side loading

**Answer:** C

**Explanation:**

Jailbreaking is the vulnerability that the organization is addressing by adding a clause to its AUP that states employees are not allowed to modify the operating system on mobile devices. Jailbreaking is the process of removing the restrictions or limitations imposed by the manufacturer or carrier on a mobile device, such as an iPhone or iPad. Jailbreaking can allow users to install unauthorized applications, customize settings, or access system files. However, jailbreaking can also expose the device to security risks, such as malware, data loss, or warranty voidance. References: <https://www.comptia.org/blog/what-is-jailbreaking>  
<https://www.certblaster.com/wp-content/uploads/2020/11/CompTIA-Security-SY0-601-Exam-Objectives-1.0.pdf>

**NEW QUESTION 269**

- (Exam Topic 2)

An analyst is working on an email security incident in which the target opened an attachment containing a worm. The analyst wants to Implement mitigation techniques to prevent further spread. Which of the following is the best course of action for the analyst to take?

- A. Apply a DLP solution.
- B. Implement network segmentation.
- C. Utilize email content filtering.
- D. Isolate the infected attachment.

**Answer:** D

**Explanation:**

Isolating the infected attachment is the best course of action for the analyst to take to prevent further spread of the worm. A worm is a type of malware that can self-replicate and infect other devices without human interaction. By isolating the infected attachment, the analyst can prevent the worm from spreading to other devices or networks via email, file-sharing, or other means. Isolating the infected attachment can also help the analyst to analyze the worm and determine its source, behavior, and impact. References:

- > <https://www.security.org/antivirus/computer-worm/>
- > [https://sec.cloudapps.cisco.com/security/center/resources/worm\\_mitigation\\_whitepaper.html](https://sec.cloudapps.cisco.com/security/center/resources/worm_mitigation_whitepaper.html)

#### NEW QUESTION 270

- (Exam Topic 2)

A company recently experienced a significant data loss when proprietary information was leaked to a competitor. The company took special precautions by using proper labels; however, email filter logs do not have any record of the incident. An investigation confirmed the corporate network was not breached, but documents were downloaded from an employee's COPE tablet and passed to the competitor via cloud storage. Which of the following is the best mitigation strategy to prevent this from happening in the future?

- A. User training
- B. CAsB
- C. MDM
- D. EDR

**Answer:** C

#### Explanation:

MDM stands for mobile device management, which is a solution that allows organizations to manage and secure mobile devices used by employees. MDM can help prevent data loss and leakage by enforcing policies and restrictions on the devices, such as encryption, password, app installation, remote wipe, and so on. MDM can also monitor and audit the device activity and compliance status. MDM can be the best mitigation strategy to prevent data leakage from an employee's COPE tablet via cloud storage, as it can block or limit the access to cloud services, or apply data protection measures such as containerization or encryption.

References:

- > <https://www.blackberry.com/us/en/solutions/corporate-owned-personally-enabled>
- > <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/mobile-device-management/>

#### NEW QUESTION 272

- (Exam Topic 2)

An attacker was eavesdropping on a user who was shopping online. The attacker was able to spoof the IP address associated with the shopping site. Later, the user received an email regarding credit card statement with unusual purchases. Which of the following attacks took place?

- A. On-path attack
- B. Protocol poisoning
- C. Domain hijacking
- D. Bluejacking

**Answer:** A

#### Explanation:

An on-path attack is an attack that took place when an attacker was eavesdropping on a user who was shopping online and was able to spoof the IP address associated with the shopping site. An on-path attack is a type of network attack that involves intercepting or modifying traffic between two parties by placing oneself in the communication path. An on-path attack can also be called a man-in-the-middle attack or a session hijacking attack. An on-path attacker can steal sensitive information, such as credit card details, or redirect the user to a malicious website. References: <https://www.comptia.org/blog/what-is-a-man-in-the-middle-attack>

<https://www.certblaster.com/wp-content/uploads/2020/11/CompTIA-Security-SY0-601-Exam-Objectives-1.0.pdf>

#### NEW QUESTION 275

- (Exam Topic 2)

Sales team members have been receiving threatening voicemail messages and have reported these incidents to the IT security team. Which of the following would be MOST appropriate for the IT security team to analyze?

- A. Access control
- B. Syslog
- C. Session Initiation Protocol traffic logs
- D. Application logs

**Answer:** B

#### Explanation:

Syslogs are log files that are generated by devices on the network and contain information about network activity, including user logins, device connections, and other events. By analyzing these logs, the IT security team can identify the source of the threatening voicemail messages and take the necessary steps to address the issue

#### NEW QUESTION 280

- (Exam Topic 2)

A junior human resources administrator was gathering data about employees to submit to a new company awards program The employee data included job title business phone number location first initial with last name and race Which of the following best describes this type of information?

- A. Sensitive
- B. Non-PII
- C. Private
- D. Confidential

**Answer:** B

#### Explanation:

Non-PII stands for non-personally identifiable information, which is any data that does not directly identify a specific individual. Non-PII can include information such as job title, business phone number, location, first initial with last name, and race. Non-PII can be used for various purposes, such as statistical analysis, marketing, or research. However, non-PII may still pose some privacy risks if it is combined or linked with other data that can reveal an individual's identity.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>

<https://www.investopedia.com/terms/n/non-personally-identifiable-information-npii.asp>

NEW QUESTION 285

- (Exam Topic 2)

An attack has occurred against a company.

INSTRUCTIONS

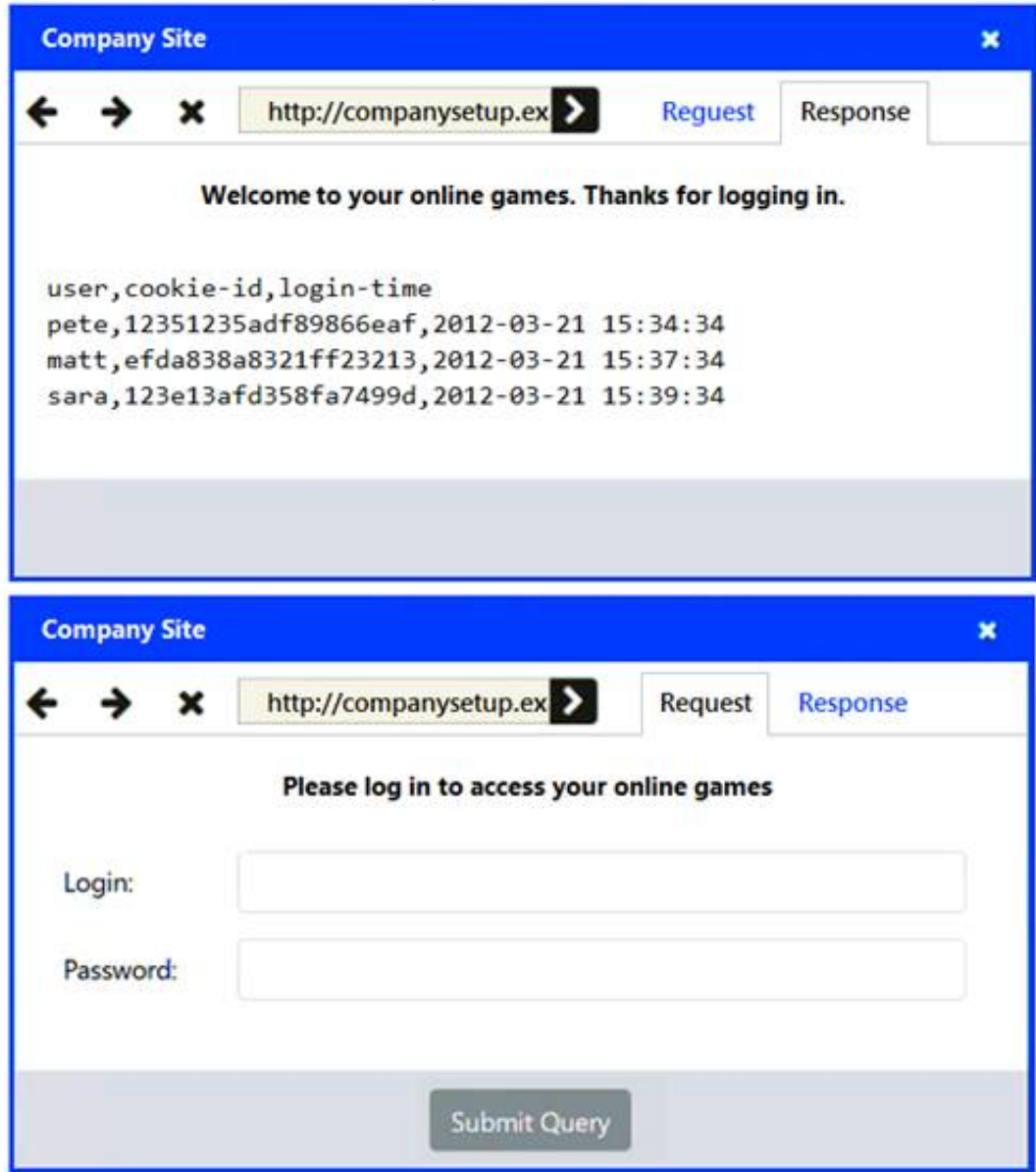
You have been tasked to do the following:

Identify the type of attack that is occurring on the network by clicking on the attacker's tablet and reviewing the output. (Answer Area 1).

Identify which compensating controls should be implemented on the assets, in order to reduce the effectiveness of future attacks by dragging them to the correct server.

(Answer area 2) All objects will be used, but not all placeholders may be filled. Objects may only be used once.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



Select and Place:

**Answer Area 1**

SQL Injection

Cross Site Scripting

XML Injection

Session Hijacking

Type of attack

?

**Answer Area 2**

Input Validation

Code Review

WAF

URL Filtering

Record level access control

- A. Mastered  
B. Not Mastered

Answer: A

Explanation:

A computer screen shot of a computer Description automatically generated with low confidence

#### NEW QUESTION 286

- (Exam Topic 2)

A network manager is concerned that business may be negatively impacted if the firewall in its data center goes offline. The manager would like to implement a high availability pair to:

- A. decrease the mean time between failures.
- B. remove the single point of failure.
- C. cut down the mean time to repair
- D. reduce the recovery time objective

**Answer: B**

#### Explanation:

A single point of failure is a component or element of a system that, if it fails, will cause the entire system to fail or stop functioning. It can pose a high risk and impact for business continuity and availability. A high availability pair is a configuration that involves two identical devices or systems that operate in parallel and provide redundancy and failover capabilities. It can remove the single point of failure by ensuring that if one device or system fails, the other one can take over its functions without interruption or downtime.

#### NEW QUESTION 290

- (Exam Topic 2)

Which of the following describes software on network hardware that needs to be updated on a rou-tine basis to help address possible vulnerabilities?

- A. Vendor management
- B. Application programming interface
- C. Vanishing
- D. Encryption strength
- E. Firmware

**Answer: E**

#### Explanation:

Firmware is software that allows your computer to communicate with hardware devices, such as network routers, switches, or firewalls. Firmware updates can fix bugs, improve performance, and enhance security features. Without firmware updates, the devices you connect to your network might not work properly or might be vulnerable to attacks<sup>1</sup>. You can have Windows automatically download recommended drivers and firmware updates for your hardware devices<sup>1</sup>, or you can use a network monitoring software to keep track of the firmware status of your devices<sup>2</sup>. You should also follow the best practices for keeping devices and software up to date, such as enforcing automatic updates, monitoring update status, and testing updates before deploying them

#### NEW QUESTION 293

- (Exam Topic 2)

Which of the following would satisfy three-factor authentication requirements?

- A. Password, PIN, and physical token
- B. PIN, fingerprint scan, and ins scan
- C. Password, fingerprint scan, and physical token
- D. PIN, physical token, and ID card

**Answer: C**

#### Explanation:

Three-factor authentication combines three types of authentication methods: something you know (password), something you have (physical token), and something you are (fingerprint scan). Option C satisfies these requirements, as it uses a password (something you know), a physical token (something you have), and a fingerprint scan (something you are) for authentication.

Reference: CompTIA Security+ Study Guide (SY0-601) 7th Edition by Emmett Dulaney, Chuck Easttom Note: There could be other options as well that could satisfy the three-factor authentication requirements as per the organization's security policies.

#### NEW QUESTION 296

- (Exam Topic 2)

Which Of the following is a primary security concern for a setting up a BYOD program?

- A. End of life
- B. Buffer overflow
- C. VM escape
- D. Jailbreaking

**Answer: D**

#### Explanation:

Jailbreaking is a process of bypassing or removing the manufacturer-imposed restrictions on a mobile device's operating system, allowing users to install unauthorized applications, modify settings, etc. It is a primary security concern for setting up a BYOD program because it can expose the device and its data to malware, vulnerabilities, unauthorized access, etc

#### NEW QUESTION 297

- (Exam Topic 2)

A manager for the development team is concerned about reports showing a common set of vulnerabilities. The set of vulnerabilities is present on almost all of the applications developed by the team. Which of the following approaches would be most effective for the manager to use to address this issue?

- A. Tune the accuracy of fuzz testing.



- B. Invest in secure coding training and application security guidelines.
- C. Increase the frequency of dynamic code scans to detect issues faster.
- D. Implement code signing to make code immutable.

**Answer:** B

**Explanation:**

Invest in secure coding training and application security guidelines is the most effective approach for the manager to use to address the issue of common vulnerabilities in the applications developed by the team. Secure coding training can help the developers learn how to write code that follows security best practices and avoids common mistakes or flaws that can introduce vulnerabilities. Application security guidelines can provide a set of standards and rules for developing secure applications that meet the company's security requirements and policies. By investing in secure coding training and application security guidelines, the manager can improve the security awareness and skills of the development team and reduce the number of vulnerabilities in their applications. References: 1

CompTIA Security+ Certification Exam Objectives, page 9,

Domain 2.0: Architecture and Design, Objective 2.3: Summarize secure application development, deployment, and automation concepts 2

CompTIA Security+ Certification Exam Objectives, page 10, Domain 2.0:

Architecture and Design, Objective 2.4: Explain the importance of embedded and specialized systems security 3 <https://www.comptia.org/blog/what-is-secure-coding>

**NEW QUESTION 299**

- (Exam Topic 2)

An organization has hired a security analyst to perform a penetration test. The analyst captures 1Gb worth of inbound network traffic to the server and transfers the pcap back to the machine for analysis. Which of the following tools should the analyst use to further review the pcap?

- A. Nmap
- B. CURL
- C. Neat
- D. Wireshark

**Answer:** D

**Explanation:**

Wireshark is a tool that can analyze pcap files, which are files that capture network traffic. Wireshark can display the packets, protocols, and other details of the network traffic in a graphical user interface. Nmap is a tool that can scan networks and hosts for open ports and services. CURL is a tool that can transfer data from or to a server using various protocols. Neat is a tool that can test network performance and quality.

**NEW QUESTION 304**

- (Exam Topic 2)

An organization wants to quickly assess how effectively the IT team hardened new laptops. Which of the following would be the best solution to perform this assessment?

- A. Install a SIEM tool and properly configure it to read the OS configuration files.
- B. Load current baselines into the existing vulnerability scanner.
- C. Maintain a risk register with each security control marked as compliant or non-compliant.
- D. Manually review the secure configuration guide checklists.

**Answer:** B

**Explanation:**

A vulnerability scanner is a tool that can scan devices and systems for known vulnerabilities, misconfigurations, and compliance issues. By loading the current baselines into the scanner, the organization can compare the actual state of the new laptops with the desired state and identify any deviations or weaknesses. This is a quick and automated way to assess the hardening of the new laptops.

**NEW QUESTION 309**

- (Exam Topic 2)

A security administrator needs to provide secure access to internal networks for external partners. The administrator has given the PSK and other parameters to the third-party security administrator. Which of the following is being used to establish this connection?

- A. Kerberos
- B. SSL/TLS
- C. IPSec
- D. SSH

**Answer:** C

**Explanation:**

IPSec is a protocol suite that provides secure communication over IP networks. It uses encryption, authentication, and integrity mechanisms to protect data from unauthorized access or modification. IPSec can operate in two modes: transport mode and tunnel mode. In tunnel mode, IPSec can create a virtual private network (VPN) between two endpoints, such as external partners and internal networks. To establish a VPN connection, IPSec requires a pre-shared key (PSK) or other parameters to negotiate the security association. References:

<https://www.comptia.org/content/guides/what-is-vpn>

**NEW QUESTION 312**

- (Exam Topic 2)

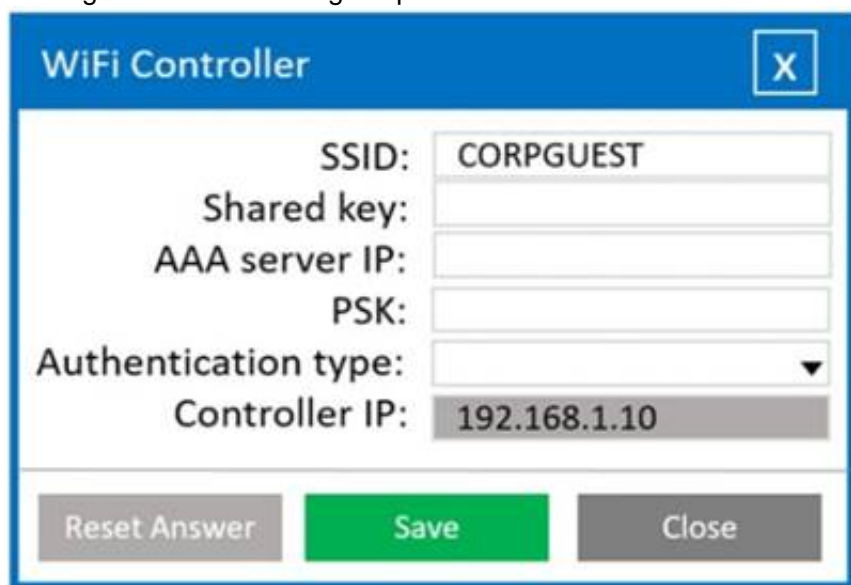
A systems administrator needs to install a new wireless network for authenticated guest access. The wireless network should support 802.11 using the most secure encryption and protocol available.

Perform the following steps:

- \* 1. Configure the RADIUS server.
- \* 2. Configure the WiFi controller.



\* 3. Preconfigure the client for an incoming guest. The guest AD credentials are:  
 User: guest01 Password: guestpass



The image shows a 'WiFi Controller' configuration window. It contains the following fields and values:

- SSID: CORPGUEST
- Shared key: (empty)
- AAA server IP: (empty)
- PSK: (empty)
- Authentication type: (dropdown menu)
- Controller IP: 192.168.1.10

At the bottom, there are three buttons: 'Reset Answer' (disabled), 'Save' (active), and 'Close' (disabled).

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Wifi Controller SSID: CORPGUEST  
 SHARED KEY: Secret  
 AAA server IP: 192.168.1.20  
 PSK: Blank  
 Authentication type: WPA2-EAP-PEAP-MSCHAPv2 Controller IP: 192.168.1.10  
 Radius Server Shared Key: Secret  
 Client IP: 192.168.1.10  
 Authentication Type: Active Directory Server IP: 192.168.1.20  
 Wireless Client SSID: CORPGUEST  
 Username: guest01 Userpassword: guestpass PSK: Blank  
 Authentication type: WPA2-Enterprise

**NEW QUESTION 314**

- (Exam Topic 2)

Which of the following would be most effective to contain a rapidly spreading attack that is affecting a large number of organizations?

- A. Machine learning
- B. DNS sinkhole
- C. Blocklist
- D. Honey pot

**Answer:** B

**Explanation:**

A DNS sinkhole would be most effective to contain a rapidly spreading attack that is affecting a large number of organizations. A DNS sinkhole is a technique that involves redirecting malicious or unwanted domain names to an alternative IP address, such as a black hole, a honeypot, or a warning page. A DNS sinkhole can help to prevent or disrupt the communication between infected systems and command-and-control servers, malware distribution sites, phishing sites, or botnets. A DNS sinkhole can also help to identify and isolate infected systems by monitoring the traffic to the sinkhole IP address. References:

<https://www.comptia.org/blog/what-is-a-dns-sinkhole>

<https://www.certblaster.com/wp-content/uploads/2020/11/CompTIA-Security-SY0-601-Exam-Objectives-1.0.pdf>

**NEW QUESTION 317**

- (Exam Topic 2)

A company is focused on reducing risks from removable media threats. Due to certain primary applications, removable media cannot be entirely prohibited at this time. Which of the following best describes the company's approach?

- A. Compensating controls
- B. Directive control
- C. Mitigating controls
- D. Physical security controls

**Answer:** C

**Explanation:**

Mitigating controls are designed to reduce the impact or severity of an event that has occurred or is likely to occur. They do not prevent or detect the event, but rather limit the damage or consequences of it. For example, a backup system is a mitigating control that can help restore data after a loss or corruption.

In this case, the company is focused on reducing risks from removable media threats, which are threats that can compromise data security, introduce malware infections, or cause media failure<sup>123</sup>. Removable media threats can be used to bypass network defenses and target industrial/OT environments<sup>2</sup>. The company cannot prohibit removable media entirely because of certain primary applications that require them, so it implements mitigating controls to lessen the potential harm from these threats.

Some examples of mitigating controls for removable media threats are:

- > Encrypting data on removable media
- > Scanning removable media for malware before use

- Restricting access to removable media ports
- Implementing policies and procedures for removable media usage and disposal
- Educating users on the risks and best practices of removable media

#### NEW QUESTION 322

- (Exam Topic 2)

A security engineer is investigating a penetration test report that states the company website is vulnerable to a web application attack. While checking the web logs from the time of the test, the engineer notices several invalid web form submissions using an unusual address: "SELECT \* FROM customername". Which of the following is most likely being attempted?

- A. Directory traversal
- B. SQL injection
- C. Privilege escalation
- D. Cross-site scripting

**Answer: B**

#### Explanation:

SQL injection is a web application attack that involves inserting malicious SQL statements into an input field, such as a web form, to manipulate or access the database behind the application. SQL injection can be used to perform various actions, such as reading, modifying, or deleting data, executing commands on the database server, or bypassing authentication. In this scenario, the attacker is trying to use a SQL statement "SELECT \* FROM customername" to retrieve all data from the customername table in the database.

#### NEW QUESTION 324

- (Exam Topic 2)

During the onboarding process, an employee needs to create a password for an intranet account. The password must include ten characters, numbers, and letters, and two special characters. Once the password is created, the company will grant the employee access to other company-owned websites based on the intranet profile. Which of the following access management concepts is the company most likely using to safeguard intranet accounts and grant access to multiple sites based on a user's intranet account? (Select two).

- A. Federation
- B. Identity proofing
- C. Password complexity
- D. Default password changes
- E. Password manager
- F. Open authentication

**Answer: AF**

#### Explanation:

Federation is an access management concept that allows users to authenticate once and access multiple applications or services that trust the same identity provider. Open authentication is a standard protocol that enables federation by allowing users to use their existing credentials from one service to access another service. The company is most likely using federation and open authentication to safeguard intranet accounts and grant access to multiple sites based on a user's intranet account. For example, the company could use an identity provider such as Azure AD or Keycloak to manage the user identities and credentials for the intranet account, and then use open authentication to allow the users to access other company-owned websites without having to log in again. References:

- <https://www.keycloak.org/>
- <https://learn.microsoft.com/en-us/azure/active-directory/hybrid/connect/whatis-fed>

#### NEW QUESTION 327

- (Exam Topic 2)

A security team is conducting a security review of a hosted data provider. The management team has asked the hosted data provider to share proof that customer data is being appropriately protected. Which of the following would provide the best proof that customer data is being protected?

- A. SOC2
- B. CSA
- C. CSF
- D. ISO 31000

**Answer: A**

#### Explanation:

SOC2 is a type of audit report that provides assurance on the security, availability, processing integrity, confidentiality, and privacy of a service organization's systems. It is based on the Trust Services Criteria developed by the American Institute of Certified Public Accountants (AICPA). A SOC2 report can provide proof that customer data is being appropriately protected by the hosted data provider  
<https://www.csagroup.org/store/product/50072454/> 3: <https://www.csagroup.org/store/product/50072454os/> 1: <https://cloudsecurityalliance.org/blog/2021/08/20/star-testimonial-csa-star-soc2-from-readiness-to-attestation/>

#### NEW QUESTION 329

- (Exam Topic 2)

A small, local company experienced a ransomware attack. The company has one web-facing server and a few workstations. Everything is behind an ISP firewall. A single web-facing server is set up on the router to forward all ports so that the server is viewable from the internet. The company uses an older version of third-party software to manage the website. The assets were never patched. Which of the following should be done to prevent an attack like this from happening again? (Select three).

- A. Install DLP software to prevent data loss.
- B. Use the latest version of software.
- C. Install a SIEM device.

- D. Implement MDM.
- E. Implement a screened subnet for the web server.
- F. Install an endpoint security solution.
- G. Update the website certificate and revoke the existing ones.
- H. Deploy additional network sensors.

**Answer:** BEF

### NEW QUESTION 332

- (Exam Topic 2)

The alert indicates an attacker entered thousands of characters into the text box of a web form. The web form was intended for legitimate customers to enter their phone numbers. Which of the attacks has most likely occurred?

- A. Privilege escalation
- B. Buffer overflow
- C. Resource exhaustion
- D. Cross-site scripting

**Answer:** B

#### Explanation:

A buffer overflow attack occurs when an attacker inputs more data than the buffer can store, causing the excess data to overwrite adjacent memory locations and corrupt or execute code<sup>1</sup>. In this case, the attacker entered thousands of characters into a text box that was intended for phone numbers, which are much shorter. This could result in a buffer overflow attack that compromises the web application or server. The other options are not related to this scenario. Privilege escalation is when an attacker gains unauthorized access to higher-level privileges or resources<sup>2</sup>. Resource exhaustion is when an attacker consumes all the available resources of a system, such as CPU, memory, disk space, etc., to cause a denial of service<sup>3</sup>. Cross-site scripting is when an attacker injects malicious code into a web page that is executed by the browser of a victim who visits the page.

References: 1: <https://www.fortinet.com/resources/cyberglossary/buffer-overflow> 2:

<https://www.imperva.com/learn/application-security/privilege-escalation/> 3: <https://www.imperva.com/learn/application-security/resource-exhaustion/> :

<https://owasp.org/www-community/attacks/xss/>

### NEW QUESTION 337

- (Exam Topic 2)

A data center has experienced an increase in under-voltage events following electrical grid maintenance outside the facility. These events are leading to occasional losses of system availability. Which of the following would be the most cost-effective solution for the data center to implement?

- A. Uninterruptible power supplies with battery backup
- B. Managed power distribution units to track these events
- C. A generator to ensure consistent, normalized power delivery
- D. Dual power supplies to distribute the load more evenly

**Answer:** A

#### Explanation:

Uninterruptible power supplies with battery backup would be the most cost-effective solution for the data center to implement to prevent under-voltage events following electrical grid maintenance outside the facility. An uninterruptible power supply (UPS) is a device that provides emergency power to a load when the main power source fails or drops below an acceptable level. A UPS with battery backup can help prevent under-voltage events by switching to battery power when it detects a voltage drop or outage in the main power source. A UPS with battery backup can also protect the data center equipment from power surges or spikes.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>

<https://www.apc.com/us/en/faqs/FA158852/>

### NEW QUESTION 341

- (Exam Topic 2)

A report delivered to the Chief Information Security Officer (CISO) shows that some user credentials could be exfiltrated. The report also indicates that users tend to choose the same credentials on different systems and applications. Which of the following policies should the CISO use to prevent someone from using the exfiltrated credentials?

- A. MFA
- B. Lockout
- C. Time-based logins
- D. Password history

**Answer:** A

#### Explanation:

MFA stands for multi-factor authentication, which is a method of verifying a user's identity using two or more factors, such as something you know (e.g., password), something you have (e.g., token), or something you are (e.g., biometrics). MFA can prevent someone from using the exfiltrated credentials, as they would need to provide another factor besides the username and password to access the system or application. MFA can also alert the legitimate user of an unauthorized login attempt, allowing them to change their credentials or report the incident. References:

> <https://www.comptia.org/certifications/security>

> <https://www.youtube.com/watch?v=yCJyPPvM-xg>

> <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/multi-factor-authentication-5/>

### NEW QUESTION 342

- (Exam Topic 2)

Which of the following is required in order for an IDS and a WAF to be effective on HTTPS traffic?

- A. Hashing

- B. DNS sinkhole
- C. TLS inspection
- D. Data masking

**Answer:** C

**Explanation:**

TLS (Transport Layer Security) is a protocol that is used to encrypt data sent over HTTPS (Hypertext Transfer Protocol Secure). In order for an intrusion detection system (IDS) and a web application firewall (WAF) to be effective on HTTPS traffic, they must be able to inspect the encrypted traffic. TLS inspection allows the IDS and WAF to decrypt and inspect the traffic, allowing them to detect any malicious activity. References: [1] CompTIA Security+ Study Guide Exam SY0-601 [1], Sixth Edition, Chapter 11, "Network Security Monitoring" [2] CompTIA Security+ Get Certified Get Ahead: SY0-501 Study Guide, Chapter 7, "Intrusion Detection and Prevention"

**NEW QUESTION 343**

- (Exam Topic 2)

A security team is providing input on the design of a secondary data center that has Which of the following should the security team recommend? (Select two).

- A. Configuring replication of the web servers at the primary site to offline storage
- B. Constructing the secondary site in a geographically disperse location
- C. Deploying load balancers at the primary site
- D. Installing generators
- E. Using differential backups at the secondary site
- F. Implementing hot and cold aisles at the secondary site

**Answer:** BD

**Explanation:**

\* B. Constructing the secondary site in a geographically disperse location would ensure that a natural disaster at the primary site would not affect the secondary site. It would also allow for failover during traffic surge situations by distributing the load across different regions. D. Installing generators would provide protection against power surges and outages by providing backup power sources in case of a failure. Generators are part of the physical security requirements for data centers as they ensure availability and resilience. References: 1

CompTIA Security+ Certification Exam Objectives, page 8, Domain 2.0: Architecture and Design, Objective 2.1 : Explain the importance of secure staging deployment concepts 2

CompTIA Security+ Certification Exam

Objectives, page 9, Domain 2.0: Architecture and Design, Objective 2.3: Summarize secure application development, deployment, and automation concepts 3

CompTIA Security+ Certification Exam Objectives, page 11, Domain 2.0: Architecture and Design, Objective 2.5: Explain the importance of physical security controls

**NEW QUESTION 347**

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