



# CompTIA

## Exam Questions SY0-701

CompTIA Security+ Exam

#### NEW QUESTION 1

Which of the following is the best reason to complete an audit in a banking environment?

- A. Regulatory requirement
- B. Organizational change
- C. Self-assessment requirement
- D. Service-level requirement

**Answer:** A

#### Explanation:

A regulatory requirement is a mandate imposed by a government or an authority that must be followed by an organization or an individual. In a banking environment, audits are often required by regulators to ensure compliance with laws, standards, and policies related to security, privacy, and financial reporting. Audits help to identify and correct any gaps or weaknesses in the security posture and the internal controls of the organization. References:

? Official CompTIA Security+ Study Guide (SY0-701), page 507

? Security+ (Plus) Certification | CompTIA IT Certifications 2

#### NEW QUESTION 2

Security controls in a data center are being reviewed to ensure data is properly protected and that human life considerations are included. Which of the following best describes how the controls should be set up?

- A. Remote access points should fail closed.
- B. Logging controls should fail open.
- C. Safety controls should fail open.
- D. Logical security controls should fail closed.

**Answer:** C

#### Explanation:

Safety controls are security controls that are designed to protect human life and physical assets from harm or damage. Examples of safety controls include fire alarms, sprinklers, emergency exits, backup generators, and surge protectors. Safety controls should fail open, which means that they should remain operational or allow access when a failure or error occurs. Failing open can prevent or minimize the impact of a disaster, such as a fire, flood, earthquake, or power outage, on human life and physical assets. For example, if a fire alarm fails, it should still trigger the sprinklers and unlock the emergency exits, rather than remain silent and locked. Failing open can also ensure that essential services, such as healthcare, transportation, or communication, are available during a crisis. Remote access points, logging controls, and logical security controls are other types of security controls, but they should not fail open in a data center. Remote access points are security controls that allow users or systems to access a network or a system from a remote location, such as a VPN, a web portal, or a wireless access point. Remote access points should fail closed, which means that they should deny access when a failure or error occurs. Failing closed can prevent unauthorized or malicious access to the data center's network or systems, such as by hackers, malware, or rogue devices. Logging controls are security controls that record and monitor the activities and events that occur on a network or a system, such as user actions, system errors, security incidents, or performance metrics. Logging controls should also fail closed, which means that they should stop or suspend the activities or events when a failure or error occurs. Failing closed can prevent data loss, corruption, or tampering, as well as ensure compliance with regulations and standards. Logical security controls are security controls that use software or code to protect data and systems from unauthorized or malicious access, modification, or destruction, such as encryption, authentication, authorization, or firewall. Logical security controls should also fail closed, which means that they should block or restrict access when a failure or error occurs. Failing closed can prevent data breaches, cyberattacks, or logical flaws, as well as ensure confidentiality, integrity, and availability of data and systems. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 142-143, 372-373, 376-377

#### NEW QUESTION 3

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

**Answer:** D

#### 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. References = 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).

#### NEW QUESTION 4

A business received a small grant to migrate its infrastructure to an off-premises solution. Which of the following should be considered first?

- A. Security of cloud providers
- B. Cost of implementation

- C. Ability of engineers
- D. Security of architecture

**Answer:** D

**Explanation:**

Security of architecture is the process of designing and implementing a secure infrastructure that meets the business objectives and requirements. Security of architecture should be considered first when migrating to an off-premises solution, such as cloud computing, because it can help to identify and mitigate the potential risks and challenges associated with the migration, such as data security, compliance, availability, scalability, and performance. Security of architecture is different from security of cloud providers, which is the process of evaluating and selecting a trustworthy and reliable cloud service provider that can meet the security and operational needs of the business. Security of architecture is also different from cost of implementation, which is the amount of money required to migrate and maintain the infrastructure in the cloud. Security of architecture is also different from ability of engineers, which is the level of skill and knowledge of the IT staff who are responsible for the migration and management of the cloud infrastructure. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 3491

**NEW QUESTION 5**

A small business uses kiosks on the sales floor to display product information for customers. A security team discovers the kiosks use end-of-life operating systems. Which of the following is the security team most likely to document as a security implication of the current architecture?

- A. Patch availability
- B. Product software compatibility
- C. Ease of recovery
- D. Cost of replacement

**Answer:** A

**Explanation:**

End-of-life operating systems are those that are no longer supported by the vendor or manufacturer, meaning they do not receive any security updates or patches. This makes them vulnerable to exploits and attacks that take advantage of known or unknown flaws in the software. Patch availability is the security implication of using end-of-life operating systems, as it affects the ability to fix or prevent security issues. Other factors, such as product software compatibility, ease of recovery, or cost of replacement, are not directly related to security, but rather to functionality, availability, or budget. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 29 1

**NEW QUESTION 6**

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

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

**Answer:** C

**Explanation:**

Jailbreaking is the process of removing the restrictions imposed by the manufacturer or carrier on a mobile device, such as an iPhone or iPad. Jailbreaking allows users to install unauthorized applications, modify system settings, and access root privileges. However, jailbreaking also exposes the device to potential security risks, such as malware, spyware, unauthorized access, data loss, and voided warranty. Therefore, an organization may prohibit employees from jailbreaking their mobile devices to prevent these vulnerabilities and protect the corporate data and network. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 10: Mobile Device Security, page 507 2

**NEW QUESTION 7**

Which of the following describes a security alerting and monitoring tool that collects system, application, and network logs from multiple sources in a centralized system?

- A. SIEM
- B. DLP
- C. IDS
- D. SNMP

**Answer:** A

**Explanation:**

SIEM stands for Security Information and Event Management. It is a security alerting and monitoring tool that collects system, application, and network logs from multiple sources in a centralized system. SIEM can analyze the collected data, correlate events, generate alerts, and provide reports and dashboards. SIEM can also integrate with other security tools and support compliance requirements. SIEM helps organizations to detect and respond to cyber threats, improve security posture, and reduce operational costs. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 10: Monitoring and Auditing, page 393. CompTIA Security+ Practice Tests: Exam SY0-701, 3rd Edition, Chapter 10: Monitoring and Auditing, page 397.

**NEW QUESTION 8**

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

**Answer:** AE

**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. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4:

Architecture and Design, pages 164-1651. CompTIA Security+ Certification Kit: Exam SY0- 701, 7th Edition, Chapter 4: Architecture and Design, pages 164-1652.

**NEW QUESTION 9**

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

**Answer:** C

**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.

References = 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.

**NEW QUESTION 10**

After a recent vulnerability scan, a security engineer needs to harden the routers within the corporate network. Which of the following is the most appropriate to disable?

- A. Console access
- B. Routing protocols
- C. VLANs
- D. Web-based administration

**Answer:** D

**Explanation:**

Web-based administration is a feature that allows users to configure and manage routers through a web browser interface. While this feature can provide convenience and ease of use, it can also pose a security risk, especially if the web interface is exposed to the internet or uses weak authentication or encryption methods. Web-based administration can be exploited by attackers to gain unauthorized access to the router's settings, firmware, or data, or to launch attacks such as cross-site scripting (XSS) or cross-site request forgery (CSRF). Therefore, disabling web-based administration is a good practice to harden the routers within the corporate network. Console access, routing protocols, and VLANs are other features that can be configured on routers, but they are not the most appropriate to disable for hardening purposes. Console access is a physical connection to the router that requires direct access to the device, which can be secured by locking the router in a cabinet or using a strong password. Routing protocols are essential for routers to exchange routing information and maintain network connectivity, and they can be secured by using authentication or encryption mechanisms. VLANs are logical segments of a network that can enhance network performance and security by isolating traffic and devices, and they can be secured by using VLAN access control lists (VACLs) or private VLANs (PVLANS). References: CCNA SEC: Router Hardening Your Router's Security Stinks: Here's How to Fix It

**NEW QUESTION 10**

A company purchased cyber insurance to address items listed on the risk register. Which of the following strategies does this represent?

- A. Accept
- B. Transfer
- C. Mitigate
- D. Avoid

**Answer:** B

**Explanation:**



Cyber insurance is a type of insurance that covers the financial losses and liabilities that result from cyberattacks, such as data breaches, ransomware, denial-of-service, phishing, or malware. Cyber insurance can help a company recover from the costs of restoring data, repairing systems, paying ransoms, compensating customers, or facing legal actions. Cyber insurance is one of the possible strategies that a company can use to address the items listed on the risk register. A risk register is a document that records the identified risks, their probability, impact, and mitigation strategies for a project or an organization. The four common risk mitigation strategies are:

? Accept: The company acknowledges the risk and decides to accept the consequences without taking any action to reduce or eliminate the risk. This strategy is usually chosen when the risk is low or the cost of mitigation is too high.

? Transfer: The company transfers the risk to a third party, such as an insurance company, a vendor, or a partner. This strategy is usually chosen when the risk is high or the company lacks the resources or expertise to handle the risk.

? Mitigate: The company implements controls or measures to reduce the likelihood or impact of the risk. This strategy is usually chosen when the risk is moderate or the cost of mitigation is reasonable.

? Avoid: The company eliminates the risk by changing the scope, plan, or design of the project or the organization. This strategy is usually chosen when the risk is unacceptable or the cost of mitigation is too high.

By purchasing cyber insurance, the company is transferring the risk to the insurance company, which will cover the financial losses and liabilities in case of a cyberattack. Therefore, the correct answer is B. Transfer. References = CompTIA Security+ Study Guide (SY0-701), Chapter 8: Governance, Risk, and Compliance, page 377. Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 8.1: Risk Management, video: Risk Mitigation Strategies (5:37).

#### NEW QUESTION 15

Which of the following are cases in which an engineer should recommend the decommissioning of a network device? (Select two).

- A. The device has been moved from a production environment to a test environment.
- B. The device is configured to use cleartext passwords.
- C. The device is moved to an isolated segment on the enterprise network.
- D. The device is moved to a different location in the enterprise.
- E. The device's encryption level cannot meet organizational standards.
- F. The device is unable to receive authorized updates.

**Answer: E**

#### Explanation:

An engineer should recommend the decommissioning of a network device when the device poses a security risk or a compliance violation to the enterprise environment. A device that cannot meet the encryption standards or receive authorized updates is vulnerable to attacks and breaches, and may expose sensitive data or compromise network integrity. Therefore, such a device should be removed from the network and replaced with a more secure and updated one.

References

? CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 2, Section 2.2, page 671

? CompTIA Security+ Practice Tests: Exam SY0-701, 3rd Edition, Chapter 2,

Question 16, page 512

#### NEW QUESTION 19

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

**Answer: B**

#### 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. References = 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

#### NEW QUESTION 22

Which of the following has been implemented when a host-based firewall on a legacy Linux system allows connections from only specific internal IP addresses?

- A. Compensating control
- B. Network segmentation
- C. Transfer of risk
- D. SNMP traps

**Answer: A**

#### Explanation:

A compensating control is a security measure that is implemented to mitigate the risk of a vulnerability or a weakness that cannot be resolved by the primary control. A compensating control does not prevent or eliminate the vulnerability or weakness, but it can reduce the likelihood or impact of an attack. A host-based firewall on a legacy Linux system that allows connections from only specific internal IP addresses is an example of a compensating control, as it can limit the exposure of the system to potential threats from external or unauthorized sources. A host-based firewall is a software application that monitors and filters the incoming and outgoing network traffic on a single host, based on a set of rules or policies. A legacy Linux system is an older version of the Linux operating system that may not be compatible with the latest security updates or patches, and may have known vulnerabilities or weaknesses that could be exploited by attackers. References = Security Controls – SY0-601 CompTIA Security+ : 5.1, Security Controls – CompTIA Security+ SY0-501 – 5.7, CompTIA Security+ Study Guide with over 500 Practice Test Questions: Exam SY0-701, 9th Edition, Chapter 5, page 240. CompTIA Security+ (SY0-701) Certification Exam Objectives, Domain 5.1, page 18.

#### NEW QUESTION 24

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

**Answer: D**

**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. References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 3722: SIEM Dashboards – SY0-601 CompTIA Security+ : 4.3, video by Professor Messer3: 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.

**NEW QUESTION 27**

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.

**Answer: D**

**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. References = 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.

**NEW QUESTION 32**

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

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

**Answer: B**

**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. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 39

**NEW QUESTION 37**

An enterprise has been experiencing attacks focused on exploiting vulnerabilities in older browser versions with well-known exploits. Which of the following security solutions should be configured to best provide the ability to monitor and block these known signature-based attacks?

- A. ACL
- B. DLP
- C. IDS
- D. IPS

**Answer: D**

**Explanation:**

An intrusion prevention system (IPS) is a security device that monitors network traffic and blocks or modifies malicious packets based on predefined rules or signatures. An IPS can prevent attacks that exploit known vulnerabilities in older browser versions by detecting and dropping the malicious packets before they reach the target system. An IPS can also perform other functions, such as rate limiting, encryption, or redirection. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 3: Securing Networks, page 132.

#### NEW QUESTION 42

A security analyst is reviewing alerts in the SIEM related to potential malicious network traffic coming from an employee's corporate laptop. The security analyst has determined that additional data about the executable running on the machine is necessary to continue the investigation. Which of the following logs should the analyst use as a data source?

- A. Application
- B. IPS/IDS
- C. Network
- D. Endpoint

**Answer: D**

#### Explanation:

An endpoint log is a file that contains information about the activities and events that occur on an end-user device, such as a laptop, desktop, tablet, or smartphone. Endpoint logs can provide valuable data for security analysts, such as the processes running on the device, the network connections established, the files accessed or modified, the user actions performed, and the applications installed or updated. Endpoint logs can also record the details of any executable files running on the device, such as the name, path, size, hash, signature, and permissions of the executable.

An application log is a file that contains information about the events that occur within a software application, such as errors, warnings, transactions, or performance metrics. Application logs can help developers and administrators troubleshoot issues, optimize performance, and monitor user behavior. However, application logs may not provide enough information about the executable files running on the device, especially if they are malicious or unknown.

An IPS/IDS log is a file that contains information about the network traffic that is monitored and analyzed by an intrusion prevention system (IPS) or an intrusion detection system (IDS). IPS/IDS logs can help security analysts identify and block potential attacks, such as exploit attempts, denial-of-service (DoS) attacks, or malicious scans. However, IPS/IDS logs may not provide enough information about the executable files running on the device, especially if they are encrypted, obfuscated, or use legitimate protocols.

A network log is a file that contains information about the network activity and communication that occurs between devices, such as IP addresses, ports, protocols, packets, or bytes. Network logs can help security analysts understand the network topology, traffic patterns, and bandwidth usage. However, network logs may not provide enough information about the executable files running on the device, especially if they are hidden, spoofed, or use proxy servers.

Therefore, the best log type to use as a data source for additional information about the executable running on the machine is the endpoint log, as it can provide the most relevant and detailed data about the executable file and its behavior.

References = <https://www.crowdstrike.com/cybersecurity-101/observability/application-log/>  
<https://owasp.org/www-project-proactive-controls/v3/en/c9-security-logging>

#### NEW QUESTION 43

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

**Answer: A**

#### 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.

References = 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].

#### NEW QUESTION 48

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

**Answer: C**

#### 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. References = 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.

#### NEW QUESTION 51

A systems administrator is creating a script that would save time and prevent human error when performing account creation for a large number of end users. Which of the following would be a good use case for this task?

- A. Off-the-shelf software
- B. Orchestration
- C. Baseline
- D. Policy enforcement

**Answer: B**

#### Explanation:

Orchestration is the process of automating multiple tasks across different systems and applications. It can help save time and reduce human error by executing predefined workflows and scripts. In this case, the systems administrator can use orchestration to create accounts for a large number of end users without having to manually enter their information and assign permissions. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 457 1

#### NEW QUESTION 52

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

**Answer: A**

#### 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). References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 337 1

#### NEW QUESTION 56

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

**Answer: A**

#### 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. References = 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.

#### NEW QUESTION 59

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

**Answer: D**

#### 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). References = You can learn more about firewall ACLs and DNS in the following resources:

? CompTIA Security+ SY0-701 Certification Study Guide, Chapter 4: Network Security1

? Professor Messer's CompTIA SY0-701 Security+ Training Course, Section 3.2: Firewall Rules2

? TOTAL: CompTIA Security+ Cert (SY0-701) | Udemy, Section 6: Network Security, Lecture 28: Firewall Rules3

#### NEW QUESTION 63

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

**Answer: C**

**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. References: CompTIA Security+ SY0-701 Certification Study Guide, Chapter 3: Architecture and Design, Section 3.2: Secure System Design, Page 133 1; CompTIA Security+ Certification Exam Objectives, Domain 3: Architecture and Design, Objective 3.2: Explain the importance of secure system design, Subobjective: Legacy systems 2

**NEW QUESTION 68**

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

**Answer: C**

**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. References = 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

**NEW QUESTION 70**

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

A. Federation

B. Identity proofing

C. Password complexity

D. Default password changes

E. Password manager

F. Open authentication

**Answer: AC**

**Explanation:**

Federation is an access management concept that allows users to authenticate once and access multiple resources or services across different domains or organizations. Federation relies on a trusted third party that stores the user's credentials and provides them to the requested resources or services without exposing them. Password complexity is a security measure that requires users to create passwords that meet certain criteria, such as length, character types, and uniqueness. Password complexity can help prevent brute-force attacks, password guessing, and credential stuffing by making passwords harder to crack or guess. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 308-309 and 312-313 1

**NEW QUESTION 71**

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

**Answer: A**

**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. References = Security Awareness and Training –

CompTIA Security+ SY0-701: 5.2, video at 0:00; CompTIA Security+ SY0-701 Certification Study Guide, page 263.

#### NEW QUESTION 76

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

**Answer: D**

#### 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. References = 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.

#### NEW QUESTION 80

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

**Answer: C**

#### 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. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 16-17, 372-373

#### NEW QUESTION 82

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

**Answer: A**

#### 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. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 308-309 1

#### NEW QUESTION 84

The management team notices that new accounts that are set up manually do not always have correct access or permissions. Which of the following automation techniques should a systems administrator use to streamline account creation?

- A. Guard rail script
- B. Ticketing workflow
- C. Escalation script
- D. User provisioning script

**Answer: D**

#### Explanation:

A user provisioning script is an automation technique that uses a predefined set of instructions or commands to create, modify, or delete user accounts and assign appropriate access or permissions. A user provisioning script can help to streamline account creation by reducing manual errors, ensuring consistency and compliance, and saving time and resources<sup>12</sup>.

The other options are not automation techniques that can streamline account creation:

? Guard rail script: This is a script that monitors and enforces the security policies and rules on a system or a network. A guard rail script can help to prevent unauthorized or malicious actions, such as changing security settings, accessing restricted resources, or installing unwanted software<sup>3</sup>.

? Ticketing workflow: This is a process that tracks and manages the requests, issues, or incidents that are reported by users or customers. A ticketing workflow can help to improve the communication, collaboration, and resolution of problems, but it does not automate the account creation process<sup>4</sup>.

? Escalation script: This is a script that triggers an alert or a notification when a certain condition or threshold is met or exceeded. An escalation script can help to inform the relevant parties or authorities of a critical situation, such as a security breach, a performance degradation, or a service outage.

References = 1: CompTIA Security+ SY0-701 Certification Study Guide, page 1022: User Provisioning – CompTIA Security+ SY0-701 – 5.1, video by Professor Messer<sup>3</sup>: CompTIA Security+ SY0-701 Certification Study Guide, page 1034: CompTIA Security+ SY0-701 Certification Study Guide, page 104. : CompTIA Security+ SY0-701 Certification Study Guide, page 105.

#### NEW QUESTION 86

A user is attempting to patch a critical system, but the patch fails to transfer. Which of the following access controls is most likely inhibiting the transfer?

- A. Attribute-based
- B. Time of day
- C. Role-based
- D. Least privilege

**Answer: D**

#### Explanation:

The least privilege principle states that users and processes should only have the minimum level of access required to perform their tasks. This helps to prevent unauthorized or unnecessary actions that could compromise security. In this case, the patch transfer might be failing because the user or process does not have the appropriate permissions to access the critical system or the network resources needed for the transfer. Applying the least privilege principle can help to avoid this issue by granting the user or process the necessary access rights for the patching activity. References: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, page 931

#### NEW QUESTION 89

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

**Answer: B**

#### 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.

References = CompTIA Security+ Study Guide (SY0-701), Chapter 7: Resilience and Recovery, page 325.

#### NEW QUESTION 92

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, GeoIP lookup
- B. VPN IP address, company ID, facial structure
- C. Password, authentication token, thumbprint
- D. Company URL, TLS certificate, home address

**Answer: C**

#### 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

References:

1: CompTIA Security+ Study Guide: Exam SY0-701, 9th Edition, Chapter 4: Identity and Access Management, page 177 2: CompTIA Security+ Certification Kit: Exam SY0-701, 7th Edition, Chapter 4: Identity and Access Management, page 179

## NEW QUESTION 93

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