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Exam Code: SY0-701  
Exam Name: CompTIA Security+



## Exam A

### QUESTION 1

A technician wants to improve the situational and environmental awareness of existing users as they transition from remote to in-office work. Which of the following is the best option?

- A. Send out periodic security reminders.
- B. Update the content of new hire documentation.
- C. Modify the content of recurring training.
- D. Implement a phishing campaign

**Correct Answer: C**

**Section:**

**Explanation:**

Recurring training is a type of security awareness training that is conducted periodically to refresh and update the knowledge and skills of the users. Recurring training can help improve the situational and environmental awareness of existing users as they transition from remote to in-office work, as it can cover the latest threats, best practices, and policies that are relevant to their work environment. Modifying the content of recurring training can ensure that the users are aware of the current security landscape and the expectations of their roles. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 5, page 232. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 5.1, page 18.

### QUESTION 2

A newly appointed board member with cybersecurity knowledge wants the board of directors to receive a quarterly report detailing the number of incidents that impacted the organization. The systems administrator is creating a way to present the data to the board of directors. Which of the following should the systems administrator use?

- A. Packet captures
- B. Vulnerability scans
- C. Metadata
- D. Dashboard

**Correct Answer: D**

**Section:**

**Explanation:**

A dashboard is a graphical user interface that provides a visual representation of key performance indicators, metrics, and trends related to security events and incidents. A dashboard can help the board of directors to understand the number and impact of incidents that affected the organization in a given period, as well as the status and effectiveness of the security controls and processes. A dashboard can also allow the board of directors to drill down into specific details or filter the data by various criteria<sup>12</sup>.

A packet capture is a method of capturing and analyzing the network traffic that passes through a device or a network segment. A packet capture can provide detailed information about the source, destination, protocol, and content of each packet, but it is not a suitable way to present a summary of incidents to the board of directors<sup>13</sup>.

A vulnerability scan is a process of identifying and assessing the weaknesses and exposures in a system or a network that could be exploited by attackers. A vulnerability scan can help the organization to prioritize and remediate the risks and improve the security posture, but it is not a relevant way to report the number of incidents that occurred in a quarter<sup>14</sup>.

Metadata is data that describes other data, such as its format, origin, structure, or context. Metadata can provide useful information about the characteristics and properties of data, but it is not a meaningful way to communicate the impact and frequency of incidents to the board of directors. Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 3722: SIEM Dashboards -- SY0-601 CompTIA Security+ : 4.3, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 3464: CompTIA Security+ SY0-701 Certification Study Guide, page 362. : CompTIA Security+ SY0-701 Certification Study Guide, page 97.

### QUESTION 3

A security analyst and the management team are reviewing the organizational performance of a recent phishing campaign. The user click-through rate exceeded the acceptable risk threshold, and the management team wants to reduce the impact when a user clicks on a link in a phishing message. Which of the following should the analyst do?

- A. Place posters around the office to raise awareness of common phishing activities.
- B. Implement email security filters to prevent phishing emails from being delivered
- C. Update the EDR policies to block automatic execution of downloaded programs.
- D. Create additional training for users to recognize the signs of phishing attempts.

**Correct Answer: C**

**Section:**

**Explanation:**

An endpoint detection and response (EDR) system is a security tool that monitors and analyzes the activities and behaviors of endpoints, such as computers, laptops, mobile devices, and servers. An EDR system can detect, prevent, and respond to various types of threats, such as malware, ransomware, phishing, and advanced persistent threats (APTs). One of the features of an EDR system is to block the automatic execution of downloaded programs, which can prevent malicious code from running on the endpoint when a user clicks on a link in a phishing message. This can reduce the impact of a phishing attack and protect the endpoint from compromise. Updating the EDR policies to block automatic execution of downloaded programs is a technical control that can mitigate the risk of phishing, regardless of the user's awareness or behavior. Therefore, this is the best answer among the given options.

The other options are not as effective as updating the EDR policies, because they rely on administrative or physical controls that may not be sufficient to prevent or stop a phishing attack. Placing posters around the office to raise awareness of common phishing activities is a physical control that can increase the user's knowledge of phishing, but it may not change their behavior or prevent them from clicking on a link in a phishing message. Implementing email security filters to prevent phishing emails from being delivered is an administrative control that can reduce the exposure to phishing, but it may not be able to block all phishing emails, especially if they are crafted to bypass the filters. Creating additional training for users to recognize the signs of phishing attempts is an administrative control that can improve the user's skills of phishing detection, but it may not guarantee that they will always be vigilant or cautious when receiving an email. Therefore, these options are not the best answer for this question. Reference=Endpoint Detection and Response -- CompTIA Security+ SY0-701 -- 2.2, video at 5:30;CompTIA Security+ SY0-701 Certification Study Guide, page 163.

#### QUESTION 4

A company decided to reduce the cost of its annual cyber insurance policy by removing the coverage for ransomware attacks. Which of the following analysis elements did the company most likely use in making this decision?

- A. IMTTR
- B. RTO
- C. ARO
- D. MTBF

The logo for Vdumps.com, featuring a stylized orange 'V' followed by the word 'dumps' in a grey, lowercase, sans-serif font.

**Correct Answer: C**

**Section:**

**Explanation:**

ARO (Annualized Rate of Occurrence) is an analysis element that measures the frequency or likelihood of an event happening in a given year. ARO is often used in risk assessment and management, as it helps to estimate the potential loss or impact of an event. A company can use ARO to calculate the annualized loss expectancy (ALE) of an event, which is the product of ARO and the single loss expectancy (SLE). ALE represents the expected cost of an event per year, and can be used to compare with the cost of implementing a security control or purchasing an insurance policy.

The company most likely used ARO in making the decision to remove the coverage for ransomware attacks from its cyber insurance policy. The company may have estimated the ARO of ransomware attacks based on historical data, industry trends, or threat intelligence, and found that the ARO was low or negligible. The company may have also calculated the ALE of ransomware attacks, and found that the ALE was lower than the cost of the insurance policy. Therefore, the company decided to reduce the cost of its annual cyber insurance policy by removing the coverage for ransomware attacks, as it deemed the risk to be acceptable or manageable.

IMTTR (Incident Management Team Training and Readiness), RTO (Recovery Time Objective), and MTBF (Mean Time Between Failures) are not analysis elements that the company most likely used in making the decision to remove the coverage for ransomware attacks from its cyber insurance policy. IMTTR is a process of preparing and training the incident management team to respond effectively to security incidents. IMTTR does not measure the frequency or impact of an event, but rather the capability and readiness of the team. RTO is a metric that defines the maximum acceptable time for restoring a system or service after a disruption. RTO does not measure the frequency or impact of an event, but rather the availability and continuity of the system or service. MTBF is a metric that measures the average time between failures of a system or component. MTBF does not measure the frequency or impact of an event, but rather the reliability and performance of the system or component.

Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 97-98;Professor Messer's CompTIA SY0-701 Security+ Training Course, video 5.2 - Risk Management, 0:00 - 3:00.

#### QUESTION 5

Which of the following is the most likely to be included as an element of communication in a security awareness program?

- A. Reporting phishing attempts or other suspicious activities
- B. Detecting insider threats using anomalous behavior recognition
- C. Verifying information when modifying wire transfer data
- D. Performing social engineering as part of third-party penetration testing

**Correct Answer: A**

**Section:**

**Explanation:**

A security awareness program is a set of activities and initiatives that aim to educate and inform the users and employees of an organization about the security policies, procedures, and best practices. A security awareness program can help to reduce the human factor in security risks, such as social engineering, phishing, malware, data breaches, and insider threats. A security awareness program should include various elements of communication, such as newsletters, posters, videos, webinars, quizzes, games, simulations, and feedback mechanisms, to deliver the security messages and reinforce the security culture. One of the most likely elements of communication to be included in a security awareness program is reporting phishing attempts or other suspicious activities, as this can help to raise the awareness of the users and employees about the common types of cyberattacks and how to respond to them. Reporting phishing attempts or other suspicious activities can also help to alert the security team and enable them to take appropriate actions to prevent or mitigate the impact of the attacks. Therefore, this is the best answer among the given options.

The other options are not as likely to be included as elements of communication in a security awareness program, because they are either technical or operational tasks that are not directly related to the security awareness of the users and employees. Detecting insider threats using anomalous behavior recognition is a technical task that involves using security tools or systems to monitor and analyze the activities and behaviors of the users and employees and identify any deviations or anomalies that may indicate malicious or unauthorized actions. This task is usually performed by the security team or the security operations center, and it does not require the communication or participation of the users and employees. Verifying information when modifying wire transfer data is an operational task that involves using verification methods, such as phone calls, emails, or digital signatures, to confirm the authenticity and accuracy of the information related to wire transfers, such as the account number, the amount, or the recipient. This task is usually performed by the financial or accounting department, and it does not involve the security awareness of the users and employees. Performing social engineering as part of third-party penetration testing is a technical task that involves using deception or manipulation techniques, such as phishing, vishing, or impersonation, to test the security posture and the vulnerability of the users and employees to social engineering attacks. This task is usually performed by external security professionals or consultants, and it does not require the communication or consent of the users and employees. Therefore, these options are not the best answer for this question. Reference=Security Awareness and Training - CompTIA Security+ SY0-701: 5.2, video at 0:00;CompTIA Security+ SY0-701 Certification Study Guide, page 263.

#### **QUESTION 6**

HOTSPOT

Select the appropriate attack and remediation from each drop-down list to label the corresponding attack with its remediation.

INSTRUCTIONS

Not all attacks and remediation actions will be used.

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

**Hot Area:**



Attack Description	Target	Attack Identified	BEST Preventative or Remediation Action
An attacker sends multiple SYN packets from multiple sources.	Web server	<ul style="list-style-type: none"> <li>Botnet</li> <li>RAT</li> <li>Logic Bomb</li> <li>Backdoor</li> <li>Virus</li> <li>Spyware</li> <li>Worm</li> <li>Adware</li> <li>Ransomware</li> <li>Keylogger</li> <li>Phishing</li> </ul>	<ul style="list-style-type: none"> <li>Enable DDoS protection</li> <li>Patch vulnerable systems</li> <li>Disable vulnerable services</li> <li>Change the default system password</li> <li>Update the cryptographic algorithms</li> <li>Change the default application password</li> <li>Implement 2FA using push notification</li> <li>Conduct a code review</li> <li>Implement application fuzzing</li> <li>Implement a host-based IPS</li> <li>Disable remote access services</li> </ul>
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The attacker uses hardware to remotely monitor a user's input activity to harvest credentials.	Executive	<ul style="list-style-type: none"> <li>Botnet</li> <li>RAT</li> <li>Logic Bomb</li> <li>Backdoor</li> <li>Virus</li> <li>Spyware</li> <li>Worm</li> <li>Adware</li> <li>Ransomware</li> <li>Keylogger</li> <li>Phishing</li> </ul>	<ul style="list-style-type: none"> <li>Enable DDoS protection</li> <li>Patch vulnerable systems</li> <li>Disable vulnerable services</li> <li>Change the default system password</li> <li>Update the cryptographic algorithms</li> <li>Change the default application password</li> <li>Implement 2FA using push notification</li> <li>Conduct a code review</li> <li>Implement application fuzzing</li> <li>Implement a host-based IPS</li> <li>Disable remote access services</li> </ul>
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Answer Area:





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**Section:****Explanation:**

Web server Botnet Enable DDoS protection  
User RAT Implement a host-based IPS  
Database server Worm Change the default application password  
Executive Keylogger Disable vulnerable services  
Application Backdoor Implement 2FA using push notification

**QUESTION 7**

A systems administrator receives the following alert from a file integrity monitoring tool:

The hash of the cmd.exe file has changed.

The systems administrator checks the OS logs and notices that no patches were applied in the last two months. Which of the following most likely occurred?

- A. The end user changed the file permissions.
- B. A cryptographic collision was detected.
- C. A snapshot of the file system was taken.
- D. A rootkit was deployed.

**Correct Answer: D**

**Section:****Explanation:**

A rootkit is a type of malware that modifies or replaces system files or processes to hide its presence and activity. A rootkit can change the hash of the cmd.exe file, which is a command-line interpreter for Windows systems, to avoid detection by antivirus or file integrity monitoring tools. A rootkit can also grant the attacker remote access and control over the infected system, as well as perform malicious actions such as stealing data, installing backdoors, or launching attacks on other systems. A rootkit is one of the most difficult types of malware to remove, as it can persist even after rebooting or reinstalling the OS. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 4, page 147. CompTIA Security+ SY0-701 Exam Objectives, Domain 1.2, page 9.

**QUESTION 8**

Which of the following roles, according to the shared responsibility model, is responsible for securing the company's database in an IaaS model for a cloud environment?

- A. Client
- B. Third-party vendor
- C. Cloud provider
- D. DBA

**Correct Answer: A**

**Section:****Explanation:**

According to the shared responsibility model, the client and the cloud provider have different roles and responsibilities for securing the cloud environment, depending on the service model. In an IaaS (Infrastructure as a Service) model, the cloud provider is responsible for securing the physical infrastructure, such as the servers, storage, and network devices, while the client is responsible for securing the operating systems, applications, and data that run on the cloud infrastructure. Therefore, the client is responsible for securing the company's database in an IaaS model for a cloud environment, as the database is an application that stores data. The client can use various security controls, such as encryption, access control, backup, and auditing, to protect the database from unauthorized access, modification, or loss. The third-party vendor and the DBA (Database Administrator) are not roles defined by the shared responsibility model, but they may be involved in the implementation or management of the database security. Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 263-264; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 3.1 - Cloud and Virtualization, 5:00 - 7:40.

**QUESTION 9**

A client asked a security company to provide a document outlining the project, the cost, and the completion time frame. Which of the following documents should the company provide to the client?

- A. MSA



- B. SLA
- C. BPA
- D. SOW

**Correct Answer: D**

**Section:**

**Explanation:**

An ISOW is a document that outlines the project, the cost, and the completion time frame for a security company to provide a service to a client. ISOW stands for Information Security Operations Work, and it is a type of contract that specifies the scope, deliverables, milestones, and payment terms of a security project. An ISOW is usually used for one-time or short-term projects that have a clear and defined objective and outcome. For example, an ISOW can be used for a security assessment, a penetration test, a security audit, or a security training.

The other options are not correct because they are not documents that outline the project, the cost, and the completion time frame for a security company to provide a service to a client. A MSA is a master service agreement, which is a type of contract that establishes the general terms and conditions for a long-term or ongoing relationship between a security company and a client. A MSA does not specify the details of each individual project, but rather sets the framework for future projects that will be governed by separate statements of work (SOWs). A SLA is a service level agreement, which is a type of contract that defines the quality and performance standards for a security service provided by a security company to a client. A SLA usually includes the metrics, targets, responsibilities, and penalties for measuring and ensuring the service level. A BPA is a business partnership agreement, which is a type of contract that establishes the roles and expectations for a strategic alliance between two or more security companies that collaborate to provide a joint service to a client. A BPA usually covers the objectives, benefits, risks, and obligations of the partnership. Reference=CompTIA Security+ Study Guide (SY0-701), Chapter 8: Governance, Risk, and Compliance, page 387. Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 8.2: Compliance and Controls, video: Contracts and Agreements (5:12).

#### QUESTION 10

Which of the following involves an attempt to take advantage of database misconfigurations?

- A. Buffer overflow
- B. SQL injection
- C. VM escape
- D. Memory injection



**Correct Answer: B**

**Section:**

**Explanation:**

SQL injection is a type of attack that exploits a database misconfiguration or a flaw in the application code that interacts with the database. An attacker can inject malicious SQL statements into the user input fields or the URL parameters that are sent to the database server. These statements can then execute unauthorized commands, such as reading, modifying, deleting, or creating data, or even taking over the database server. SQL injection can compromise the confidentiality, integrity, and availability of the data and the system. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 2151

#### QUESTION 11

An organization would like to store customer data on a separate part of the network that is not accessible to users on the main corporate network. Which of the following should the administrator use to accomplish this goal?

- A. Segmentation
- B. Isolation
- C. Patching
- D. Encryption

**Correct Answer: A**

**Section:**

**Explanation:**

Segmentation is a network design technique that divides the network into smaller and isolated segments based on logical or physical boundaries. Segmentation can help improve network security by limiting the scope of an attack, reducing the attack surface, and enforcing access control policies. Segmentation can also enhance network performance, scalability, and manageability. To accomplish the goal of storing customer data on a separate part of the network, the administrator can use segmentation technologies such as subnetting, VLANs, firewalls, routers, or switches. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 308-3091

### QUESTION 12

Which of the following is used to quantitatively measure the criticality of a vulnerability?

- A. CVE
- B. CVSS
- C. CIA
- D. CERT

**Correct Answer: B**

**Section:**

**Explanation:**

CVSS stands for Common Vulnerability Scoring System, which is a framework that provides a standardized way to assess and communicate the severity and risk of vulnerabilities. CVSS uses a set of metrics and formulas to calculate a numerical score ranging from 0 to 10, where higher scores indicate higher criticality. CVSS can help organizations prioritize remediation efforts and compare vulnerabilities across different systems and vendors. The other options are not used to measure the criticality of a vulnerability, but rather to identify, classify, or report them. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 39

### QUESTION 13

A technician is opening ports on a firewall for a new system being deployed and supported by a SaaS provider. Which of the following is a risk in the new system?

- A. Default credentials
- B. Non-segmented network
- C. Supply chain vendor
- D. Vulnerable software

**Correct Answer: C**

**Section:**

**Explanation:**

A supply chain vendor is a third-party entity that provides goods or services to an organization, such as a SaaS provider. A supply chain vendor can pose a risk to the new system if the vendor has poor security practices, breaches, or compromises that could affect the confidentiality, integrity, or availability of the system or its data. The organization should perform due diligence and establish a service level agreement with the vendor to mitigate this risk. The other options are not specific to the scenario of using a SaaS provider, but rather general risks that could apply to any system.



### QUESTION 14

Which of the following security concepts is the best reason for permissions on a human resources fileshare to follow the principle of least privilege?

- A. Integrity
- B. Availability
- C. Confidentiality
- D. Non-repudiation

**Correct Answer: C**

**Section:**

**Explanation:**

Confidentiality is the security concept that ensures data is protected from unauthorized access or disclosure. The principle of least privilege is a technique that grants users or systems the minimum level of access or permissions that they need to perform their tasks, and nothing more. By applying the principle of least privilege to a human resources fileshare, the permissions can be restricted to only those who have a legitimate need to access the sensitive data, such as HR staff, managers, or auditors. This can prevent unauthorized users, such as hackers, employees, or contractors, from accessing, copying, modifying, or deleting the data. Therefore, the principle of least privilege can enhance the confidentiality of the data on the fileshare. Integrity, availability, and non-repudiation are other security concepts, but they are not the best reason for permissions on a human resources fileshare to follow the principle of least privilege. Integrity is the security concept that ensures data is accurate and consistent, and protected from unauthorized modification or corruption. Availability is the security concept that ensures data is accessible and usable by authorized users or systems when needed. Non-repudiation is the security concept that ensures the authenticity and accountability of data and actions, and prevents the denial of involvement or responsibility. While these concepts are also important for data security, they are not directly related to the level of access or permissions granted to users or systems.

**QUESTION 15**

A company is planning to set up a SIEM system and assign an analyst to review the logs on a weekly basis. Which of the following types of controls is the company setting up?

- A. Corrective
- B. Preventive
- C. Detective
- D. Deterrent

**Correct Answer: C**

**Section:**

**Explanation:**

A detective control is a type of control that monitors and analyzes the events and activities in a system or a network, and alerts or reports when an incident or a violation occurs. A SIEM (Security Information and Event Management) system is a tool that collects, correlates, and analyzes the logs from various sources, such as firewalls, routers, servers, or applications, and provides a centralized view of the security status and incidents. An analyst who reviews the logs on a weekly basis can identify and investigate any anomalies, trends, or patterns that indicate a potential threat or a breach. A detective control can help the company to respond quickly and effectively to the incidents, and to improve its security posture and resilience. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 1, page 23. CompTIA Security+ SY0-701 Exam Objectives, Domain 4.3, page 14.

**QUESTION 16**

An organization is building a new backup data center with cost-benefit as the primary requirement and RTO and RPO values around two days. Which of the following types of sites is the best for this scenario?

- A. Real-time recovery
- B. Hot
- C. Cold
- D. Warm



**Correct Answer: C**

**Section:**

**Explanation:**

A cold site is a type of backup data center that has the necessary infrastructure to support IT operations, but does not have any pre-configured hardware or software. A cold site is the cheapest option among the backup data center types, but it also has the longest recovery time objective (RTO) and recovery point objective (RPO) values. A cold site is suitable for scenarios where the cost-benefit is the primary requirement and the RTO and RPO values are not very stringent. A cold site can take up to two days or more to restore the normal operations after a disaster. Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 387; Backup Types -- SY0-601 CompTIA Security+ : 2.5, video at 4:50.

**QUESTION 17**

A company requires hard drives to be securely wiped before sending decommissioned systems to recycling. Which of the following best describes this policy?

- A. Enumeration
- B. Sanitization
- C. Destruction
- D. Inventory

**Correct Answer: B**

**Section:**

**Explanation:**

Sanitization is the process of removing sensitive data from a storage device or a system before it is disposed of or reused. Sanitization can be done by using software tools or hardware devices that overwrite the data with random patterns or zeros, making it unrecoverable. Sanitization is different from destruction, which is the physical damage of the storage device to render it unusable. Sanitization is also different from enumeration, which is

the identification of network resources or devices, and inventory, which is the tracking of assets and their locations. The policy of securely wiping hard drives before sending decommissioned systems to recycling is an example of sanitization, as it ensures that no confidential data can be retrieved from the recycled devices. Reference=Secure Data Destruction -- SY0-601 CompTIA Security+ : 2.7, video at 1:00;CompTIA Security+ SY0-701 Certification Study Guide, page 387.

#### QUESTION 18

A systems administrator works for a local hospital and needs to ensure patient data is protected and secure. Which of the following data classifications should be used to secure patient data?

- A. Private
- B. Critical
- C. Sensitive
- D. Public

**Correct Answer: C**

**Section:**

**Explanation:**

Data classification is a process of categorizing data based on its level of sensitivity, value, and impact to the organization if compromised. Data classification helps to determine the appropriate security controls and policies to protect the data from unauthorized access, disclosure, or modification. Different organizations may use different data classification schemes, but a common one is the four-tier model, which consists of the following categories: public, private, sensitive, and critical.

Public data is data that is intended for public access and disclosure, and has no impact to the organization if compromised. Examples of public data include marketing materials, press releases, and public web pages.

Private data is data that is intended for internal use only, and has a low to moderate impact to the organization if compromised. Examples of private data include employee records, financial reports, and internal policies.

Sensitive data is data that is intended for authorized use only, and has a high impact to the organization if compromised. Examples of sensitive data include personal information, health records, and intellectual property.

Critical data is data that is essential for the organization's operations and survival, and has a severe impact to the organization if compromised. Examples of critical data include encryption keys, disaster recovery plans, and system backups.

Patient data is a type of sensitive data, as it contains personal and health information that is protected by law and ethical standards. Patient data should be used only by authorized personnel for legitimate purposes, and should be secured from unauthorized access, disclosure, or modification. Therefore, the systems administrator should use the sensitive data classification to secure patient data.

Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 90-91;Professor Messer's CompTIA SY0-701 Security+ Training Course, video 5.5 - Data Classifications, 0:00 - 4:30.

#### QUESTION 19

A U.S.-based cloud-hosting provider wants to expand its data centers to new international locations. Which of the following should the hosting provider consider first?

- A. Local data protection regulations
- B. Risks from hackers residing in other countries
- C. Impacts to existing contractual obligations
- D. Time zone differences in log correlation

**Correct Answer: A**

**Section:**

**Explanation:**

Local data protection regulations are the first thing that a cloud-hosting provider should consider before expanding its data centers to new international locations. Data protection regulations are laws or standards that govern how personal or sensitive data is collected, stored, processed, and transferred across borders. Different countries or regions may have different data protection regulations, such as the General Data Protection Regulation (GDPR) in the European Union, the Personal Information Protection and Electronic Documents Act (PIPEDA) in Canada, or the California Consumer Privacy Act (CCPA) in the United States. A cloud-hosting provider must comply with the local data protection regulations of the countries or regions where it operates or serves customers, or else it may face legal penalties, fines, or reputational damage. Therefore, a cloud-hosting provider should research and understand the local data protection regulations of the new international locations before expanding its data centers there. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 7, page 269. CompTIA Security+ SY0-701 Exam Objectives, Domain 5.1, page 14.

#### QUESTION 20

Which of the following would be the best way to block unknown programs from executing?

- A. Access control list
- B. Application allow list.
- C. Host-based firewall
- D. DLP solution

**Correct Answer: B**

**Section:**

**Explanation:**

An application allow list is a security technique that specifies which applications are permitted to run on a system or a network. An application allow list can block unknown programs from executing by only allowing the execution of programs that are explicitly authorized and verified. An application allow list can prevent malware, unauthorized software, or unwanted applications from running and compromising the security of the system or the network<sup>12</sup>.

The other options are not the best ways to block unknown programs from executing:

Access control list: This is a security technique that specifies which users or groups are granted or denied access to a resource or an object. An access control list can control the permissions and privileges of users or groups, but it does not directly block unknown programs from executing<sup>13</sup>.

Host-based firewall: This is a security device that monitors and filters the incoming and outgoing network traffic on a single host or system. A host-based firewall can block or allow network connections based on predefined rules, but it does not directly block unknown programs from executing<sup>1</sup>.

DLP solution: This is a security system that detects and prevents the unauthorized transmission or leakage of sensitive data. A DLP solution can protect the confidentiality and integrity of data, but it does not directly block unknown programs from executing<sup>1</sup>.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: Application Whitelisting -- CompTIA Security+ SY0-701 -- 3.5, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 98. : CompTIA Security+ SY0-701 Certification Study Guide, page 99. : CompTIA Security+ SY0-701 Certification Study Guide, page 100.

#### QUESTION 21

A company hired a consultant to perform an offensive security assessment covering penetration testing and social engineering.

Which of the following teams will conduct this assessment activity?

- A. White
- B. Purple
- C. Blue
- D. Red

**Correct Answer: D**

**Section:**

**Explanation:**

A red team is a group of security professionals who perform offensive security assessments covering penetration testing and social engineering. A red team simulates real-world attacks and exploits the vulnerabilities of a target organization, system, or network. A red team aims to test the effectiveness of the security controls, policies, and procedures of the target, as well as the awareness and response of the staff and the blue team. A red team can be hired as an external consultant or formed internally within the organization. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 1, page 18.

CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 1.8, page 4. Security Teams -- SY0-601 CompTIA Security+ : 1.8

#### QUESTION 22

A systems administrator is looking for a low-cost application-hosting solution that is cloud-based. Which of the following meets these requirements?

- A. Serverless framework
- B. Type 1 hypervisor
- C. SD-WAN
- D. SDN

**Correct Answer: A**

**Section:**



**Explanation:**

A serverless framework is a cloud-based application-hosting solution that meets the requirements of low-cost and cloud-based. A serverless framework is a type of cloud computing service that allows developers to run applications without managing or provisioning any servers. The cloud provider handles the server-side infrastructure, such as scaling, load balancing, security, and maintenance, and charges the developer only for the resources consumed by the application. A serverless framework enables developers to focus on the application logic and functionality, and reduces the operational costs and complexity of hosting applications. Some examples of serverless frameworks are AWS Lambda, Azure Functions, and Google Cloud Functions.

A type 1 hypervisor, SD-WAN, and SDN are not cloud-based application-hosting solutions that meet the requirements of low-cost and cloud-based. A type 1 hypervisor is a software layer that runs directly on the hardware and creates multiple virtual machines that can run different operating systems and applications. A type 1 hypervisor is not a cloud-based service, but a virtualization technology that can be used to create private or hybrid clouds. A type 1 hypervisor also requires the developer to manage and provision the servers and the virtual machines, which can increase the operational costs and complexity of hosting applications. Some examples of type 1 hypervisors are VMware ESXi, Microsoft Hyper-V, and Citrix XenServer.

SD-WAN (Software-Defined Wide Area Network) is a network architecture that uses software to dynamically route traffic across multiple WAN connections, such as broadband, LTE, or MPLS. SD-WAN is not a cloud-based service, but a network optimization technology that can improve the performance, reliability, and security of WAN connections. SD-WAN can be used to connect remote sites or users to cloud-based applications, but it does not host the applications itself. Some examples of SD-WAN vendors are Cisco, VMware, and Fortinet.

SDN (Software-Defined Networking) is a network architecture that decouples the control plane from the data plane, and uses a centralized controller to programmatically manage and configure the network devices and traffic flows. SDN is not a cloud-based service, but a network automation technology that can enhance the scalability, flexibility, and efficiency of the network. SDN can be used to create virtual networks or network functions that can support cloud-based applications, but it does not host the applications itself. Some examples of SDN vendors are OpenFlow, OpenDaylight, and OpenStack.

Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 264-265; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 3.1 - Cloud and Virtualization, 7:40 - 10:00; [Serverless Framework]; [Type 1 Hypervisor]; [SD-WAN]; [SDN].

**QUESTION 23**

A security operations center determines that the malicious activity detected on a server is normal. Which of the following activities describes the act of ignoring detected activity in the future?

- A. Tuning
- B. Aggregating
- C. Quarantining
- D. Archiving



**Correct Answer: A**

**Section:**

**Explanation:**

Tuning is the activity of adjusting the configuration or parameters of a security tool or system to optimize its performance and reduce false positives or false negatives. Tuning can help to filter out the normal or benign activity that is detected by the security tool or system, and focus on the malicious or anomalous activity that requires further investigation or response. Tuning can also help to improve the efficiency and effectiveness of the security operations center by reducing the workload and alert fatigue of the analysts. Tuning is different from aggregating, which is the activity of collecting and combining data from multiple sources or sensors to provide a comprehensive view of the security posture. Tuning is also different from quarantining, which is the activity of isolating a potentially infected or compromised device or system from the rest of the network to prevent further damage or spread. Tuning is also different from archiving, which is the activity of storing and preserving historical data or records for future reference or compliance. The act of ignoring detected activity in the future that is deemed normal by the security operations center is an example of tuning, as it involves modifying the settings or rules of the security tool or system to exclude the activity from the detection scope. Therefore, this is the best answer among the given options. Reference=Security Alerting and Monitoring Concepts and Tools -- CompTIA Security+ SY0-701: 4.3, video at 7:00; CompTIA Security+ SY0-701 Certification Study Guide, page 191.

**QUESTION 24**

A security analyst reviews domain activity logs and notices the following:

```
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
UserID jsmith, password authentication: succeeded, MFA: failed (invalid code)
```

Which of the following is the best explanation for what the security analyst has discovered?

- A. The user jsmith's account has been locked out.
- B. A keylogger is installed on [smith's workstation]

- C. An attacker is attempting to brute force ismith's account.
- D. Ransomware has been deployed in the domain.

**Correct Answer: C**

**Section:**

**Explanation:**

Brute force is a type of attack that tries to guess the password or other credentials of a user account by using a large number of possible combinations. An attacker can use automated tools or scripts to perform a brute force attack and gain unauthorized access to the account. The domain activity logs show that the user ismith has failed to log in 10 times in a row within a short period of time, which is a strong indicator of a brute force attack. The logs also show that the source IP address of the failed logins is different from the usual IP address of ismith, which suggests that the attacker is using a different device or location to launch the attack. The security analyst should take immediate action to block the attacker's IP address, reset ismith's password, and notify ismith of the incident. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 1, page 14. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 1.1, page 2. Threat Actors and Attributes -- SY0-601 CompTIA Security+ : 1.1

#### QUESTION 25

A company is concerned about weather events causing damage to the server room and downtime. Which of the following should the company consider?

- A. Clustering servers
- B. Geographic dispersion
- C. Load balancers
- D. Off-site backups

**Correct Answer: B**

**Section:**

**Explanation:**

Geographic dispersion is a strategy that involves distributing the servers or data centers across different geographic locations. Geographic dispersion can help the company to mitigate the risk of weather events causing damage to the server room and downtime, as well as improve the availability, performance, and resilience of the network. Geographic dispersion can also enhance the disaster recovery and business continuity capabilities of the company, as it can provide backup and failover options in case of a regional outage or disruption<sup>12</sup>.

The other options are not the best ways to address the company's concern:

Clustering servers: This is a technique that involves grouping multiple servers together to act as a single system. Clustering servers can help to improve the performance, scalability, and fault tolerance of the network, but it does not protect the servers from physical damage or downtime caused by weather events, especially if the servers are located in the same room or building<sup>3</sup>.

Load balancers: These are devices or software that distribute the network traffic or workload among multiple servers or resources. Load balancers can help to optimize the utilization, efficiency, and reliability of the network, but they do not prevent the servers from being damaged or disrupted by weather events, especially if the servers are located in the same room or building<sup>4</sup>.

Off-site backups: These are copies of data or files that are stored in a different location than the original source. Off-site backups can help to protect the data from being lost or corrupted by weather events, but they do not prevent the servers from being damaged or disrupted by weather events, nor do they ensure the availability or continuity of the network services.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: High Availability -- CompTIA Security+ SY0-701 -- 3.4, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 984: CompTIA Security+ SY0-701 Certification Study Guide, page 99. : CompTIA Security+ SY0-701 Certification Study Guide, page 100.

#### QUESTION 26

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

Jailbreaking is a primary security concern for a company setting up a BYOD (Bring Your Own Device) program. Jailbreaking is the process of removing the manufacturer's or the carrier's restrictions on a device, such as a

smartphone or a tablet, to gain root access and install unauthorized or custom software. Jailbreaking can compromise the security of the device and the data stored on it, as well as expose it to malware, viruses, or hacking. Jailbreaking can also violate the warranty and the terms of service of the device, and make it incompatible with the company's security policies and standards. Therefore, a company setting up a BYOD program should prohibit jailbreaking and enforce device compliance and encryption. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 76. CompTIA Security+ SY0-701 Exam Objectives, Domain 2.4, page 11.

#### QUESTION 27

An employee clicked a link in an email from a payment website that asked the employee to update contact information. The employee entered the log-in information but received a "page not found" error message. Which of the following types of social engineering attacks occurred?

- A. Brand impersonation
- B. Pretexting
- C. Typosquatting
- D. Phishing

**Correct Answer: D**

**Section:**

**Explanation:**

Phishing is a type of social engineering attack that involves sending fraudulent emails that appear to be from legitimate sources, such as payment websites, banks, or other trusted entities. The goal of phishing is to trick the recipients into clicking on malicious links, opening malicious attachments, or providing sensitive information, such as log-in credentials, personal data, or financial details. In this scenario, the employee received an email from a payment website that asked the employee to update contact information. The email contained a link that directed the employee to a fake website that mimicked the appearance of the real one. The employee entered the log-in information, but received a "page not found" error message. This indicates that the employee fell victim to a phishing attack, and the attacker may have captured the employee's credentials for the payment website. Reference=Other Social Engineering Attacks -- CompTIA Security+ SY0-701 -- 2.2, CompTIA Security+: Social Engineering Techniques & Other Attack ... - NICCS, [CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition]

#### QUESTION 28

An enterprise is trying to limit outbound DNS traffic originating from its internal network. Outbound DNS requests will only be allowed from one device with the IP address 10.50.10.25. Which of the following firewall ACLs will accomplish this goal?

- A. Access list outbound permit 0.0.0.0 0 0.0.0.0/0 port 53 Access list outbound deny 10.50.10.25 32 0.0.0.0/0 port 53
- B. Access list outbound permit 0.0.0.0/0 10.50.10.25 32 port 53 Access list outbound deny 0.0.0.0 0 0.0.0.0/0 port 53
- C. Access list outbound permit 0.0.0.0 0 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0/0 10.50.10.25 32 port 53
- D. Access list outbound permit 10.50.10.25 32 0.0.0.0/0 port 53 Access list outbound deny 0.0.0.0.0.0.0.0/0 port 53

**Correct Answer: D**

**Section:**

**Explanation:**

The correct answer is D because it allows only the device with the IP address 10.50.10.25 to send outbound DNS requests on port 53, and denies all other devices from doing so. The other options are incorrect because they either allow all devices to send outbound DNS requests (A and C), or they allow no devices to send outbound DNS requests (B). Reference= You can learn more about firewall ACLs and DNS in the following resources:

CompTIA Security+ SY0-701 Certification Study Guide, Chapter 4: Network Security<sup>1</sup>

Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 3.2: Firewall Rules<sup>2</sup>

TOTAL: CompTIA Security+ Cert (SY0-701) | Udemy, Section 6: Network Security, Lecture 28: Firewall Rules<sup>3</sup>

#### QUESTION 29

A data administrator is configuring authentication for a SaaS application and would like to reduce the number of credentials employees need to maintain. The company prefers to use domain credentials to access new SaaS applications. Which of the following methods would allow this functionality?

- A. SSO
- B. LEAP

- C. MFA
- D. PEAP

**Correct Answer: A**

**Section:**

**Explanation:**

SSO stands for single sign-on, which is a method of authentication that allows users to access multiple applications or services with one set of credentials. SSO reduces the number of credentials employees need to maintain and simplifies the login process. SSO can also improve security by reducing the risk of password reuse, phishing, and credential theft. SSO can be implemented using various protocols, such as SAML, OAuth, OpenID Connect, and Kerberos, that enable the exchange of authentication information between different domains or systems. SSO is commonly used for accessing SaaS applications, such as Office 365, Google Workspace, Salesforce, and others, using domain credentials<sup>123</sup>.

B) LEAP stands for Lightweight Extensible Authentication Protocol, which is a Cisco proprietary protocol that provides authentication for wireless networks. LEAP is not related to SaaS applications or domain credentials<sup>4</sup>.

C) MFA stands for multi-factor authentication, which is a method of authentication that requires users to provide two or more pieces of evidence to prove their identity. MFA can enhance security by adding an extra layer of protection beyond passwords, such as tokens, biometrics, or codes. MFA is not related to SaaS applications or domain credentials, but it can be used in conjunction with SSO.

D) PEAP stands for Protected Extensible Authentication Protocol, which is a protocol that provides secure authentication for wireless networks. PEAP uses TLS to create an encrypted tunnel between the client and the server, and then uses another authentication method, such as MS-CHAPv2 or EAP-GTC, to verify the user's identity. PEAP is not related to SaaS applications or domain credentials.

Reference=1: Security+ (SY0-701) Certification Study Guide | CompTIA IT Certifications<sup>2</sup>: What is Single Sign-On (SSO)? - Definition from WhatIs.com<sup>3</sup>: Single sign-on - Wikipedia<sup>4</sup>: Lightweight Extensible Authentication

Protocol - Wikipedia : What is Multi-Factor Authentication (MFA)? - Definition from WhatIs.com : Protected Extensible Authentication Protocol - Wikipedia

### QUESTION 30

Which of the following scenarios describes a possible business email compromise attack?

- A. An employee receives a gift card request in an email that has an executive's name in the display field of the email.
- B. Employees who open an email attachment receive messages demanding payment in order to access files.
- C. A service desk employee receives an email from the HR director asking for log-in credentials to a cloud administrator account.
- D. An employee receives an email with a link to a phishing site that is designed to look like the company's email portal.

**Correct Answer: A**

**Section:**

**Explanation:**

A business email compromise (BEC) attack is a type of phishing attack that targets employees who have access to company funds or sensitive information. The attacker impersonates a trusted person, such as an executive, a vendor, or a client, and requests a fraudulent payment, a wire transfer, or confidential data. The attacker often uses social engineering techniques, such as urgency, pressure, or familiarity, to convince the victim to comply with the request<sup>12</sup>.

In this scenario, option A describes a possible BEC attack, where an employee receives a gift card request in an email that has an executive's name in the display field of the email. The email may look like it is coming from the executive, but the actual email address may be spoofed or compromised. The attacker may claim that the gift cards are needed for a business purpose, such as rewarding employees or clients, and ask the employee to purchase them and send the codes. This is a common tactic used by BEC attackers to steal money from unsuspecting victims<sup>34</sup>.

Option B describes a possible ransomware attack, where malicious software encrypts the files on a device and demands a ransom for the decryption key. Option C describes a possible credential harvesting attack, where an attacker tries to obtain the login information of a privileged account by posing as a legitimate authority. Option D describes a possible phishing attack, where an attacker tries to lure the victim to a fake website that mimics the company's email portal and capture their credentials. These are all types of cyberattacks, but they are not examples of BEC attacks. Reference=1: Business Email Compromise - CompTIA Security+ SY0-701 - 2.22: CompTIA Security+ SY0-701 Certification Study Guide<sup>3</sup>: Business Email Compromise: The 12 Billion Dollar Scam<sup>4</sup>: TOTAL: CompTIA Security+ Cert (SY0-701) | Udemy

### QUESTION 31

A company prevented direct access from the database administrators' workstations to the network segment that contains database servers. Which of the following should a database administrator use to access the database servers?

- A. Jump server
- B. RADIUS
- C. HSM
- D. Load balancer

**Correct Answer: A**

**Section:**

**Explanation:**

A jump server is a device or virtual machine that acts as an intermediary between a user's workstation and a remote network segment. A jump server can be used to securely access servers or devices that are not directly reachable from the user's workstation, such as database servers. A jump server can also provide audit logs and access control for the remote connections. A jump server is also known as a jump box or a jump host<sup>12</sup>.

RADIUS is a protocol for authentication, authorization, and accounting of network access. RADIUS is not a device or a method to access remote servers, but rather a way to verify the identity and permissions of users or devices that request network access<sup>34</sup>.

HSM is an acronym for Hardware Security Module, which is a physical device that provides secure storage and generation of cryptographic keys. HSMs are used to protect sensitive data and applications, such as digital signatures, encryption, and authentication. HSMs are not used to access remote servers, but rather to enhance the security of the data and applications that reside on them<sup>5</sup>.

A load balancer is a device or software that distributes network traffic across multiple servers or devices, based on criteria such as availability, performance, or capacity. A load balancer can improve the scalability, reliability, and efficiency of network services, such as web servers, application servers, or database servers. A load balancer is not used to access remote servers, but rather to optimize the delivery of the services that run on them.

.Reference=

How to access a remote server using a jump host

Jump server

RADIUS

Remote Authentication Dial-In User Service (RADIUS)

Hardware Security Module (HSM)

[What is an HSM?]

[Load balancing (computing)]

[What is Load Balancing?]

### QUESTION 32

An organization's internet-facing website was compromised when an attacker exploited a buffer overflow. Which of the following should the organization deploy to best protect against similar attacks in the future?

- A. NGFW
- B. WAF
- C. TLS
- D. SD-WAN



**Correct Answer: B**

**Section:**

**Explanation:**

A buffer overflow is a type of software vulnerability that occurs when an application writes more data to a memory buffer than it can hold, causing the excess data to overwrite adjacent memory locations. This can lead to unexpected behavior, such as crashes, errors, or code execution. A buffer overflow can be exploited by an attacker to inject malicious code or commands into the application, which can compromise the security and functionality of the system. An organization's internet-facing website was compromised when an attacker exploited a buffer overflow. To best protect against similar attacks in the future, the organization should deploy a web application firewall (WAF). A WAF is a type of firewall that monitors and filters the traffic between a web application and the internet. A WAF can detect and block common web attacks, such as buffer overflows, SQL injections, cross-site scripting (XSS), and more. A WAF can also enforce security policies and rules, such as input validation, output encoding, and encryption. A WAF can provide a layer of protection for the web application, preventing attackers from exploiting its vulnerabilities and compromising its data. Reference=Buffer Overflows -- CompTIA Security+ SY0-701 -- 2.3, Web Application Firewalls -- CompTIA Security+ SY0-701 -- 2.4, [CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition]

### QUESTION 33

An administrator notices that several users are logging in from suspicious IP addresses. After speaking with the users, the administrator determines that the employees were not logging in from those IP addresses and resets the affected users' passwords. Which of the following should the administrator implement to prevent this type of attack from succeeding in the future?

- A. Multifactor authentication
- B. Permissions assignment
- C. Access management
- D. Password complexity



**Correct Answer: A**

**Section:**

**Explanation:**

The correct answer is A because multifactor authentication (MFA) is a method of verifying a user's identity by requiring more than one factor, such as something the user knows (e.g., password), something the user has (e.g., token), or something the user is (e.g., biometric). MFA can prevent unauthorized access even if the user's password is compromised, as the attacker would need to provide another factor to log in. The other options are incorrect because they do not address the root cause of the attack, which is weak authentication. Permissions assignment (B) is the process of granting or denying access to resources based on the user's role or identity. Access management is the process of controlling who can access what and under what conditions. Password complexity (D) is the requirement of using strong passwords that are hard to guess or crack, but it does not prevent an attacker from using a stolen password. Reference= You can learn more about multifactor authentication and other security concepts in the following resources:

CompTIA Security+ SY0-701 Certification Study Guide, Chapter 1: General Security Concepts<sup>1</sup>

Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 1.2: Security Concepts<sup>2</sup>

Multi-factor Authentication -- SY0-601 CompTIA Security+ : 2.43

TOTAL: CompTIA Security+ Cert (SY0-701) | Udemy, Section 3: Identity and Access Management, Lecture 15: Multifactor Authentication<sup>4</sup>

CompTIA Security+ Certification SY0-601: The Total Course [Video], Chapter 3: Identity and Account Management, Section 2: Enabling Multifactor Authentication<sup>5</sup>

#### QUESTION 34

An employee receives a text message that appears to have been sent by the payroll department and is asking for credential verification. Which of the following social engineering techniques are being attempted? (Choose two.)

- A. Typosquatting
- B. Phishing
- C. Impersonation
- D. Vishing
- E. Smishing
- F. Misinformation

**Correct Answer: B, E**

**Section:**

**Explanation:**

Smishing is a type of social engineering technique that uses text messages (SMS) to trick victims into revealing sensitive information, clicking malicious links, or downloading malware. Smishing messages often appear to come from legitimate sources, such as banks, government agencies, or service providers, and use urgent or threatening language to persuade the recipients to take action<sup>12</sup>. In this scenario, the text message that claims to be from the payroll department is an example of smishing.

Impersonation is a type of social engineering technique that involves pretending to be someone else, such as an authority figure, a trusted person, or a colleague, to gain the trust or cooperation of the target. Impersonation can be done through various channels, such as phone calls, emails, text messages, or in-person visits, and can be used to obtain information, access, or money from the victim<sup>34</sup>. In this scenario, the text message that pretends to be from the payroll department is an example of impersonation.

A) Typosquatting is a type of cyberattack that involves registering domain names that are similar to popular or well-known websites, but with intentional spelling errors or different extensions. Typosquatting aims to exploit the common mistakes that users make when typing web addresses, and redirect them to malicious or fraudulent sites that may steal their information, install malware, or display ads<sup>56</sup>. Typosquatting is not related to text messages or credential verification.

B) Phishing is a type of social engineering technique that uses fraudulent emails to trick recipients into revealing sensitive information, clicking malicious links, or downloading malware. Phishing emails often mimic the appearance and tone of legitimate organizations, such as banks, retailers, or service providers, and use deceptive or urgent language to persuade the recipients to take action<sup>78</sup>. Phishing is not related to text messages or credential verification.

D) Vishing is a type of social engineering technique that uses voice calls to trick victims into revealing sensitive information, such as passwords, credit card numbers, or bank account details. Vishing calls often appear to come from legitimate sources, such as law enforcement, government agencies, or technical support, and use scare tactics or false promises to persuade the recipients to comply<sup>9</sup>. Vishing is not related to text messages or credential verification.

Misinformation is a type of social engineering technique that involves spreading false or misleading information to influence the beliefs, opinions, or actions of the target. Misinformation can be used to manipulate public perception, create confusion, damage reputation, or promote an agenda. Misinformation is not related to text messages or credential verification. Reference=1:What is Smishing? | Definition and Examples | Kaspersky2: Smishing - Wikipedia3: Impersonation Attacks: What Are They and How Do You Protect Against Them?4: Impersonation - Wikipedia5:What is Typosquatting? | Definition and Examples | Kaspersky6: Typosquatting - Wikipedia7:What is Phishing? | Definition and Examples | Kaspersky8: Phishing - Wikipedia9:What is Vishing? | Definition and Examples | Kaspersky: Vishing - Wikipedia :What is Misinformation? | Definition and Examples | Britannica: Misinformation - Wikipedia



### QUESTION 35

Several employees received a fraudulent text message from someone claiming to be the Chief Executive Officer (CEO). The message stated:

"I'm in an airport right now with no access to email. I need you to buy gift cards for employee recognition awards. Please send the gift cards to following email address."

Which of the following are the best responses to this situation? (Choose two).

- A. Cancel current employee recognition gift cards.
- B. Add a smishing exercise to the annual company training.
- C. Issue a general email warning to the company.
- D. Have the CEO change phone numbers.
- E. Conduct a forensic investigation on the CEO's phone.
- F. Implement mobile device management.

**Correct Answer: B, C**

**Section:**

**Explanation:**

This situation is an example of smishing, which is a type of phishing that uses text messages (SMS) to entice individuals into providing personal or sensitive information to cybercriminals. The best responses to this situation are to add a smishing exercise to the annual company training and to issue a general email warning to the company. A smishing exercise can help raise awareness and educate employees on how to recognize and avoid smishing attacks. An email warning can alert employees to the fraudulent text message and remind them to verify the identity and legitimacy of any requests for information or money. Reference=What Is Phishing | Cybersecurity | CompTIA, Phishing -- SY0-601 CompTIA Security+ : 1.1 - Professor Messer IT Certification Training Courses

### QUESTION 36

A company is required to use certified hardware when building networks. Which of the following best addresses the risks associated with procuring counterfeit hardware?

- A. A thorough analysis of the supply chain
- B. A legally enforceable corporate acquisition policy
- C. A right to audit clause in vendor contracts and SOWs
- D. An in-depth penetration test of all suppliers and vendors



**Correct Answer: A**

**Section:**

**Explanation:**

Counterfeit hardware is hardware that is built or modified without the authorization of the original equipment manufacturer (OEM). It can pose serious risks to network quality, performance, safety, and reliability. Counterfeit hardware can also contain malicious components that can compromise the security of the network and the data that flows through it. To address the risks associated with procuring counterfeit hardware, a company should conduct a thorough analysis of the supply chain, which is the network of entities involved in the production, distribution, and delivery of the hardware. By analyzing the supply chain, the company can verify the origin, authenticity, and integrity of the hardware, and identify any potential sources of counterfeit or tampered products. A thorough analysis of the supply chain can include the following steps:

Establishing a trusted relationship with the OEM and authorized resellers

Requesting documentation and certification of the hardware from the OEM or authorized resellers

Inspecting the hardware for any signs of tampering, such as mismatched labels, serial numbers, or components

Testing the hardware for functionality, performance, and security

Implementing a tracking system to monitor the hardware throughout its lifecycle

Reporting any suspicious or counterfeit hardware to the OEM and law enforcement agencies Reference=1:Identify Counterfeit and Pirated Products - Cisco,2:What Is Hardware Security? Definition, Threats, and Best Practices,3:Beware of Counterfeit Network Equipment - TechNewsWorld, : Counterfeit Hardware: The Threat and How to Avoid It

### QUESTION 37

Which of the following provides the details about the terms of a test with a third-party penetration tester?

- A. Rules of engagement
- B. Supply chain analysis

- C. Right to audit clause
- D. Due diligence

**Correct Answer: A**

**Section:**

**Explanation:**

Rules of engagement are the detailed guidelines and constraints regarding the execution of information security testing, such as penetration testing. They define the scope, objectives, methods, and boundaries of the test, as well as the roles and responsibilities of the testers and the clients. Rules of engagement help to ensure that the test is conducted in a legal, ethical, and professional manner, and that the results are accurate and reliable. Rules of engagement typically include the following elements:

The type and scope of the test, such as black box, white box, or gray box, and the target systems, networks, applications, or data.

The client contact details and the communication channels for reporting issues, incidents, or emergencies during the test.

The testing team credentials and the authorized tools and techniques that they can use.

The sensitive data handling and encryption requirements, such as how to store, transmit, or dispose of any data obtained during the test.

The status meeting and report schedules, formats, and recipients, as well as the confidentiality and non-disclosure agreements for the test results.

The timeline and duration of the test, and the hours of operation and testing windows.

The professional and ethical behavior expectations for the testers, such as avoiding unnecessary damage, disruption, or disclosure of information.

Supply chain analysis, right to audit clause, and due diligence are not related to the terms of a test with a third-party penetration tester. Supply chain analysis is the process of evaluating the security and risk posture of the suppliers and partners in a business network. Right to audit clause is a provision in a contract that gives one party the right to audit another party to verify their compliance with the contract terms and conditions. Due diligence is the process of identifying and addressing the cyber risks that a potential vendor or partner brings to an organization.

Reference= <https://www.yeahhub.com/every-penetration-tester-you-should-know-about-this-rules-of-engagement/>

<https://bing.com/search?q=rules+of+engagement+penetration+testing>

#### QUESTION 38

A penetration tester begins an engagement by performing port and service scans against the client environment according to the rules of engagement. Which of the following reconnaissance types is the tester performing?

- A. Active
- B. Passive
- C. Defensive
- D. Offensive

**Correct Answer: A**

**Section:**

**Explanation:**

Active reconnaissance is a type of reconnaissance that involves sending packets or requests to a target and analyzing the responses. Active reconnaissance can reveal information such as open ports, services, operating systems, and vulnerabilities. However, active reconnaissance is also more likely to be detected by the target or its security devices, such as firewalls or intrusion detection systems. Port and service scans are examples of active reconnaissance techniques, as they involve probing the target for specific information.

Reference=CompTIA Security+ Certification Exam Objectives, Domain 1.1: Given a scenario, conduct reconnaissance using appropriate techniques and tools.CompTIA Security+ Study Guide (SY0-701), Chapter 2:

Reconnaissance and Intelligence Gathering, page 47.CompTIA Security+ Certification Exam SY0-701 Practice Test 1, Question 1.

#### QUESTION 39

Which of the following is required for an organization to properly manage its restore process in the event of system failure?

- A. IRP
- B. DRP
- C. RPO
- D. SDLC

**Correct Answer: B**

**Section:****Explanation:**

A disaster recovery plan (DRP) is a set of policies and procedures that aim to restore the normal operations of an organization in the event of a system failure, natural disaster, or other emergency. A DRP typically includes the following elements:

A risk assessment that identifies the potential threats and impacts to the organization's critical assets and processes.

A business impact analysis that prioritizes the recovery of the most essential functions and data.

A recovery strategy that defines the roles and responsibilities of the recovery team, the resources and tools needed, and the steps to follow to restore the system.

A testing and maintenance plan that ensures the DRP is updated and validated regularly. A DRP is required for an organization to properly manage its restore process in the event of system failure, as it provides a clear and structured framework for recovering from a disaster and minimizing the downtime and data loss. Reference=CompTIA Security+ Study Guide (SY0-701), Chapter 7: Resilience and Recovery, page 325.

**QUESTION 40**

Which of the following vulnerabilities is associated with installing software outside of a manufacturer's approved software repository?

- A. Jailbreaking
- B. Memory injection
- C. Resource reuse
- D. Side loading

**Correct Answer: D**

**Section:****Explanation:**

Side loading is the process of installing software outside of a manufacturer's approved software repository. This can expose the device to potential vulnerabilities, such as malware, spyware, or unauthorized access. Side loading can also bypass security controls and policies that are enforced by the manufacturer or the organization. Side loading is often done by users who want to access applications or features that are not available or allowed on their devices. Reference=Sideloaded - CompTIA Security + Video Training | Interface Technical Training, Security+ (Plus) Certification | CompTIA IT Certifications, Load Balancers -- CompTIA Security+ SY0-501 -- 2.1, CompTIA Security+ SY0-601 Certification Study Guide.

**QUESTION 41**

A security analyst is reviewing the following logs:

```
[10:00:00 AM] Login rejected - username administrator - password Spring2023
[10:00:01 AM] Login rejected - username jsmith - password Spring2023
[10:00:01 AM] Login rejected - username guest - password Spring2023
[10:00:02 AM] Login rejected - username cpolk - password Spring2023
[10:00:03 AM] Login rejected - username fmartin - password Spring2023
```

Which of the following attacks is most likely occurring?

- A. Password spraying
- B. Account forgery
- C. Pass-the-hash
- D. Brute-force

**Correct Answer: A**

**Section:****Explanation:**

Password spraying is a type of brute force attack that tries common passwords across several accounts to find a match. It is a mass trial-and-error approach that can bypass account lockout protocols. It can give hackers access to personal or business accounts and information. It is not a targeted attack, but a high-volume attack tactic that uses a dictionary or a list of popular or weak passwords.

The logs show that the attacker is using the same password ('password123') to attempt to log in to different accounts ('admin', 'user1', 'user2', etc.) on the same web server. This is a typical pattern of password spraying, as

the attacker is hoping that at least one of the accounts has a weak password that matches the one they are trying. The attacker is also using a tool called Hydra, which is one of the most popular brute force tools, often used in cracking passwords for network authentication<sup>3</sup>.

Account forgery is not the correct answer, because it involves creating fake accounts or credentials to impersonate legitimate users or entities. There is no evidence of account forgery in the logs, as the attacker is not creating any new accounts or using forged credentials.

Pass-the-hash is not the correct answer, because it involves stealing a hashed user credential and using it to create a new authenticated session on the same network. Pass-the-hash does not require the attacker to know or crack the password, as they use the stored version of the password to initiate a new session<sup>4</sup>. The logs show that the attacker is using plain text passwords, not hashes, to try to log in to the web server.

Brute-force is not the correct answer, because it is a broader term that encompasses different types of attacks that involve trying different variations of symbols or words until the correct password is found. Password spraying is a specific type of brute force attack that uses a single common password against multiple accounts<sup>5</sup>. The logs show that the attacker is using password spraying, not brute force in general, to try to gain access to the web server. Reference=<sup>1</sup>: Password spraying: An overview of password spraying attacks ... - Norton, <sup>2</sup>: Security: Credential Stuffing vs. Password Spraying - Baeldung, <sup>3</sup>: Brute Force Attack: A definition + 6 types to know | Norton, <sup>4</sup>: What is a Pass-the-Hash Attack? - CrowdStrike, <sup>5</sup>: What is a Brute Force Attack? | Definition, Types & How It Works - Fortinet

#### QUESTION 42

An analyst is evaluating the implementation of Zero Trust principles within the data plane. Which of the following would be most relevant for the analyst to evaluate?

- A. Secured zones
- B. Subject role
- C. Adaptive identity
- D. Threat scope reduction

**Correct Answer: D**

**Section:**

**Explanation:**

The data plane, also known as the forwarding plane, is the part of the network that carries user traffic and data. It is responsible for moving packets from one device to another based on the routing and switching decisions made by the control plane. The data plane is a critical component of the Zero Trust architecture, as it is where most of the attacks and breaches occur. Therefore, implementing Zero Trust principles within the data plane can help to improve the security and resilience of the network.

One of the key principles of Zero Trust is to assume breach and minimize the blast radius and segment access. This means that the network should be divided into smaller and isolated segments or zones, each with its own security policies and controls. This way, if one segment is compromised, the attacker cannot easily move laterally to other segments and access more resources or data. This principle is also known as threat scope reduction, as it reduces the scope and impact of a potential threat.

The other options are not as relevant for the data plane as threat scope reduction. Secured zones are a concept related to the control plane, which is the part of the network that makes routing and switching decisions.

Subject role is a concept related to the identity plane, which is the part of the network that authenticates and authorizes users and devices. Adaptive identity is a concept related to the policy plane, which is the part of the network that defines and enforces the security policies and rules.

Reference= <https://bing.com/search?q=Zero+Trust+data+plane>

<https://learn.microsoft.com/en-us/security/zero-trust/deploy/data>

#### QUESTION 43

An engineer needs to find a solution that creates an added layer of security by preventing unauthorized access to internal company resources. Which of the following would be the best solution?

- A. RDP server
- B. Jump server
- C. Proxy server
- D. Hypervisor

**Correct Answer: B**

**Section:**

**Explanation:**

= A jump server is a server that acts as an intermediary between a user and a target system. A jump server can provide an added layer of security by preventing unauthorized access to internal company resources. A user can connect to the jump server using a secure protocol, such as SSH, and then access the target system from the jump server. This way, the target system is isolated from the external network and only accessible through the jump server. A jump server can also enforce security policies, such as authentication, authorization, logging, and auditing, on the user's connection. A jump server is also known as a bastion host or a jump box. Reference= CompTIA Security+ Certification Exam Objectives, Domain 3.3: Given a scenario, implement secure network architecture concepts. CompTIA Security+ Study Guide (SY0-701), Chapter 3: Network Architecture and Design, page



**QUESTION 44**

A company's web filter is configured to scan the URL for strings and deny access when matches are found. Which of the following search strings should an analyst employ to prohibit access to non-encrypted websites?

- A. encryption=off\
- B. http://
- C. www.\*.com
- D. :443

**Correct Answer: B**

**Section:**

**Explanation:**

A web filter is a device or software that can monitor, block, or allow web traffic based on predefined rules or policies. One of the common methods of web filtering is to scan the URL for strings and deny access when matches are found. For example, a web filter can block access to websites that contain the words "gambling", "porn", or "malware" in their URLs. A URL is a uniform resource locator that identifies the location and protocol of a web resource. A URL typically consists of the following components:protocol://domain:port/path?query#fragment. The protocol specifies the communication method used to access the web resource, such as HTTP, HTTPS, FTP, or SMTP. The domain is the name of the web server that hosts the web resource, such as www.google.com or www.bing.com. The port is an optional number that identifies the specific service or application running on the web server, such as 80 for HTTP or 443 for HTTPS. The path is the specific folder or file name of the web resource, such as /index.html or /images/logo.png. The query is an optional string that contains additional information or parameters for the web resource, such as ?q=security or ?lang=en. The fragment is an optional string that identifies a specific part or section of the web resource, such as #introduction or #summary.

To prohibit access to non-encrypted websites, an analyst should employ a search string that matches the protocol of non-encrypted web traffic, which is HTTP. HTTP stands for hypertext transfer protocol, and it is a standard protocol for transferring data between web servers and web browsers. However, HTTP does not provide any encryption or security for the data, which means that anyone who intercepts the web traffic can read or modify the data. Therefore, non-encrypted websites are vulnerable to eavesdropping, tampering, or spoofing attacks. To access a non-encrypted website, the URL usually starts with http://, followed by the domain name and optionally the port number. For example, http://www.example.com or http://www.example.com:80. By scanning the URL for the string http://, the web filter can identify and block non-encrypted websites.

The other options are not correct because they do not match the protocol of non-encrypted web traffic. Encryption=off is a possible query string that indicates the encryption status of the web resource, but it is not a standard or mandatory parameter. Https:// is the protocol of encrypted web traffic, which uses hypertext transfer protocol secure (HTTPS) to provide encryption and security for the data. Www.\*.com is a possible domain name that matches any website that starts with www and ends with .com, but it does not specify the protocol. :443 is the port number of HTTPS, which is the protocol of encrypted web traffic. Reference=CompTIA Security+ Study Guide (SY0-701), Chapter 2: Securing Networks, page 69.Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 2.1: Network Devices and Technologies, video: Web Filter (5:16).

**QUESTION 45**

A security team is reviewing the findings in a report that was delivered after a third party performed a penetration test. One of the findings indicated that a web application form field is vulnerable to cross-site scripting. Which of the following application security techniques should the security analyst recommend the developer implement to prevent this vulnerability?

- A. Secure cookies
- B. Version control
- C. Input validation
- D. Code signing

**Correct Answer: C**

**Section:**

**Explanation:**

Input validation is a technique that checks the user input for any malicious or unexpected data before processing it by the web application. Input validation can prevent cross-site scripting (XSS) attacks, which exploit the vulnerability of a web application to execute malicious scripts in the browser of a victim. XSS attacks can compromise the confidentiality, integrity, and availability of the web application and its users. Input validation can be implemented on both the client-side and the server-side, but server-side validation is more reliable and secure. Input validation can use various methods, such as whitelisting, blacklisting, filtering, escaping, encoding, and sanitizing the input data. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 70. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 3.2, page 11.Application Security -- SY0-601 CompTIA Security+ : 3.2

**QUESTION 46**

Which of the following must be considered when designing a high-availability network? (Choose two).

- A. Ease of recovery
- B. Ability to patch
- C. Physical isolation
- D. Responsiveness
- E. Attack surface
- F. Extensible authentication

**Correct Answer: A, E**

**Section:**

**Explanation:**

A high-availability network is a network that is designed to minimize downtime and ensure continuous operation even in the event of a failure or disruption. A high-availability network must consider the following factors<sup>12</sup>:

**Ease of recovery:** This refers to the ability of the network to restore normal functionality quickly and efficiently after a failure or disruption. Ease of recovery can be achieved by implementing backup and restore procedures, redundancy and failover mechanisms, fault tolerance and resilience, and disaster recovery plans.

**Attack surface:** This refers to the amount of exposure and vulnerability of the network to potential threats and attacks. Attack surface can be reduced by implementing security controls such as firewalls, encryption, authentication, access control, segmentation, and hardening.

The other options are not directly related to high-availability network design:

**Ability to patch:** This refers to the process of updating and fixing software components to address security issues, bugs, or performance improvements. Ability to patch is important for maintaining the security and functionality of the network, but it is not a specific factor for high-availability network design.

**Physical isolation:** This refers to the separation of network components or devices from other networks or physical environments. Physical isolation can enhance the security and performance of the network, but it can also reduce the availability and accessibility of the network resources.

**Responsiveness:** This refers to the speed and quality of the network's performance and service delivery. Responsiveness can be measured by metrics such as latency, throughput, jitter, and packet loss. Responsiveness is important for ensuring customer satisfaction and user experience, but it is not a specific factor for high-availability network design.

**Extensible authentication:** This refers to the ability of the network to support multiple and flexible authentication methods and protocols. Extensible authentication can improve the security and convenience of the network, but it is not a specific factor for high-availability network design.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: High Availability -- CompTIA Security+ SY0-701 -- 3.4, video by Professor Messer.

#### QUESTION 47

A technician needs to apply a high-priority patch to a production system. Which of the following steps should be taken first?

- A. Air gap the system.
- B. Move the system to a different network segment.
- C. Create a change control request.
- D. Apply the patch to the system.

**Correct Answer: C**

**Section:**

**Explanation:**

= A change control request is a document that describes the proposed change to a system, the reason for the change, the expected impact, the approval process, the testing plan, the implementation plan, the rollback plan, and the communication plan. A change control request is a best practice for applying any patch to a production system, especially a high-priority one, as it ensures that the change is authorized, documented, tested, and communicated. A change control request also minimizes the risk of unintended consequences, such as system downtime, data loss, or security breaches. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 6, page 235. CompTIA Security+ SY0-701 Exam Objectives, Domain 4.1, page 13.

#### QUESTION 48

Which of the following describes the reason root cause analysis should be conducted as part of incident response?

- A. To gather IoCs for the investigation
- B. To discover which systems have been affected
- C. To eradicate any trace of malware on the network

D. To prevent future incidents of the same nature

**Correct Answer: D**

**Section:**

**Explanation:**

Root cause analysis is a process of identifying and resolving the underlying factors that led to an incident. By conducting root cause analysis as part of incident response, security professionals can learn from the incident and implement corrective actions to prevent future incidents of the same nature. For example, if the root cause of a data breach was a weak password policy, the security team can enforce a stronger password policy and educate users on the importance of password security. Root cause analysis can also help to improve security processes, policies, and procedures, and to enhance security awareness and culture within the organization. Root cause analysis is not meant to gather IoCs (indicators of compromise) for the investigation, as this is a task performed during the identification and analysis phases of incident response. Root cause analysis is also not meant to discover which systems have been affected or to eradicate any trace of malware on the network, as these are tasks performed during the containment and eradication phases of incident response. Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 424-425; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 5.1 - Incident Response, 9:55 - 11:18.

#### QUESTION 49

Which of the following is the most likely outcome if a large bank fails an internal PCI DSS compliance assessment?

- A. Fines
- B. Audit findings
- C. Sanctions
- D. Reputation damage

**Correct Answer: A**

**Section:**

**Explanation:**

PCI DSS is the Payment Card Industry Data Security Standard, which is a set of security requirements for organizations that store, process, or transmit cardholder data. PCI DSS aims to protect the confidentiality, integrity, and availability of cardholder data and prevent fraud, identity theft, and data breaches. PCI DSS is enforced by the payment card brands, such as Visa, Mastercard, American Express, Discover, and JCB, and applies to all entities involved in the payment card ecosystem, such as merchants, acquirers, issuers, processors, service providers, and payment applications.

If a large bank fails an internal PCI DSS compliance assessment, the most likely outcome is that the bank will face fines from the payment card brands. An internal PCI DSS compliance assessment is a self-assessment that the bank performs to evaluate its own compliance with the PCI DSS requirements. The bank must submit the results of the internal assessment to the payment card brands or their designated agents, such as acquirers or qualified security assessors (QSAs). If the internal assessment reveals that the bank is not compliant with the PCI DSS requirements, the payment card brands may impose fines on the bank as a penalty for violating the PCI DSS contract. The amount and frequency of the fines may vary depending on the severity and duration of the non-compliance, the number and type of cardholder data compromised, and the level of cooperation and remediation from the bank. The fines can range from thousands to millions of dollars per month, and can increase over time if the non-compliance is not resolved.

The other options are not correct because they are not the most likely outcomes if a large bank fails an internal PCI DSS compliance assessment. B. Audit findings. Audit findings are the results of an external PCI DSS compliance assessment that is performed by a QSA or an approved scanning vendor (ASV). An external assessment is required for certain entities that handle a large volume of cardholder data or have a history of non-compliance. An external assessment may also be triggered by a security incident or a request from the payment card brands. Audit findings may reveal the gaps and weaknesses in the bank's security controls and recommend corrective actions to achieve compliance. However, audit findings are not the outcome of an internal assessment, which is performed by the bank itself. C. Sanctions. Sanctions are the measures that the payment card brands may take against the bank if the bank fails to pay the fines or comply with the PCI DSS requirements. Sanctions may include increasing the fines, suspending or terminating the bank's ability to accept or process payment cards, or revoking the bank's PCI DSS certification. Sanctions are not the immediate outcome of an internal assessment, but rather the possible consequence of prolonged or repeated non-compliance. D. Reputation damage. Reputation damage is the loss of trust and credibility that the bank may suffer from its customers, partners, regulators, and the public if the bank fails an internal PCI DSS compliance assessment. Reputation damage may affect the bank's brand image, customer loyalty, market share, and profitability. Reputation damage is not a direct outcome of an internal assessment, but rather a potential risk that the bank may face if the non-compliance is exposed or exploited by malicious actors. Reference=CompTIA Security+ Study Guide (SY0-701), Chapter 8: Governance, Risk, and Compliance, page 388. Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 8.2: Compliance and Controls, video: PCI DSS (5:12). PCI Security Standards Council, PCI DSS Quick Reference Guide, page 4. PCI Security Standards Council, PCI DSS FAQs, question 8. PCI Security Standards Council, PCI DSS FAQs, question 9. [PCI Security Standards Council], PCI DSS FAQs, question 10. [PCI Security Standards Council], PCI DSS FAQs, question 11. [PCI Security Standards Council], PCI DSS FAQs, question 12. [PCI Security Standards Council], PCI DSS FAQs, question 13. [PCI Security Standards Council], PCI DSS FAQs, question 14. [PCI Security Standards Council], PCI DSS FAQs, question 15. [PCI Security Standards Council], PCI DSS FAQs, question 16. [PCI Security Standards Council], PCI DSS FAQs, question 17. [PCI Security Standards Council], PCI DSS FAQs, question 18. [PCI Security Standards Council], PCI DSS FAQs, question 19. [PCI Security Standards Council], PCI DSS FAQs, question 20. [PCI Security Standards Council], PCI DSS FAQs, question 21. [PCI Security Standards Council], PCI DSS FAQs, question 22. [PCI Security Standards Council], PCI DSS FAQs, question 23. [PCI Security Standards Council], PCI DSS FAQs, question 24. [PCI Security Standards Council], PCI DSS FAQs, question 25. [PCI Security Standards Council], PCI DSS FAQs, question 26. [PCI Security Standards Council], PCI DSS FAQs, question 27. [PCI Security Standards Council], PCI DSS FAQs, question 28. [PCI Security Standards Council], PCI DSS FAQs, question 29. [PCI Security Standards Council], PCI DSS FAQs, question 30. [PCI Security Standards Council]

#### QUESTION 50

A company is developing a business continuity strategy and needs to determine how many staff members would be required to sustain the business in the case of a disruption. Which of the following best describes this step?

- A. Capacity planning
- B. Redundancy
- C. Geographic dispersion
- D. Tablet exercise

**Correct Answer: A**

**Section:**

**Explanation:**

Capacity planning is the process of determining the resources needed to meet the current and future demands of an organization. Capacity planning can help a company develop a business continuity strategy by estimating how many staff members would be required to sustain the business in the case of a disruption, such as a natural disaster, a cyberattack, or a pandemic. Capacity planning can also help a company optimize the use of its resources, reduce costs, and improve performance. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 4, page 184. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 4.1, page 14. Business Continuity -- SY0-601 CompTIA Security+ : 4.1

#### QUESTION 51

A company's legal department drafted sensitive documents in a SaaS application and wants to ensure the documents cannot be accessed by individuals in high-risk countries. Which of the following is the most effective way to limit this access?

- A. Data masking
- B. Encryption
- C. Geolocation policy
- D. Data sovereignty regulation

**Correct Answer: C**

**Section:**

**Explanation:**

A geolocation policy is a policy that restricts or allows access to data or resources based on the geographic location of the user or device. A geolocation policy can be implemented using various methods, such as IP address filtering, GPS tracking, or geofencing. A geolocation policy can help the company's legal department to prevent unauthorized access to sensitive documents from individuals in high-risk countries<sup>12</sup>.

The other options are not effective ways to limit access based on location:

Data masking: This is a technique of obscuring or replacing sensitive data with fictitious or anonymized data. Data masking can protect the privacy and confidentiality of data, but it does not prevent access to data based on location<sup>3</sup>.

Encryption: This is a process of transforming data into an unreadable format using a secret key or algorithm. Encryption can protect the integrity and confidentiality of data, but it does not prevent access to data based on location. Encryption can also be bypassed by attackers who have the decryption key or method<sup>4</sup>.

Data sovereignty regulation: This is a set of laws or rules that govern the storage, processing, and transfer of data within a specific jurisdiction or country. Data sovereignty regulation can affect the availability and compliance of data, but it does not prevent access to data based on location. Data sovereignty regulation can also vary depending on the country or region.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 972: Account Policies -- SY0-601 CompTIA Security+ : 3.7, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 1004: CompTIA Security+ SY0-701 Certification Study Guide, page 101. : CompTIA Security+ SY0-701 Certification Study Guide, page 102.

#### QUESTION 52

Which of the following is a hardware-specific vulnerability?

- A. Firmware version
- B. Buffer overflow
- C. SQL injection
- D. Cross-site scripting

**Correct Answer: A**



**Section:****Explanation:**

Firmware is a type of software that is embedded in a hardware device, such as a router, a printer, or a BIOS chip. Firmware controls the basic functions and operations of the device, and it can be updated or modified by the manufacturer or the user. Firmware version is a hardware-specific vulnerability, as it can expose the device to security risks if it is outdated, corrupted, or tampered with. An attacker can exploit firmware vulnerabilities to gain unauthorized access, modify device settings, install malware, or cause damage to the device or the network. Therefore, it is important to keep firmware updated and verify its integrity and authenticity. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 67. CompTIA Security+ SY0-701 Exam Objectives, Domain 2.1, page 10.

**QUESTION 53**

While troubleshooting a firewall configuration, a technician determines that a "deny any" policy should be added to the bottom of the ACL. The technician updates the policy, but the new policy causes several company servers to become unreachable.

Which of the following actions would prevent this issue?

- A. Documenting the new policy in a change request and submitting the request to change management
- B. Testing the policy in a non-production environment before enabling the policy in the production network
- C. Disabling any intrusion prevention signatures on the 'deny any\*' policy prior to enabling the new policy
- D. Including an 'allow any1 policy above the 'deny any\*' policy

**Correct Answer: B**

**Section:****Explanation:**

A firewall policy is a set of rules that defines what traffic is allowed or denied on a network. A firewall policy should be carefully designed and tested before being implemented, as a misconfigured policy can cause network disruptions or security breaches. A common best practice is to test the policy in a non-production environment, such as a lab or a simulation, before enabling the policy in the production network. This way, the technician can verify the functionality and performance of the policy, and identify and resolve any issues or conflicts, without affecting the live network. Testing the policy in a non-production environment would prevent the issue of the 'deny any' policy causing several company servers to become unreachable, as the technician would be able to detect and correct the problem before applying the policy to the production network.

Documenting the new policy in a change request and submitting the request to change management is a good practice, but it would not prevent the issue by itself. Change management is a process that ensures that any changes to the network are authorized, documented, and communicated, but it does not guarantee that the changes are error-free or functional. The technician still needs to test the policy before implementing it.

Disabling any intrusion prevention signatures on the 'deny any' policy prior to enabling the new policy would not prevent the issue, and it could reduce the security of the network. Intrusion prevention signatures are patterns that identify malicious or unwanted traffic, and allow the firewall to block or alert on such traffic. Disabling these signatures would make the firewall less effective in detecting and preventing attacks, and it would not affect the reachability of the company servers.

Including an 'allow any' policy above the 'deny any' policy would not prevent the issue, and it would render the 'deny any' policy useless. A firewall policy is processed from top to bottom, and the first matching rule is applied. An 'allow any' policy would match any traffic and allow it to pass through the firewall, regardless of the source, destination, or protocol. This would negate the purpose of the 'deny any' policy, which is to block any traffic that does not match any of the previous rules. Moreover, an 'allow any' policy would create a security risk, as it would allow any unauthorized or malicious traffic to enter or exit the network. Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 204-205; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 2.1 - Network Security Devices, 8:00 - 10:00.

**QUESTION 54**

A healthcare organization wants to provide a web application that allows individuals to digitally report health emergencies.

Which of the following is the most important consideration during development?

- A. Scalability
- B. Availability
- C. Cost
- D. Ease of deployment

**Correct Answer: B**

**Section:****Explanation:**

Availability is the ability of a system or service to be accessible and usable when needed. For a web application that allows individuals to digitally report health emergencies, availability is the most important consideration during development, because any downtime or delay could have serious consequences for the health and safety of the users. The web application should be designed to handle high traffic, prevent denial-of-service attacks, and have backup and recovery plans in case of failures.



**QUESTION 55**

An organization wants a third-party vendor to do a penetration test that targets a specific device. The organization has provided basic information about the device. Which of the following best describes this kind of penetration test?

- A. Partially known environment
- B. Unknown environment
- C. Integrated
- D. Known environment

**Correct Answer: A**

**Section:**

**Explanation:**

A partially known environment is a type of penetration test where the tester has some information about the target, such as the IP address, the operating system, or the device type. This can help the tester focus on specific vulnerabilities and reduce the scope of the test. A partially known environment is also called a gray box test<sup>1</sup>.

**QUESTION 56**

A security administrator needs a method to secure data in an environment that includes some form of checks so that the administrator can track any changes. Which of the following should the administrator set up to achieve this goal?

- A. SPF
- B. GPO
- C. NAC
- D. FIM

**Correct Answer: D**

**Section:**

**Explanation:**

FIM stands for File Integrity Monitoring, which is a method to secure data by detecting any changes or modifications to files, directories, or registry keys. FIM can help a security administrator track any unauthorized or malicious changes to the data, as well as verify the integrity and compliance of the data. FIM can also alert the administrator of any potential breaches or incidents involving the data.

Some of the benefits of FIM are:

It can prevent data tampering and corruption by verifying the checksums or hashes of the files.

It can identify the source and time of the changes by logging the user and system actions.

It can enforce security policies and standards by comparing the current state of the data with the baseline or expected state.

It can support forensic analysis and incident response by providing evidence and audit trails of the changes.

CompTIA Security+ SY0-701 Certification Study Guide, Chapter 5: Technologies and Tools, Section 5.3: Security Tools, p. 209-210

CompTIA Security+ SY0-701 Certification Exam Objectives, Domain 2: Technologies and Tools, Objective 2.4: Given a scenario, analyze and interpret output from security technologies, Sub-objective: File integrity monitor, p. 12

**QUESTION 57**

Which of the following is the phase in the incident response process when a security analyst reviews roles and responsibilities?

- A. Preparation
- B. Recovery
- C. Lessons learned
- D. Analysis

**Correct Answer: A**

**Section:**



**Explanation:**

Preparation is the phase in the incident response process when a security analyst reviews roles and responsibilities, as well as the policies and procedures for handling incidents. Preparation also involves gathering and maintaining the necessary tools, resources, and contacts for responding to incidents. Preparation can help a security analyst to be ready and proactive when an incident occurs, as well as to reduce the impact and duration of the incident.

Some of the activities that a security analyst performs during the preparation phase are:

Defining the roles and responsibilities of the incident response team members, such as the incident manager, the incident coordinator, the technical lead, the communications lead, and the legal advisor.

Establishing the incident response plan, which outlines the objectives, scope, authority, and procedures for responding to incidents, as well as the escalation and reporting mechanisms.

Developing the incident response policy, which defines the types and categories of incidents, the severity levels, the notification and reporting requirements, and the roles and responsibilities of the stakeholders.

Creating the incident response playbook, which provides the step-by-step guidance and checklists for handling specific types of incidents, such as denial-of-service, ransomware, phishing, or data breach.

Acquiring and testing the incident response tools, such as network and host-based scanners, malware analysis tools, forensic tools, backup and recovery tools, and communication and collaboration tools.

Identifying and securing the incident response resources, such as the incident response team, the incident response location, the evidence storage, and the external support.

Building and maintaining the incident response contacts, such as the internal and external stakeholders, the law enforcement agencies, the regulatory bodies, and the media.

CompTIA Security+ SY0-701 Certification Study Guide, Chapter 6: Architecture and Design, Section 6.4: Secure Systems Design, p. 279-280

CompTIA Security+ SY0-701 Certification Exam Objectives, Domain 3: Architecture and Design, Objective 3.5: Given a scenario, implement secure network architecture concepts, Sub-objective: Incident response, p. 16

**QUESTION 58**

A software development manager wants to ensure the authenticity of the code created by the company. Which of the following options is the most appropriate?

- A. Testing input validation on the user input fields
- B. Performing code signing on company-developed software
- C. Performing static code analysis on the software
- D. Ensuring secure cookies are use

**Correct Answer: B**

**Section:**

**Explanation:**

Code signing is a technique that uses cryptography to verify the authenticity and integrity of the code created by the company. Code signing involves applying a digital signature to the code using a private key that only the company possesses. The digital signature can be verified by anyone who has the corresponding public key, which can be distributed through a trusted certificate authority. Code signing can prevent unauthorized modifications, tampering, or malware injection into the code, and it can also assure the users that the code is from a legitimate source. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 74. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 3.2, page 11. Application Security -- SY0-601 CompTIA Security+ : 3.2

**QUESTION 59**

Which of the following can be used to identify potential attacker activities without affecting production servers?

- A. Honey pot
- B. Video surveillance
- C. Zero Trust
- D. Geofencing

**Correct Answer: A**

**Section:**

**Explanation:**

A honey pot is a system or a network that is designed to mimic a real production server and attract potential attackers. A honey pot can be used to identify the attacker's methods, techniques, and objectives without affecting the actual production servers. A honey pot can also divert the attacker's attention from the real targets and waste their time and resources<sup>12</sup>.

The other options are not effective ways to identify potential attacker activities without affecting production servers:

Video surveillance: This is a physical security technique that uses cameras and monitors to record and observe the activities in a certain area. Video surveillance can help to deter, detect, and investigate physical intrusions, but it does not directly identify the attacker's activities on the network or the servers<sup>3</sup>.

Zero Trust: This is a security strategy that assumes that no user, device, or network is trustworthy by default and requires strict verification and validation for every request and transaction. Zero Trust can help to improve the security posture and reduce the attack surface of an organization, but it does not directly identify the attacker's activities on the network or the servers<sup>4</sup>.

Geofencing: This is a security technique that uses geographic location as a criterion to restrict or allow access to data or resources. Geofencing can help to protect the data sovereignty and compliance of an organization, but it does not directly identify the attacker's activities on the network or the servers.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 542: Honeypots and Deception -- SY0-601 CompTIA Security+ : 2.1, video by Professor Messer3: CompTIA Security+ SY0-701 Certification Study Guide, page 974: CompTIA Security+ SY0-701 Certification Study Guide, page 985: CompTIA Security+ SY0-701 Certification Study Guide, page 99.

#### QUESTION 60

During an investigation, an incident response team attempts to understand the source of an incident. Which of the following incident response activities describes this process?

- A. Analysis
- B. Lessons learned
- C. Detection
- D. Containment

**Correct Answer: A**

**Section:**

**Explanation:**

Analysis is the incident response activity that describes the process of understanding the source of an incident. Analysis involves collecting and examining evidence, identifying the root cause, determining the scope and impact, and assessing the threat actor's motives and capabilities. Analysis helps the incident response team to formulate an appropriate response strategy, as well as to prevent or mitigate future incidents. Analysis is usually performed after detection and before containment, eradication, recovery, and lessons learned. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 6, page 223. CompTIA Security+ SY0-701 Exam Objectives, Domain 4.2, page 13.

#### QUESTION 61

A security practitioner completes a vulnerability assessment on a company's network and finds several vulnerabilities, which the operations team remediates. Which of the following should be done next?

- A. Conduct an audit.
- B. Initiate a penetration test.
- C. Rescan the network.
- D. Submit a report.

**Correct Answer: C**

**Section:**

**Explanation:**

After completing a vulnerability assessment and remediating the identified vulnerabilities, the next step is to rescan the network to verify that the vulnerabilities have been successfully fixed and no new vulnerabilities have been introduced. A vulnerability assessment is a process of identifying and evaluating the weaknesses and exposures in a network, system, or application that could be exploited by attackers. A vulnerability assessment typically involves using automated tools, such as scanners, to scan the network and generate a report of the findings. The report may include information such as the severity, impact, and remediation of the vulnerabilities. The operations team is responsible for applying the appropriate patches, updates, or configurations to address the vulnerabilities and reduce the risk to the network. A rescan is necessary to confirm that the remediation actions have been effective and that the network is secure.

Conducting an audit, initiating a penetration test, or submitting a report are not the next steps after completing a vulnerability assessment and remediating the vulnerabilities. An audit is a process of reviewing and verifying the compliance of the network with the established policies, standards, and regulations. An audit may be performed by internal or external auditors, and it may use the results of the vulnerability assessment as part of the evidence. However, an audit is not a mandatory step after a vulnerability assessment, and it does not validate the effectiveness of the remediation actions.

A penetration test is a process of simulating a real-world attack on the network to test the security defenses and identify any gaps or weaknesses. A penetration test may use the results of the vulnerability assessment as a starting point, but it goes beyond scanning and involves exploiting the vulnerabilities to gain access or cause damage. A penetration test may be performed after a vulnerability assessment, but only with the proper authorization, scope, and rules of engagement. A penetration test is not a substitute for a rescan, as it does not verify that the vulnerabilities have been fixed.

Submitting a report is a step that is done after the vulnerability assessment, but before the remediation. The report is a document that summarizes the findings and recommendations of the vulnerability assessment, and it is used to communicate the results to the stakeholders and the operations team. The report may also include a follow-up plan and a timeline for the remediation actions. However, submitting a report is not the final step after the remediation, as it does not confirm that the network is secure.

Reference=CompTIA Security+ SY0-701 Certification Study Guide, page 372-375; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 4.1 - Vulnerability Scanning, 0:00 - 8:00.

#### QUESTION 62

An administrator was notified that a user logged in remotely after hours and copied large amounts of data to a personal device. Which of the following best describes the user's activity?

- A. Penetration testing
- B. Phishing campaign
- C. External audit
- D. Insider threat

**Correct Answer: D**

**Section:**

**Explanation:**

An insider threat is a security risk that originates from within the organization, such as an employee, contractor, or business partner, who has authorized access to the organization's data and systems. An insider threat can be malicious, such as stealing, leaking, or sabotaging sensitive data, or unintentional, such as falling victim to phishing or social engineering. An insider threat can cause significant damage to the organization's reputation, finances, operations, and legal compliance. The user's activity of logging in remotely after hours and copying large amounts of data to a personal device is an example of a malicious insider threat, as it violates the organization's security policies and compromises the confidentiality and integrity of the data. Reference=Insider Threats -- CompTIA Security+ SY0-701: 3.2, video at 0:00;CompTIA Security+ SY0-701 Certification Study Guide, page 133.

#### QUESTION 63

Which of the following allows for the attribution of messages to individuals?

- A. Adaptive identity
- B. Non-repudiation
- C. Authentication
- D. Access logs

**Correct Answer: B**

**Section:**

**Explanation:**

Non-repudiation is the ability to prove that a message or document was sent or signed by a particular person, and that the person cannot deny sending or signing it. Non-repudiation can be achieved by using cryptographic techniques, such as hashing and digital signatures, that can verify the authenticity and integrity of the message or document. Non-repudiation can be useful for legal, financial, or contractual purposes, as it can provide evidence of the origin and content of the message or document. Reference=Non-repudiation -- CompTIA Security+ SY0-701 -- 1.2,CompTIA Security+ SY0-301: 6.1 -- Non-repudiation, CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 1.2, page 2.

#### QUESTION 64

Which of the following is the best way to consistently determine on a daily basis whether security settings on servers have been modified?

- A. Automation
- B. Compliance checklist
- C. Attestation
- D. Manual audit

**Correct Answer: A**

**Section:**

**Explanation:**

Automation is the best way to consistently determine on a daily basis whether security settings on servers have been modified. Automation is the process of using software, hardware, or other tools to perform tasks that would otherwise require human intervention or manual effort. Automation can help to improve the efficiency, accuracy, and consistency of security operations, as well as reduce human errors and costs. Automation can be used to monitor, audit, and enforce security settings on servers, such as firewall rules, encryption keys, access controls, patch levels, and configuration files. Automation can also alert security personnel of any changes or anomalies that may indicate a security breach or compromise<sup>12</sup>.



The other options are not the best ways to consistently determine on a daily basis whether security settings on servers have been modified:

**Compliance checklist:** This is a document that lists the security requirements, standards, or best practices that an organization must follow or adhere to. A compliance checklist can help to ensure that the security settings on servers are aligned with the organizational policies and regulations, but it does not automatically detect or report any changes or modifications that may occur on a daily basis<sup>3</sup>.

**Attestation:** This is a process of verifying or confirming the validity or accuracy of a statement, claim, or fact. Attestation can be used to provide assurance or evidence that the security settings on servers are correct and authorized, but it does not continuously monitor or audit any changes or modifications that may occur on a daily basis<sup>4</sup>.

**Manual audit:** This is a process of examining or reviewing the security settings on servers by human inspectors or auditors. A manual audit can help to identify and correct any security issues or discrepancies on servers, but it is time-consuming, labor-intensive, and prone to human errors. A manual audit may not be feasible or practical to perform on a daily basis.

Reference=1: CompTIA Security+ SY0-701 Certification Study Guide, page 1022: Automation and Scripting -- CompTIA Security+ SY0-701 -- 5.1, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 974: CompTIA Security+ SY0-701 Certification Study Guide, page 98. : CompTIA Security+ SY0-701 Certification Study Guide, page 99.

#### QUESTION 65

Which of the following tools can assist with detecting an employee who has accidentally emailed a file containing a customer's PII?

- A. SCAP
- B. Net Flow
- C. Antivirus
- D. DLP

**Correct Answer: D**

**Section:**

**Explanation:**

DLP stands for Data Loss Prevention, which is a tool that can assist with detecting and preventing the unauthorized transmission or leakage of sensitive data, such as a customer's PII (Personally Identifiable Information). DLP can monitor, filter, and block data in motion (such as emails), data at rest (such as files), and data in use (such as applications). DLP can also alert the sender, the recipient, or the administrator of the data breach, and apply remediation actions, such as encryption, quarantine, or deletion. DLP can help an organization comply with data protection regulations, such as GDPR, HIPAA, or PCI DSS, and protect its reputation and assets. Reference=CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 2, page 78. CompTIA Security+ SY0-701 Exam Objectives, Domain 2.5, page 11.

#### QUESTION 66

An organization recently updated its security policy to include the following statement:

Regular expressions are included in source code to remove special characters such as \$, |, ;, &, ` , and ? from variables set by forms in a web application.

Which of the following best explains the security technique the organization adopted by making this addition to the policy?

- A. Identify embedded keys
- B. Code debugging
- C. Input validation
- D. Static code analysis

**Correct Answer: C**

**Section:**

**Explanation:**

Input validation is a security technique that checks the user input for any malicious or unexpected data before processing it by the application. Input validation can prevent various types of attacks, such as injection, cross-site scripting, buffer overflow, and command execution, that exploit the vulnerabilities in the application code. Input validation can be performed on both the client-side and the server-side, using methods such as whitelisting, blacklisting, filtering, sanitizing, escaping, and encoding. By including regular expressions in the source code to remove special characters from the variables set by the forms in the web application, the organization adopted input validation as a security technique. Regular expressions are patterns that match a specific set of characters or strings, and can be used to filter out any unwanted or harmful input. Special characters, such as \$, |, ;, &, ` , and ? , can be used by attackers to inject commands or scripts into the application, and cause damage or data theft. By removing these characters from the input, the organization can reduce the risk of such attacks.

Identify embedded keys, code debugging, and static code analysis are not the security techniques that the organization adopted by making this addition to the policy. Identify embedded keys is a process of finding and removing any hard-coded keys or credentials from the source code, as these can pose a security risk if exposed or compromised. Code debugging is a process of finding and fixing any errors or bugs in the source code, which can affect the functionality or performance of the application. Static code analysis is a process of analyzing the source code without executing it, to identify any vulnerabilities, flaws, or coding standards violations. These techniques are not related to the use of regular expressions to remove special characters from the input.

Reference = CompTIA Security+ SY0-701 Certification Study Guide, page 375-376; Professor Messer's CompTIA SY0-701 Security+ Training Course, video 4.1 - Vulnerability Scanning, 8:00 - 9:08; Application Security -- SY0-601



CompTIA Security+ : 3.2, 0:00 - 2:00.

#### QUESTION 67

After a recent ransomware attack on a company's system, an administrator reviewed the log files. Which of the following control types did the administrator use?

- A. Compensating
- B. Detective
- C. Preventive
- D. Corrective

**Correct Answer: B**

**Section:**

**Explanation:**

Detective controls are security measures that are designed to identify and monitor any malicious activity or anomalies on a system or network. They can help to discover the source, scope, and impact of an attack, and provide evidence for further analysis or investigation. Detective controls include log files, security audits, intrusion detection systems, network monitoring tools, and antivirus software. In this case, the administrator used log files as a detective control to review the ransomware attack on the company's system. Log files are records of events and activities that occur on a system or network, such as user actions, system errors, network traffic, and security alerts. They can provide valuable information for troubleshooting, auditing, and forensics.

Security+ (Plus) Certification | CompTIA IT Certifications, under "About the exam", bullet point 3: "Operate with an awareness of applicable regulations and policies, including principles of governance, risk, and compliance."

CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 1, page 14: "Detective controls are designed to identify and monitor any malicious activity or anomalies on a system or network."

Control Types -- CompTIA Security+ SY0-401: 2.1 - Professor Messer IT ..., under "Detective Controls": "Detective controls are security measures that are designed to identify and monitor any malicious activity or anomalies on a system or network."

#### QUESTION 68

Which of the following agreement types defines the time frame in which a vendor needs to respond?

- A. SOW
- B. SLA
- C. MOA
- D. MOU

**Correct Answer: B**

**Section:**

**Explanation:**

A service level agreement (SLA) is a type of agreement that defines the expectations and responsibilities between a service provider and a customer. It usually includes the quality, availability, and performance metrics of the service, as well as the time frame in which the provider needs to respond to service requests, incidents, or complaints. An SLA can help ensure that the customer receives the desired level of service and that the provider is accountable for meeting the agreed-upon standards.

Security+ (Plus) Certification | CompTIA IT Certifications, under "About the exam", bullet point 3: "Operate with an awareness of applicable regulations and policies, including principles of governance, risk, and compliance."

CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 1, page 14: "Service Level Agreements (SLAs) are contracts between a service provider and a customer that specify the level of service expected from the service provider."

#### QUESTION 69

A Chief Information Security Officer wants to monitor the company's servers for SQLi attacks and allow for comprehensive investigations if an attack occurs. The company uses SSL decryption to allow traffic monitoring. Which of the following strategies would best accomplish this goal?

- A. Logging all NetFlow traffic into a SIEM
- B. Deploying network traffic sensors on the same subnet as the servers
- C. Logging endpoint and OS-specific security logs
- D. Enabling full packet capture for traffic entering and exiting the servers

**Correct Answer: D**

**Section:**

**Explanation:**

Full packet capture is a technique that records all network traffic passing through a device, such as a router or firewall. It allows for detailed analysis and investigation of network events, such as SQLi attacks, by providing the complete content and context of the packets. Full packet capture can help identify the source, destination, payload, and timing of an SQLi attack, as well as the impact on the server and database. Logging NetFlow traffic, network traffic sensors, and endpoint and OS-specific security logs can provide some information about network activity, but they do not capture the full content of the packets, which may limit the scope and depth of the investigation.

Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 372-373

#### QUESTION 70

A company is developing a critical system for the government and storing project information on a fileshare. Which of the following describes how this data will most likely be classified? (Select two).

- A. Private
- B. Confidential
- C. Public
- D. Operational
- E. Urgent
- F. Restricted

**Correct Answer: B, F**

**Section:**

**Explanation:**

Data classification is the process of assigning labels to data based on its sensitivity and business impact. Different organizations and sectors may have different data classification schemes, but a common one is the following1:

Public: Data that can be freely disclosed to anyone without any harm or risk.

Private: Data that is intended for internal use only and may cause some harm or risk if disclosed.

Confidential: Data that is intended for authorized use only and may cause significant harm or risk if disclosed.

Restricted: Data that is intended for very limited use only and may cause severe harm or risk if disclosed.

In this scenario, the company is developing a critical system for the government and storing project information on a fileshare. This data is likely to be classified as confidential and restricted, because it is not meant for public or private use, and it may cause serious damage to national security or public safety if disclosed. The government may also have specific requirements or regulations for handling such data, such as encryption, access control, and auditing2.

Reference:1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 16-172:Data Classification Practices: Final Project Description Released

#### QUESTION 71

After reviewing the following vulnerability scanning report:

Server:192.168.14.6

Service: Telnet

Port: 23 Protocol: TCP

Status: Open Severity: High

Vulnerability: Use of an insecure network protocol

A security analyst performs the following test:

```
nmap -p 23 192.168.14.6 --script telnet-encryption
```

```
PORT STATE SERVICE REASON
```

```
23/tcp open telnet syn-ack
```

```
I telnet encryption:
```

```
| _ Telnet server supports encryption
```

Which of the following would the security analyst conclude for this reported vulnerability?

- A. It is a false positive.
- B. A rescan is required.

- C. It is considered noise.
- D. Compensating controls exist.

**Correct Answer: A**

**Section:**

**Explanation:**

A false positive is a result that indicates a vulnerability or a problem when there is none. In this case, the vulnerability scanning report shows that the telnet service on port 23 is open and uses an insecure network protocol. However, the security analyst performs a test using nmap and a script that checks for telnet encryption support. The result shows that the telnet server supports encryption, which means that the data transmitted between the client and the server can be protected from eavesdropping. Therefore, the reported vulnerability is a false positive and does not reflect the actual security posture of the server. The security analyst should verify the encryption settings of the telnet server and client and ensure that they are configured properly.

Reference: 3: Telnet Protocol - Can You Encrypt Telnet?

#### QUESTION 72

A security consultant needs secure, remote access to a client environment. Which of the following should the security consultant most likely use to gain access?

- A. EAP
- B. DHCP
- C. IPSec
- D. NAT

**Correct Answer: C**

**Section:**

**Explanation:**

IPSec is a protocol suite that provides secure communication over IP networks. IPSec can be used to create virtual private networks (VPNs) that encrypt and authenticate the data exchanged between two or more parties. IPSec can also provide data integrity, confidentiality, replay protection, and access control. A security consultant can use IPSec to gain secure, remote access to a client environment by establishing a VPN tunnel with the client's network. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 8: Secure Protocols and Services, page 3851

#### QUESTION 73

Which of the following best practices gives administrators a set period to perform changes to an operational system to ensure availability and minimize business impacts?

- A. Impact analysis
- B. Scheduled downtime
- C. Backout plan
- D. Change management boards

**Correct Answer: B**

**Section:**

**Explanation:**

Scheduled downtime is a planned period of time when a system or service is unavailable for maintenance, updates, upgrades, or other changes. Scheduled downtime gives administrators a set period to perform changes to an operational system without disrupting the normal business operations or affecting the availability of the system or service. Scheduled downtime also allows administrators to inform the users and stakeholders about the expected duration and impact of the changes. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 12: Security Operations and Administration, page 5791

#### QUESTION 74

Which of the following actions could a security engineer take to ensure workstations and servers are properly monitored for unauthorized changes and software?

- A. Configure all systems to log scheduled tasks.
- B. Collect and monitor all traffic exiting the network.
- C. Block traffic based on known malicious signatures.

D. Install endpoint management software on all systems.

**Correct Answer: D**

**Section:**

**Explanation:**

Endpoint management software is a tool that allows security engineers to monitor and control the configuration, security, and performance of workstations and servers from a central console. Endpoint management software can help detect and prevent unauthorized changes and software installations, enforce policies and compliance, and provide reports and alerts on the status of the endpoints. The other options are not as effective or comprehensive as endpoint management software for this purpose. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 1371

#### QUESTION 75

After a security awareness training session, a user called the IT help desk and reported a suspicious call. The suspicious caller stated that the Chief Financial Officer wanted credit card information in order to close an invoice. Which of the following topics did the user recognize from the training?

- A. Insider threat
- B. Email phishing
- C. Social engineering
- D. Executive whaling

**Correct Answer: C**

**Section:**

**Explanation:**

Social engineering is the practice of manipulating people into performing actions or divulging confidential information, often by impersonating someone else or creating a sense of urgency or trust. The suspicious caller in this scenario was trying to use social engineering to trick the user into giving away credit card information by pretending to be the CFO and asking for a payment. The user recognized this as a potential scam and reported it to the IT help desk. The other topics are not relevant to this situation. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 191

#### QUESTION 76

Which of the following exercises should an organization use to improve its incident response process?

- A. Tabletop
- B. Replication
- C. Failover
- D. Recovery

**Correct Answer: A**

**Section:**

**Explanation:**

A tabletop exercise is a simulated scenario that tests the organization's incident response plan and procedures. It involves key stakeholders and decision-makers who discuss their roles and actions in response to a hypothetical incident. It can help identify gaps, weaknesses, and improvement areas in the incident response process. It can also enhance communication, coordination, and collaboration among the participants. Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 5251

#### QUESTION 77

Which of the following is used to validate a certificate when it is presented to a user?

- A. OCSP
- B. CSR
- C. CA
- D. CRC

**Correct Answer: A**

**Section:**

**Explanation:**

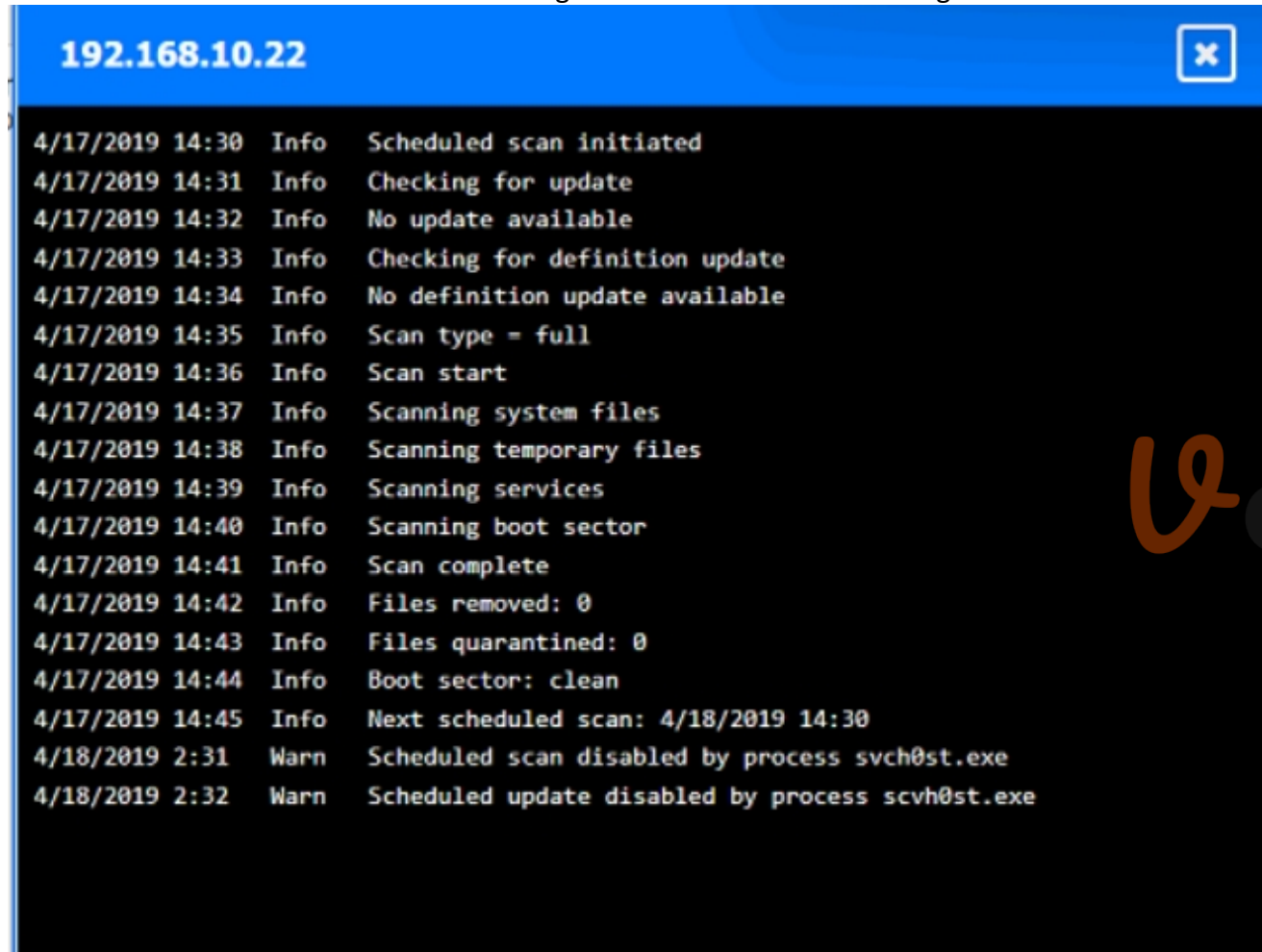
OCSP stands for Online Certificate Status Protocol. It is a protocol that allows applications to check the revocation status of a certificate in real-time. It works by sending a query to an OCSP responder, which is a server that maintains a database of revoked certificates. The OCSP responder returns a response that indicates whether the certificate is valid, revoked, or unknown. OCSP is faster and more efficient than downloading and parsing Certificate Revocation Lists (CRLs), which are large files that contain the serial numbers of all revoked certificates issued by a Certificate Authority (CA). Reference: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 3371

**QUESTION 78**

HOTSPOT

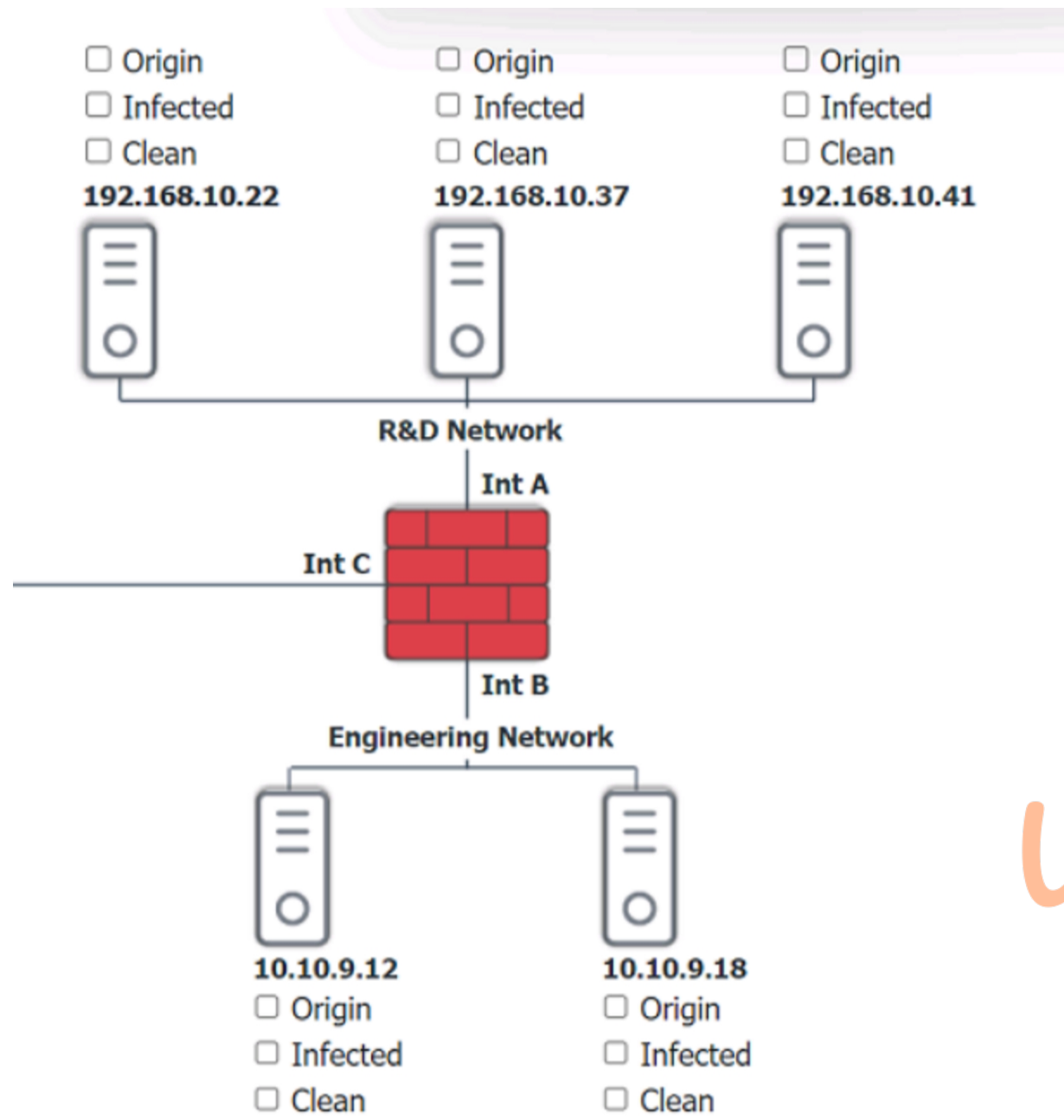
You are security administrator investigating a potential infection on a network.

Click on each host and firewall. Review all logs to determine which host originated the Infector and then deny each remaining hosts clean or infected.



```
192.168.10.22
4/17/2019 14:30 Info Scheduled scan initiated
4/17/2019 14:31 Info Checking for update
4/17/2019 14:32 Info No update available
4/17/2019 14:33 Info Checking for definition update
4/17/2019 14:34 Info No definition update available
4/17/2019 14:35 Info Scan type - full
4/17/2019 14:36 Info Scan start
4/17/2019 14:37 Info Scanning system files
4/17/2019 14:38 Info Scanning temporary files
4/17/2019 14:39 Info Scanning services
4/17/2019 14:40 Info Scanning boot sector
4/17/2019 14:41 Info Scan complete
4/17/2019 14:42 Info Files removed: 0
4/17/2019 14:43 Info Files quarantined: 0
4/17/2019 14:44 Info Boot sector: clean
4/17/2019 14:45 Info Next scheduled scan: 4/18/2019 14:30
4/18/2019 2:31 Warn Scheduled scan disabled by process svch0st.exe
4/18/2019 2:32 Warn Scheduled update disabled by process scvh0st.exe
```





192.168.10.41



```
4/17/2019 14:36 Info Scan start
4/17/2019 14:37 Info Scanning system files
4/17/2019 14:38 Info Scanning temporary files
4/17/2019 14:39 Info Scanning services
4/17/2019 14:40 Info Scanning boot sector
4/17/2019 14:41 Info Scan complete
4/17/2019 14:42 Info Files removed: 0
4/17/2019 14:43 Info Files quarantined: 0
4/17/2019 14:44 Info Boot sector: clean
4/17/2019 14:45 Info Next scheduled scan: 4/18/2019 14:30
4/18/2019 14:30 Info Scheduled scan initiated
4/18/2019 14:31 Info Checking for update
4/18/2019 14:32 Info No update available
4/18/2019 14:33 Info Checking for definition update
4/18/2019 14:34 Error Unable to reach update server
4/18/2019 14:35 Info Scan type = full
4/18/2019 14:36 Info Scan start
4/18/2019 14:37 Info Scanning system files
4/18/2019 14:37 Warn File svch0st.exe match heuristic pattern 0c09488c08d0f3k
4/18/2019 14:37 Error Unable to quarantine file svch0st.exe
4/18/2019 14:38 Info Scanning temporary files
4/18/2019 14:39 Info Scanning services
4/18/2019 14:40 Info Scanning boot sector
4/18/2019 14:41 Info Scan complete
4/18/2019 14:42 Info Files removed: 0
4/18/2019 14:43 Info Files quarantined: 0
4/18/2019 14:43 Warn File quarantine file
4/18/2019 14:44 Info Boot sector: clean
4/18/2019 14:45 Info Next scheduled scan: 4/19/2019 14:30
```

Vdumps

## Firewall



Timestamp	Source	Destination	Destination Port	Application	Action	Client Bytes	Server Bytes
4/17/2019 16:01:44	10.10.9.18	57.203.54.183	443	ssl	Permit	6953	99427
4/17/2019 16:01:58	192.168.10.37	57.203.54.221	443	ssl	Permit	9301	199386
4/17/2019 16:17:06	192.168.10.22	10.10.9.12	135	rpc	Permit	175	1504
4/17/2019 16:27:36	192.168.10.41	10.10.9.12	445	smbv1	Permit	345	34757
4/17/2019 16:28:06	10.10.9.12	192.168.10.41	135	rpc	Permit	754	4771
4/17/2019 16:33:31	10.10.9.18	192.168.10.22	135	rpc	Permit	643	2355
4/17/2019 16:35:36	192.168.10.37	10.10.9.12	135	smbv2	Permit	649	5644
4/17/2019 23:58:36	10.10.9.12	192.168.10.41		icmp	Permit	128	128
4/17/2019 23:58:43	10.10.9.12	192.168.10.22		icmp	Permit	128	128
4/17/2019 23:58:45	10.10.9.12	192.168.10.37		icmp	Permit	128	128
4/18/2019 2:31:36	10.10.9.18	192.168.10.41	445	smbv2	Permit	1874	23874
4/18/2019 2:31:45	192.168.10.22	57.203.55.29	8080	http	Permit	7203	75997
4/18/2019 2:31:51	10.10.9.18	57.203.56.201	443	ssl	Permit	9953	199730
4/18/2019 2:31:02	192.168.10.22	57.203.55.234	443	http	Permit	4937	84937
4/18/2019 2:39:11	192.168.10.41	57.203.53.89	8080	http	Permit	8201	133183
4/18/2019 2:39:12	10.10.9.18	57.203.55.19	8080	ssl	Permit	1284	9102854
4/18/2019 2:39:32	192.168.10.37	57.203.56.113	443	ssl	Permit	9341	9938
4/18/2019 13:37:36	192.168.10.22	10.10.9.18	445	smbv3	Permit	1874	23874
4/18/2019 13:39:43	192.168.10.22	10.10.9.18	135	rpc	Permit	673	41358
4/18/2019 13:45:04	10.10.9.18	192.168.10.37	135	rpc	Permit	693	1952
4/18/2019 13:47:44	10.10.9.12	192.168.10.41	445	smbv3	Permit	482	3505
4/18/2019 13:52:57	10.10.9.18	192.168.10.22	135	rpc	Permit	545	9063
4/18/2019 13:53:01	192.168.10.37	10.10.9.12	335	smbv3	Permit	876	8068
4/18/2019 14:30:04	10.10.9.12	57.203.56.231	443	ssl	Permit	9901	199730
4/18/2019 14:30:04	192.168.10.37	57.203.56.143	443	ssl	Permit	10092	209938

10.10.9.12



```
4/17/2019 14:30 Info Scheduled scan initiated
4/17/2019 14:31 Info Checking for update
4/17/2019 14:32 Info No update available
4/17/2019 14:33 Info Checking for definition update
4/17/2019 14:34 Info No definition update available
4/17/2019 14:35 Info Scan type = full
4/17/2019 14:36 Info Scan start
4/17/2019 14:37 Info Scanning system files
4/17/2019 14:38 Info Scanning temporary files
4/17/2019 14:39 Info Scanning services
4/17/2019 14:40 Info Scanning boot sector
4/17/2019 14:41 Info Scan complete
4/17/2019 14:42 Info Files removed: 0
4/17/2019 14:43 Info Files quarantined: 0
4/17/2019 14:44 Info Boot sector: clean
4/17/2019 14:45 Info Next scheduled scan: 4/18/2019 14:30
4/18/2019 14:30 Info Scheduled scan initiated
4/18/2019 14:31 Info Checking for update
4/18/2019 14:32 Info No update available
4/18/2019 14:33 Info Checking for definition update
4/18/2019 14:34 Info Update available v10.2.3.4440
4/18/2019 14:33 Info Downloading update
4/18/2019 14:35 Info Definition update complete
4/18/2019 14:35 Info Scan type = full
4/18/2019 14:36 Info Scan start
4/18/2019 14:37 Info Scanning system files
4/18/2019 14:37 Warn File found svch0st.exe match definition v10.2.3.4440
4/18/2019 14:37 Warn File quarantined svch0st.exe
4/18/2019 14:38 Info Scanning temporary files
4/18/2019 14:39 Info Scanning services
```

Vdumps



10.10.9.18

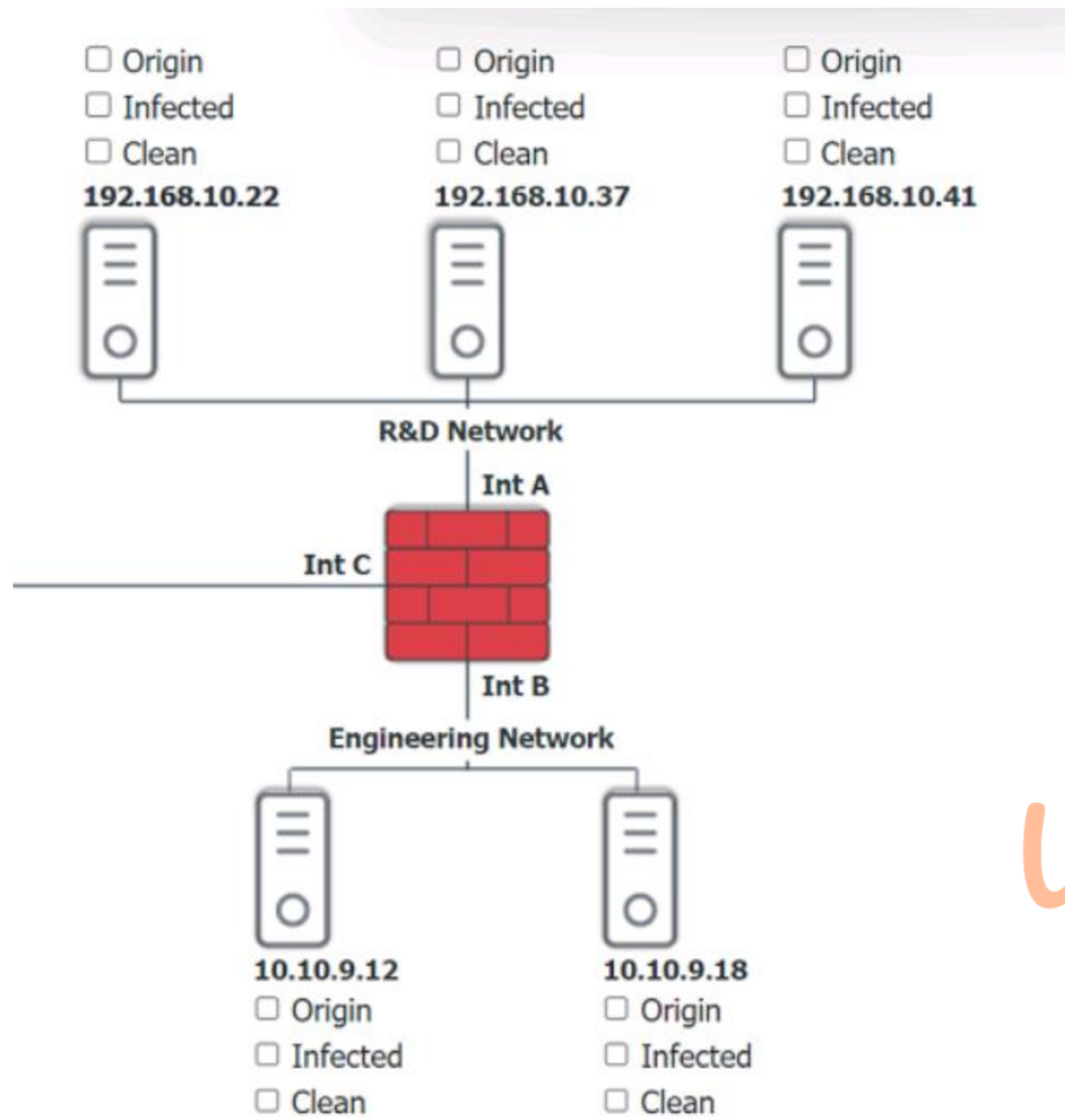


```
4/17/2019 14:30 Info Scheduled scan initiated
4/17/2019 14:31 Info Checking for update
4/17/2019 14:32 Info No update available
4/17/2019 14:33 Info Checking for definition update
4/17/2019 14:34 Info No definition update available
4/17/2019 14:35 Info Scan type = full
4/17/2019 14:36 Info Scan start
4/17/2019 14:37 Info Scanning system files
4/17/2019 14:38 Info Scanning temporary files
4/17/2019 14:39 Info Scanning services
4/17/2019 14:40 Info Scanning boot sector
4/17/2019 14:41 Info Scan complete
4/17/2019 14:42 Info Files removed: 0
4/17/2019 14:43 Info Files quarantined: 0
4/17/2019 14:44 Info Boot sector: clean
4/17/2019 14:45 Info Next scheduled scan: 4/18/2019 14:30
4/18/2019 14:30 Info Scheduled scan initiated
4/18/2019 14:31 Info Checking for update
4/18/2019 14:32 Info No update available
4/18/2019 14:33 Info Checking for definition update
4/18/2019 14:34 Error Unable to reach update server
4/18/2019 14:35 Info Scan type = full
4/18/2019 14:36 Info Scan start
4/18/2019 14:37 Info Scanning system files
4/18/2019 14:37 Warn File svch0st.exe match heuristic pattern 0c09488c08d0f3k
4/18/2019 14:37 Error Unable to quarantine file svch0st.exe
4/18/2019 14:38 Info Scanning temporary files
4/18/2019 14:39 Info Scanning services
4/18/2019 14:40 Info Scanning boot sector
4/18/2019 14:41 Info Scan complete
```

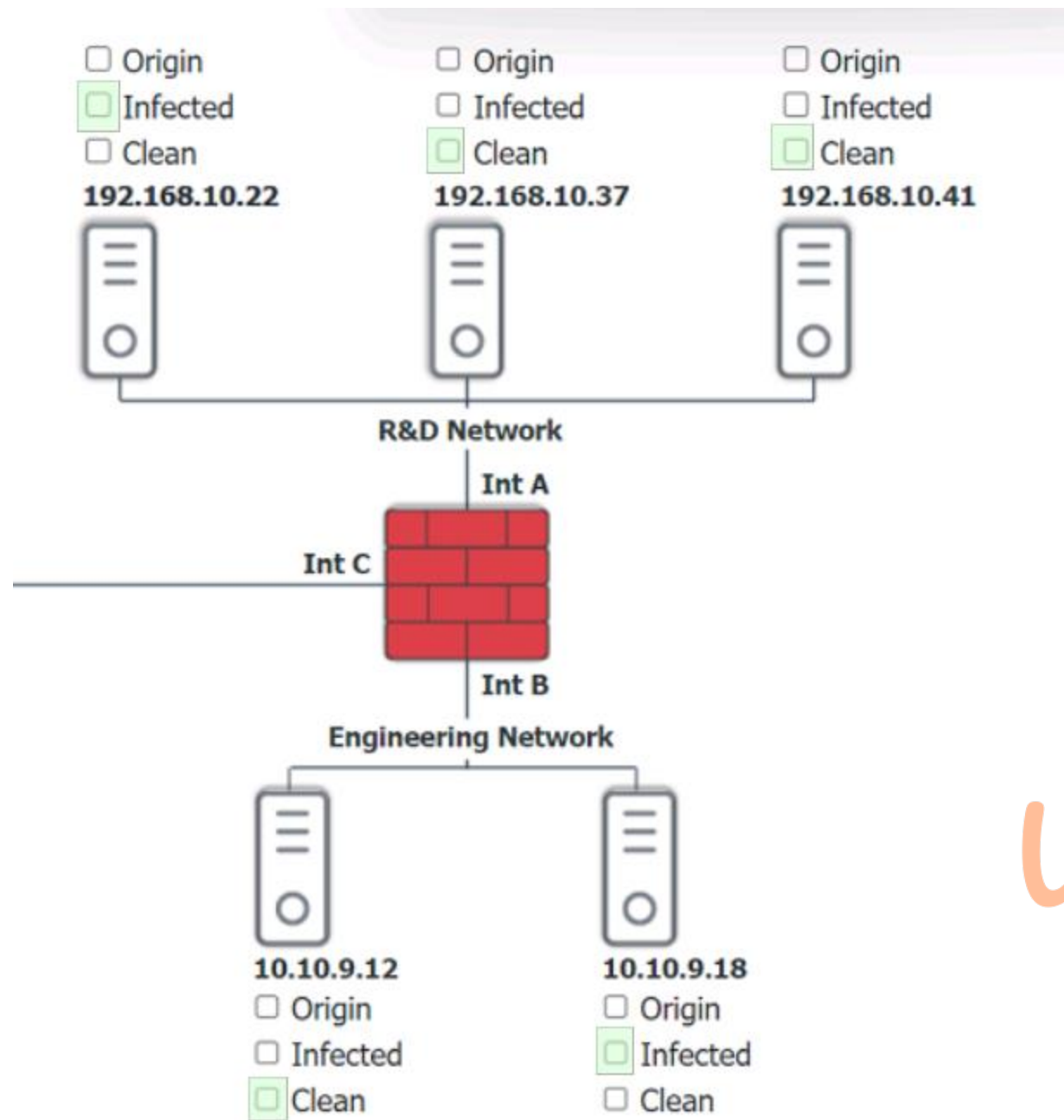
Vdumps

Hot Area:





Answer Area:



**Section:**

**Explanation:**

**QUESTION 79**

Which of the following vulnerabilities is exploited when an attacker overwrites a register with a malicious address?

- A. VM escape
- B. SQL injection
- C. Buffer overflow
- D. Race condition

**Correct Answer: C**

**Section:**

**Explanation:**

A buffer overflow is a vulnerability that occurs when an application writes more data to a memory buffer than it can hold, causing the excess data to overwrite adjacent memory locations. A register is a small storage area in

the CPU that holds temporary data or instructions. An attacker can exploit a buffer overflow to overwrite a register with a malicious address that points to a shellcode, which is a piece of code that gives the attacker control over the system. By doing so, the attacker can bypass the normal execution flow of the application and execute arbitrary commands.

#### QUESTION 80

Which of the following would be the best way to handle a critical business application that is running on a legacy server?

- A. Segmentation
- B. Isolation
- C. Hardening
- D. Decommissioning

**Correct Answer: C**

**Section:**

**Explanation:**

A legacy server is a server that is running outdated or unsupported software or hardware, which may pose security risks and compatibility issues. A critical business application is an application that is essential for the operation and continuity of the business, such as accounting, payroll, or inventory management. A legacy server running a critical business application may be difficult to replace or upgrade, but it should not be left unsecured or exposed to potential threats.

One of the best ways to handle a legacy server running a critical business application is to harden it. Hardening is the process of applying security measures and configurations to a system to reduce its attack surface and vulnerability. Hardening a legacy server may involve steps such as:

Applying patches and updates to the operating system and the application, if available

Removing or disabling unnecessary services, features, or accounts

Configuring firewall rules and network access control lists to restrict inbound and outbound traffic

Enabling encryption and authentication for data transmission and storage

Implementing logging and monitoring tools to detect and respond to anomalous or malicious activity

Performing regular backups and testing of the system and the application

Hardening a legacy server can help protect the critical business application from unauthorized access, modification, or disruption, while maintaining its functionality and availability. However, hardening a legacy server is not a permanent solution, and it may not be sufficient to address all the security issues and challenges posed by the outdated or unsupported system. Therefore, it is advisable to plan for the eventual decommissioning or migration of the legacy server to a more secure and modern platform, as soon as possible.

#### QUESTION 81

Which of the following describes the process of concealing code or text inside a graphical image?

- A. Symmetric encryption
- B. Hashing
- C. Data masking
- D. Steganography

**Correct Answer: D**

**Section:**

**Explanation:**

Steganography is the process of hiding information within another medium, such as an image, audio, video, or text file. The hidden information is not visible or noticeable to the casual observer, and can only be extracted by using a specific technique or key. Steganography can be used for various purposes, such as concealing secret messages, watermarking, or evading detection by antivirus software<sup>12</sup>

1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 5: Cryptography and PKI, page 2332: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 5: Cryptography and PKI, page 235

#### QUESTION 82

After a company was compromised, customers initiated a lawsuit. The company's attorneys have requested that the security team initiate a legal hold in response to the lawsuit. Which of the following describes the action the security team will most likely be required to take?

- A. Retain the emails between the security team and affected customers for 30 days.
- B. Retain any communications related to the security breach until further notice.
- C. Retain any communications between security members during the breach response.
- D. Retain all emails from the company to affected customers for an indefinite period of time.

**Correct Answer: B**

**Section:**

**Explanation:**

A legal hold (also known as a litigation hold) is a notification sent from an organization's legal team to employees instructing them not to delete electronically stored information (ESI) or discard paper documents that may be relevant to a new or imminent legal case. A legal hold is intended to preserve evidence and prevent spoliation, which is the intentional or negligent destruction of evidence that could harm a party's case. A legal hold can be triggered by various events, such as a lawsuit, a regulatory investigation, or a subpoena<sup>12</sup>

In this scenario, the company's attorneys have requested that the security team initiate a legal hold in response to the lawsuit filed by the customers after the company was compromised. This means that the security team will most likely be required to retain any communications related to the security breach until further notice. This could include emails, instant messages, reports, logs, memos, or any other documents that could be relevant to the lawsuit. The security team should also inform the relevant custodians (the employees who have access to or control over the ESI) of their preservation obligations and monitor their compliance. The security team should also document the legal hold process and its scope, as well as take steps to protect the ESI from alteration, deletion, or loss<sup>34</sup>

1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 6: Risk Management, page 3032: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 6: Risk Management, page 3053: Legal Hold (Litigation Hold) - The Basics of E-Discovery - Exterro<sup>54</sup>: The Legal Implications and Consequences of a Data Breach<sup>6</sup>

#### QUESTION 83

Which of the following methods to secure credit card data is best to use when a requirement is to see only the last four numbers on a credit card?

- A. Encryption
- B. Hashing
- C. Masking
- D. Tokenization



**Correct Answer: C**

**Section:**

**Explanation:**

Masking is a method to secure credit card data that involves replacing some or all of the digits with symbols, such as asterisks, dashes, or Xs, while leaving some of the original digits visible. Masking is best to use when a requirement is to see only the last four numbers on a credit card, as it can prevent unauthorized access to the full card number, while still allowing identification and verification of the cardholder. Masking does not alter the original data, unlike encryption, hashing, or tokenization, which use algorithms to transform the data into different formats.

#### QUESTION 84

An administrator finds that all user workstations and servers are displaying a message that is associated with files containing an extension of .ryk. Which of the following types of infections is present on the systems?

- A. Virus
- B. Trojan
- C. Spyware
- D. Ransomware

**Correct Answer: D**

**Section:**

**Explanation:**

Ransomware is a type of malware that encrypts the victim's files and demands a ransom for the decryption key. The ransomware usually displays a message on the infected system with instructions on how to pay the ransom and recover the files. The .ryk extension is associated with a ransomware variant called Ryuk, which targets large organizations and demands high ransoms<sup>1</sup>.

#### QUESTION 85

Which of the following tasks is typically included in the BIA process?

- A. Estimating the recovery time of systems
- B. Identifying the communication strategy
- C. Evaluating the risk management plan
- D. Establishing the backup and recovery procedures
- E. Developing the incident response plan

**Correct Answer: A**

**Section:**

**Explanation:**

Estimating the recovery time of systems is a task typically included in the Business Impact Analysis (BIA) process. BIA involves identifying the critical functions of a business and determining the impact of a disruption. This includes estimating how long it will take to recover systems and resume normal operations.

Estimating the recovery time of systems: A key component of BIA, which helps in understanding the time needed to restore systems and services after a disruption.

Identifying the communication strategy: Typically part of the incident response plan, not BIA.

Evaluating the risk management plan: Part of risk management, not specifically BIA.

Establishing the backup and recovery procedures: Important for disaster recovery, not directly part of BIA.

Developing the incident response plan: Focuses on responding to security incidents, not on the impact analysis.

#### QUESTION 86

A network manager wants to protect the company's VPN by implementing multifactor authentication that uses:

- . Something you know
- . Something you have
- . Something you are

Which of the following would accomplish the manager's goal?

- A. Domain name, PKI, GeolIP lookup
- B. VPN IP address, company ID, facial structure
- C. Password, authentication token, thumbprint
- D. Company URL, TLS certificate, home address

**Correct Answer: C**

**Section:**

**Explanation:**

The correct answer is C. Password, authentication token, thumbprint. This combination of authentication factors satisfies the manager's goal of implementing multifactor authentication that uses something you know, something you have, and something you are.

Something you know is a type of authentication factor that relies on the user's knowledge of a secret or personal information, such as a password, a PIN, or a security question. A password is a common example of something you know that can be used to access a VPN12

Something you have is a type of authentication factor that relies on the user's possession of a physical object or device, such as a smart card, a token, or a smartphone. An authentication token is a common example of something you have that can be used to generate a one-time password (OTP) or a code that can be used to access a VPN12

Something you are is a type of authentication factor that relies on the user's biometric characteristics, such as a fingerprint, a face, or an iris. A thumbprint is a common example of something you are that can be used to scan and verify the user's identity to access a VPN12

1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4: Identity and Access Management, page 1772: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 4: Identity and Access Management, page 179

#### QUESTION 87

A security manager created new documentation to use in response to various types of security incidents. Which of the following is the next step the manager should take?





- A. Set the maximum data retention policy.
- B. Securely store the documents on an air-gapped network.
- C. Review the documents' data classification policy.
- D. Conduct a tabletop exercise with the team.

**Correct Answer: D**

**Section:**

**Explanation:**

A tabletop exercise is a simulated scenario that tests the effectiveness of a security incident response plan. It involves gathering the relevant stakeholders and walking through the steps of the plan, identifying any gaps or issues that need to be addressed. A tabletop exercise is a good way to validate the documentation created by the security manager and ensure that the team is prepared for various types of security incidents.

#### QUESTION 88

Users at a company are reporting they are unable to access the URL for a new retail website because it is flagged as gambling and is being blocked. Which of the following changes would allow users to access the site?

- A. Creating a firewall rule to allow HTTPS traffic
- B. Configuring the IPS to allow shopping
- C. Tuning the DLP rule that detects credit card data
- D. Updating the categorization in the content filter

**Correct Answer: D**

**Section:**

**Explanation:**

A content filter is a device or software that blocks or allows access to web content based on predefined rules or categories. In this case, the new retail website is mistakenly categorized as gambling by the content filter, which prevents users from accessing it. To resolve this issue, the content filter's categorization needs to be updated to reflect the correct category of the website, such as shopping or retail. This will allow the content filter to allow access to the website instead of blocking it.

#### QUESTION 89

An administrator discovers that some files on a database server were recently encrypted. The administrator sees from the security logs that the data was last accessed by a domain user. Which of the following best describes the type of attack that occurred?

- A. Insider threat
- B. Social engineering
- C. Watering-hole
- D. Unauthorized attacker

**Correct Answer: A**

**Section:**

**Explanation:**

An insider threat is a type of attack that originates from someone who has legitimate access to an organization's network, systems, or data. In this case, the domain user who encrypted the files on the database server is an example of an insider threat, as they abused their access privileges to cause harm to the organization. Insider threats can be motivated by various factors, such as financial gain, revenge, espionage, or sabotage.

#### QUESTION 90

Which of the following automation use cases would best enhance the security posture of an organization by rapidly updating permissions when employees leave a company?

- A. Provisioning resources
- B. Disabling access

- C. Reviewing change approvals
- D. Escalating permission requests

**Correct Answer: B**

**Section:**

**Explanation:**

Disabling access is an automation use case that would best enhance the security posture of an organization by rapidly updating permissions when employees leave a company. Disabling access is the process of revoking or suspending the access rights of a user account, such as login credentials, email, VPN, cloud services, etc. Disabling access can prevent unauthorized or malicious use of the account by former employees or attackers who may have compromised the account. Disabling access can also reduce the attack surface and the risk of data breaches or leaks. Disabling access can be automated by using scripts, tools, or workflows that can trigger the action based on predefined events, such as employee termination, resignation, or transfer. Automation can ensure that the access is disabled in a timely, consistent, and efficient manner, without relying on manual intervention or human error.

#### QUESTION 91

Which of the following must be considered when designing a high-availability network? (Select two).

- A. Ease of recovery
- B. Ability to patch
- C. Physical isolation
- D. Responsiveness
- E. Attack surface
- F. Extensible authentication

**Correct Answer: A, E**

**Section:**

**Explanation:**

A high-availability network is a network that is designed to minimize downtime and ensure continuous operation of critical services and applications. To achieve this goal, a high-availability network must consider two important factors: ease of recovery and attack surface.

Ease of recovery refers to the ability of a network to quickly restore normal functionality after a failure, disruption, or disaster. A high-availability network should have mechanisms such as redundancy, failover, backup, and restore to ensure that any single point of failure does not cause a complete network outage. A high-availability network should also have procedures and policies for incident response, disaster recovery, and business continuity to minimize the impact of any network issue on the organization's operations and reputation.

Attack surface refers to the exposure of a network to potential threats and vulnerabilities. A high-availability network should have measures such as encryption, authentication, authorization, firewall, intrusion detection and prevention, and patch management to protect the network from unauthorized access, data breaches, malware, denial-of-service attacks, and other cyberattacks. A high-availability network should also have processes and tools for risk assessment, threat intelligence, vulnerability scanning, and penetration testing to identify and mitigate any weaknesses or gaps in the network security.

#### QUESTION 92

An administrator needs to perform server hardening before deployment. Which of the following steps should the administrator take? (Select two).

- A. Disable default accounts.
- B. Add the server to the asset inventory.
- C. Remove unnecessary services.
- D. Document default passwords.
- E. Send server logs to the SIEM.
- F. Join the server to the corporate domain.

**Correct Answer: A, C**

**Section:**

**Explanation:**

To perform server hardening before deployment, the administrator should disable default accounts and remove unnecessary services. These steps are crucial to reducing the attack surface and enhancing the security of the



server.

Disable default accounts: Default accounts often come with default credentials that are well-known and can be exploited by attackers. Disabling these accounts helps prevent unauthorized access.

Remove unnecessary services: Unnecessary services can introduce vulnerabilities and be exploited by attackers. Removing them reduces the number of potential attack vectors.

Add the server to the asset inventory: Important for tracking and management but not directly related to hardening.

Document default passwords: Documentation is useful, but changing or disabling default passwords is the hardening step.

Send server logs to the SIEM: Useful for monitoring and analysis but not a direct hardening step.

Join the server to the corporate domain: Part of integration into the network but not specific to hardening.

### QUESTION 93

A company would like to provide employees with computers that do not have access to the internet in order to prevent information from being leaked to an online forum. Which of the following would be best for the systems administrator to implement?

- A. Air gap
- B. Jump server
- C. Logical segmentation
- D. Virtualization

**Correct Answer: A**

**Section:**

**Explanation:**

To provide employees with computers that do not have access to the internet and prevent information leaks to an online forum, implementing an air gap would be the best solution. An air gap physically isolates the computer or network from any outside connections, including the internet, ensuring that data cannot be transferred to or from the system.

Air gap: A security measure that isolates a computer or network from the internet or other networks, preventing any form of electronic communication with external systems.

Jump server: A secure server used to access and manage devices in a different security zone, but it does not provide isolation from the internet.

Logical segmentation: Segregates networks using software or network configurations, but it does not guarantee complete isolation from the internet.

Virtualization: Creates virtual instances of systems, which can be isolated, but does not inherently prevent internet access without additional configurations.

### QUESTION 94

Which of the following penetration testing teams is focused only on trying to compromise an organization using an attacker's tactics?

- A. White
- B. Red
- C. Purple
- D. Blue

**Correct Answer: B**

**Section:**

**Explanation:**

Red teams are focused only on trying to compromise an organization using an attacker's tactics. They simulate real-world attacks to test the effectiveness of the organization's security defenses and identify vulnerabilities.

Red team: Acts as adversaries to simulate attacks and find security weaknesses.

White team: Oversees and ensures the rules of engagement are followed during the penetration test.

Purple team: Facilitates collaboration between the red team and the blue team to improve security.

Blue team: Defends against attacks and responds to security incidents.