

Exam Questions SY0-701

CompTIA Security+ Exam

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NEW QUESTION 1

- (Exam Topic 1)

A software company is analyzing a process that detects software vulnerabilities at the earliest stage possible. The goal is to scan the source looking for unsecure practices and weaknesses before the application is deployed in a runtime environment. Which of the following would BEST assist the company with this objective?

- A. Use fuzzing testing
- B. Use a web vulnerability scanner
- C. Use static code analysis
- D. Use a penetration-testing OS

Answer: C

Explanation:

Using static code analysis would be the best approach to scan the source code looking for unsecure practices and weaknesses before the application is deployed in a runtime environment. This method involves analyzing the source code without actually running the software, which can identify security vulnerabilities that may not be detected by other testing methods. References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 6: Risk Management, pp. 292-295

NEW QUESTION 2

- (Exam Topic 1)

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

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

Answer: A

Explanation:

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

NEW QUESTION 3

- (Exam Topic 1)

A security engineer is installing a WAF to protect the company's website from malicious web requests over SSL. Which of the following is needed to meet the objective?

- A. A reverse proxy
- B. A decryption certificate
- C. A spill-tunnel VPN
- D. Load-balanced servers

Answer: B

Explanation:

A Web Application Firewall (WAF) is a security solution that protects web applications from various types of attacks such as SQL injection, cross-site scripting (XSS), and others. It is typically deployed in front of web servers to inspect incoming traffic and filter out malicious requests.

To protect the company's website from malicious web requests over SSL, a decryption certificate is needed to decrypt the SSL traffic before it reaches the WAF. This allows the WAF to inspect the traffic and filter out malicious requests.

NEW QUESTION 4

- (Exam Topic 1)

The Chief information Security Officer has directed the security and networking team to retire the use of shared passwords on routers and switches. Which of the following choices BEST meets the requirements?

- A. SAML
- B. TACACS+
- C. Password vaults
- D. OAuth

Answer: B

Explanation:

TACACS+ is a protocol used for remote authentication, authorization, and accounting (AAA) that can be used to replace shared passwords on routers and switches. It provides a more secure method of authentication that allows for centralized management of access control policies. References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 6

NEW QUESTION 5

- (Exam Topic 1)

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

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

Answer: C

Explanation:

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

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

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

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

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

> A. Enable the remote-wiping option in the MDM software in case the phone is stolen. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. Remote wiping can erase both work and personal data on the device, which may not be desirable for employees.

> B. Configure the MDM software to enforce the use of PINs to access the phone. This option may enhance the security of the device, but it may not address the company's concern about data loss. PINs can be guessed or bypassed by attackers, and they do not protect data if the device is physically accessed.

> D. Perform a factory reset on the phone before installing the company's applications. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. A factory reset will erase all data on the device, including personal data, which may not be acceptable to employees.

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

"MDM software is a type of remote asset-management software that runs from a central server¹. It is used by businesses to optimize the functionality and security of their mobile devices, including smartphones and tablets²."

"FDE stands for full disk encryption, which is a method of encrypting all data on a device's storage³." References:

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

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

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

NEW QUESTION 6

- (Exam Topic 1)

The Chief Executive Officer announced a new partnership with a strategic vendor and asked the Chief Information Security Officer to federate user digital identities using SAML-based protocols. Which of the following will this enable?

- A. SSO
- B. MFA
- C. PKI
- D. OLP

Answer: A

Explanation:

Federating user digital identities using SAML-based protocols enables Single Sign-On (SSO), which allows users to log in once and access multiple applications without having to enter their credentials for each one. References:

> CompTIA Security+ Certification Exam Objectives 1.3: Explain authentication and access controls.

> CompTIA Security+ Study Guide, Sixth Edition, pages 41-42

NEW QUESTION 7

- (Exam Topic 1)

A company reduced the area utilized in its datacenter by creating virtual networking through automation and by creating provisioning routes and rules through scripting. Which of the following does this example describe?

- A. IaC
- B. MSSP
- C. Containers
- D. SaaS

Answer: A

Explanation:

IaaS (Infrastructure as a Service) allows the creation of virtual networks, automation, and scripting to reduce the area utilized in a datacenter. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 4

NEW QUESTION 8

- (Exam Topic 1)

A help desk technician receives an email from the Chief Information Officer (C/O) asking for documents. The technician knows the CIO is on vacation for a few weeks. Which of the following should the technician do to validate the authenticity of the email?

- A. Check the metadata in the email header of the received path in reverse order to follow the email's path.
- B. Hover the mouse over the CIO's email address to verify the email address.
- C. Look at the metadata in the email header and verify the "From." line matches the CIO's email address.
- D. Forward the email to the CIO and ask if the CIO sent the email requesting the documents.

Answer: B

Explanation:

The "From" line in the email header can be easily spoofed or manipulated by an attacker to make it look like the email is coming from the CIO's email address. However, this does not mean that the email address is actually valid or that the email is actually sent by the CIO. A better way to check the email address is to hover over it and see if it matches the CIO's email address exactly. This can help to spot any discrepancies or typos that might indicate a phishing attempt. For example, if the CIO's email address is cio@company.com, but when you hover over it, it shows cio@compnay.com, then you know that the email is not authentic and likely a phishing attempt.

NEW QUESTION 9

- (Exam Topic 1)

Which of the following is a physical security control that ensures only the authorized user is present when gaining access to a secured area?

- A. A biometric scanner
- B. A smart card reader
- C. APKItoken
- D. A PIN pad

Answer: A

Explanation:

A biometric scanner uses physical characteristics such as fingerprints to identify an individual user. It is used to ensure that only the authorized user is present when gaining access to a secured area.

NEW QUESTION 10

- (Exam Topic 1)

The Chief Information Security Officer wants to pilot a new adaptive, user-based authentication method. The concept includes granting logical access based on physical location and proximity. Which of the following is the BEST solution for the pilot?

- A. Geofencing
- B. Self-sovereign identification
- C. PKI certificates
- D. SSO

Answer: A

Explanation:

Geofencing is a location-based technology that allows an organization to define and enforce logical access control policies based on physical location and proximity. Geofencing can be used to grant or restrict access to systems, data, or facilities based on an individual's location, and it can be integrated into a user's device or the infrastructure. This makes it a suitable solution for the pilot project to test the adaptive, user-based authentication method that includes granting logical access based on physical location and proximity.

Reference: CompTIA Security+ SY0-601 Official Text Book, Chapter 4: "Identity and Access Management".

NEW QUESTION 10

- (Exam Topic 1)

A security engineer is installing a WAF to protect the company's website from malicious web requests over SSL. Which of the following is needed to meet the objective?

- A. A reverse proxy
- B. A decryption certificate
- C. A split-tunnel VPN
- D. Load-balanced servers

Answer: B

Explanation:

A Web Application Firewall (WAF) is a security solution that protects web applications from various types of attacks such as SQL injection, cross-site scripting (XSS), and others. It is typically deployed in front of web servers to inspect incoming traffic and filter out malicious requests.

To protect the company's website from malicious web requests over SSL, a decryption certificate is needed to decrypt the SSL traffic before it reaches the WAF. This allows the WAF to inspect the traffic and filter out malicious requests.

NEW QUESTION 14

- (Exam Topic 1)

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

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

Answer: A

Explanation:

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

NEW QUESTION 16

- (Exam Topic 1)

A security researcher is using an adversary's infrastructure and TTPs and creating a named group to track those targeted. Which of the following is the researcher

MOST likely using?

- A. The Cyber Kill Chain
- B. The incident response process
- C. The Diamond Model of Intrusion Analysis
- D. MITRE ATT&CK

Answer: D

Explanation:

The researcher is most likely using the MITRE ATT&CK framework. MITRE ATT&CK is a globally accessible knowledge base of adversary tactics, techniques, and procedures (TTPs) based on real-world observations. It helps security teams better understand and track adversaries by creating a named group, which aligns with the scenario described in the question. The framework is widely recognized and referenced in the cybersecurity industry, including in CompTIA Security+ study materials. References: 1. CompTIA Security+ Certification Exam Objectives (SY0-601):

<https://www.comptia.jp/pdf/Security%2B%20SY0-601%20Exam%20Objectives.pdf> 2. MITRE ATT&CK: <https://attack.mitre.org/>

MITRE ATT&CK is a knowledge base of adversary tactics, techniques, and procedures (TTPs) that are observed in real-world cyberattacks. MITRE ATT&CK provides a common framework and language for describing and analyzing cyber threats and their behaviors. MITRE ATT&CK also allows security researchers to create named groups that track specific adversaries based on their TTPs.

The other options are not correct because:

- A. The Cyber Kill Chain is a model that describes the stages of a cyberattack from reconnaissance to exfiltration. The Cyber Kill Chain does not provide a way to create named groups based on adversary TTPs.
- B. The incident response process is a set of procedures and guidelines that defines how an organization should respond to a security incident. The incident response process does not provide a way to create named groups based on adversary TTPs.
- C. The Diamond Model of Intrusion Analysis is a framework that describes the four core features of any intrusion: adversary, capability, infrastructure, and victim. The Diamond Model of Intrusion Analysis does not provide a way to create named groups based on adversary TTPs.

According to CompTIA Security+ SY0-601 Exam Objectives 1.1 Compare and contrast different types of social engineering techniques:

“MITRE ATT&CK is a knowledge base of adversary tactics, techniques, and procedures (TTPs) that are observed in real-world cyberattacks. MITRE ATT&CK provides a common framework and language for describing and analyzing cyber threats and their behaviors.”

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

NEW QUESTION 20

- (Exam Topic 1)

A security engineer is hardening existing solutions to reduce application vulnerabilities. Which of the following solutions should the engineer implement FIRST? (Select TWO)

- A. Auto-update
- B. HTTP headers
- C. Secure cookies
- D. Third-party updates
- E. Full disk encryption
- F. Sandboxing
- G. Hardware encryption

Answer: AF

Explanation:

Auto-update can help keep the app up-to-date with the latest security fixes and enhancements, and reduce the risk of exploitation by attackers who target outdated or vulnerable versions of the app.

Sandboxing can help isolate the app from other processes and resources on the system, and limit its access and permissions to only what is necessary.

Sandboxing can help prevent the app from being affected by or affecting other applications or system components, and contain any potential damage in case of a breach.

NEW QUESTION 23

- (Exam Topic 1)

When planning to build a virtual environment, an administrator need to achieve the following,

- Establish policies in Limit who can create new VMs
- Allocate resources according to actual utilization'
- Require justification for requests outside of the standard requirements.
- Create standardized categories based on size and resource requirements Which of the following is the administrator MOST likely trying to do?

- A. Implement IaaS replication
- B. Protect against VM escape
- C. Deploy a PaaS
- D. Avoid VM sprawl

Answer: D

Explanation:

The administrator is most likely trying to avoid VM sprawl, which occurs when too many VMs are created and managed poorly, leading to resource waste and increased security risks. The listed actions can help establish policies, resource allocation, and categorization to prevent unnecessary VM creation and ensure proper management. Reference: CompTIA Security+ Certification Exam Objectives, Exam SY0-601, 3.6 Given a scenario, implement the appropriate virtualization components.

NEW QUESTION 26

- (Exam Topic 1)

A new security engineer has started hardening systems. One of the hardening techniques the engineer is using involves disabling remote logins to the NAS. Users are now reporting the inability to use SCP to transfer files to the NAS, even though the data is still viewable from the user's PCs. Which of the following is the most likely cause of this issue?

- A. TFTP was disabled on the local hosts
- B. SSH was turned off instead of modifying the configuration file
- C. Remote login was disabled in the networkd.config instead of using the sshd.conf
- D. Network services are no longer running on the NAS

Answer: B

Explanation:

SSH stands for Secure Shell Protocol, which is a cryptographic network protocol that allows secure remote login and command execution on a network device¹². SSH can encrypt both the authentication information and the data being exchanged between the client and the server². SSH can be used to access and manage a NAS device remotely³.

NEW QUESTION 31

- (Exam Topic 1)

A company recently experienced a major breach. An investigation concludes that customer credit card data was stolen and exfiltrated through a dedicated business partner connection to a vendor, who is not held to the same security control standards. Which of the following is the MOST likely source of the breach?

- A. Side channel
- B. Supply chain
- C. Cryptographic downgrade
- D. Malware

Answer: B

Explanation:

A supply chain attack occurs when a third-party supplier or business partner is compromised, leading to an attacker gaining unauthorized access to the targeted organization's network. In this scenario, the dedicated business partner connection to a vendor was used to exfiltrate customer credit card data, indicating that the vendor's network was breached and used as a supply chain attack vector.

NEW QUESTION 35

- (Exam Topic 1)

Which of the following environment utilizes dummy data and is MOST to be installed locally on a system that allows to be assessed directly and modified easily with each build?

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

Answer: D

Explanation:

The environment that utilizes dummy data and is most likely to be installed locally on a system that allows it to be assessed directly and modified easily with each build is the development environment. The development environment is used for developing and testing software and applications. It is typically installed on a local system, rather than on a remote server, to allow for easy access and modification. Dummy data can be used in the development environment to simulate real-world scenarios and test the software's functionality. References: <https://www.techopedia.com/definition/27561/development-environment>

NEW QUESTION 36

- (Exam Topic 1)

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

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

Answer: A

Explanation:

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

NEW QUESTION 41

- (Exam Topic 1)

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

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

Answer: A

Explanation:

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

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

NEW QUESTION 43

- (Exam Topic 1)

A security analyst reviews a company's authentication logs and notices multiple authentication failures. The authentication failures are from different usernames that share the same source IP address. Which of the password attacks is MOST likely happening?

- A. Dictionary
- B. Rainbow table
- C. Spraying
- D. Brute-force

Answer: C

Explanation:

Detailed

Password spraying is an attack where an attacker tries a small number of commonly used passwords against a large number of usernames. The goal of password spraying is to avoid detection by avoiding too many failed login attempts for any one user account. The fact that different usernames are being attacked from the same IP address is a strong indication that a password spraying attack is underway.

NEW QUESTION 46

- (Exam Topic 1)

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

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

Answer: C

Explanation:

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

NEW QUESTION 51

- (Exam Topic 1)

An organization is concerned about hackers potentially entering a facility and plugging in a remotely accessible Kali Linux box. Which of the following should be the first lines of defense against such an attack? (Select TWO)

- A. MAC filtering
- B. Zero trust segmentation
- C. Network access control
- D. Access control vestibules
- E. Guards
- F. Bollards

Answer: CE

Explanation:

Network access control (NAC) is a technique that restricts access to a network based on the identity, role, device, location, or other criteria of the users or devices. NAC can prevent unauthorized or malicious devices from connecting to a network and accessing sensitive data or resources.

Guards are physical security personnel who monitor and control access to a facility. Guards can prevent unauthorized or malicious individuals from entering a facility and plugging in a remotely accessible device.

NEW QUESTION 54

- (Exam Topic 1)

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

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

Answer: B

Explanation:

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

NEW QUESTION 56

- (Exam Topic 1)

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

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

Answer: C

Explanation:

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

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

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

NEW QUESTION 59

- (Exam Topic 1)

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

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

Answer: D

Explanation:

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

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

References:

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

NEW QUESTION 60

- (Exam Topic 1)

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

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

Answer: C

Explanation:

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

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

NEW QUESTION 61

- (Exam Topic 1)

A backdoor was detected on the containerized application environment. The investigation detected that a zero-day vulnerability was introduced when the latest container image version was downloaded from a public registry. Which of the following is the BEST solution to prevent this type of incident from occurring again?

- A. Enforce the use of a controlled trusted source of container images
- B. Deploy an IPS solution capable of detecting signatures of attacks targeting containers
- C. Define a vulnerability scan to assess container images before being introduced on the environment
- D. Create a dedicated VPC for the containerized environment

Answer: A

Explanation:

Enforcing the use of a controlled trusted source of container images is the best solution to prevent incidents like the introduction of a zero-day vulnerability through container images from occurring again. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 11: Cloud Security, Container Security

NEW QUESTION 63

- (Exam Topic 1)

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

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

Answer: C

Explanation:

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

NEW QUESTION 67

- (Exam Topic 1)

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

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

Answer: A

Explanation:

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

NEW QUESTION 71

- (Exam Topic 1)

Which of the following involves the inclusion of code in the main codebase as soon as it is written?

- A. Continuous monitoring
- B. Continuous deployment
- C. Continuous Validation
- D. Continuous integration

Answer: D

Explanation:

Detailed

Continuous Integration (CI) is a practice where developers integrate code into a shared repository frequently, preferably several times a day. Each integration is verified by an automated build and automated tests. CI allows for the detection of errors early in the development cycle, thereby reducing overall development costs.

NEW QUESTION 73

- (Exam Topic 1)

Which of the following conditions impacts data sovereignty?

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

Answer: D

Explanation:

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

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

NEW QUESTION 74

- (Exam Topic 1)

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

- A. Authentication protocol
- B. Encryption type
- C. WAP placement
- D. VPN configuration

Answer: C

Explanation:

WAP stands for wireless access point, which is a device that allows wireless devices to connect to a wired network using Wi-Fi or Bluetooth. WAP placement

refers to where and how WAPs are installed in a building or area.

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

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

NEW QUESTION 75

- (Exam Topic 1)

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

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

Answer: C

Explanation:

When malware is discovered on a host, the best course of action is to quarantine the host from other parts of the network. This prevents the malware from spreading and potentially infecting other hosts. Adding a deny-all rule to the host in the network ACL may prevent legitimate traffic from being processed, implementing a network-wide scan is time-consuming and may not be necessary, and revoking the client's network access certificates is an extreme measure that may not be warranted. References: CompTIA Security+ Study Guide, pages 113-114

NEW QUESTION 77

- (Exam Topic 1)

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

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

Answer: D

Explanation:

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

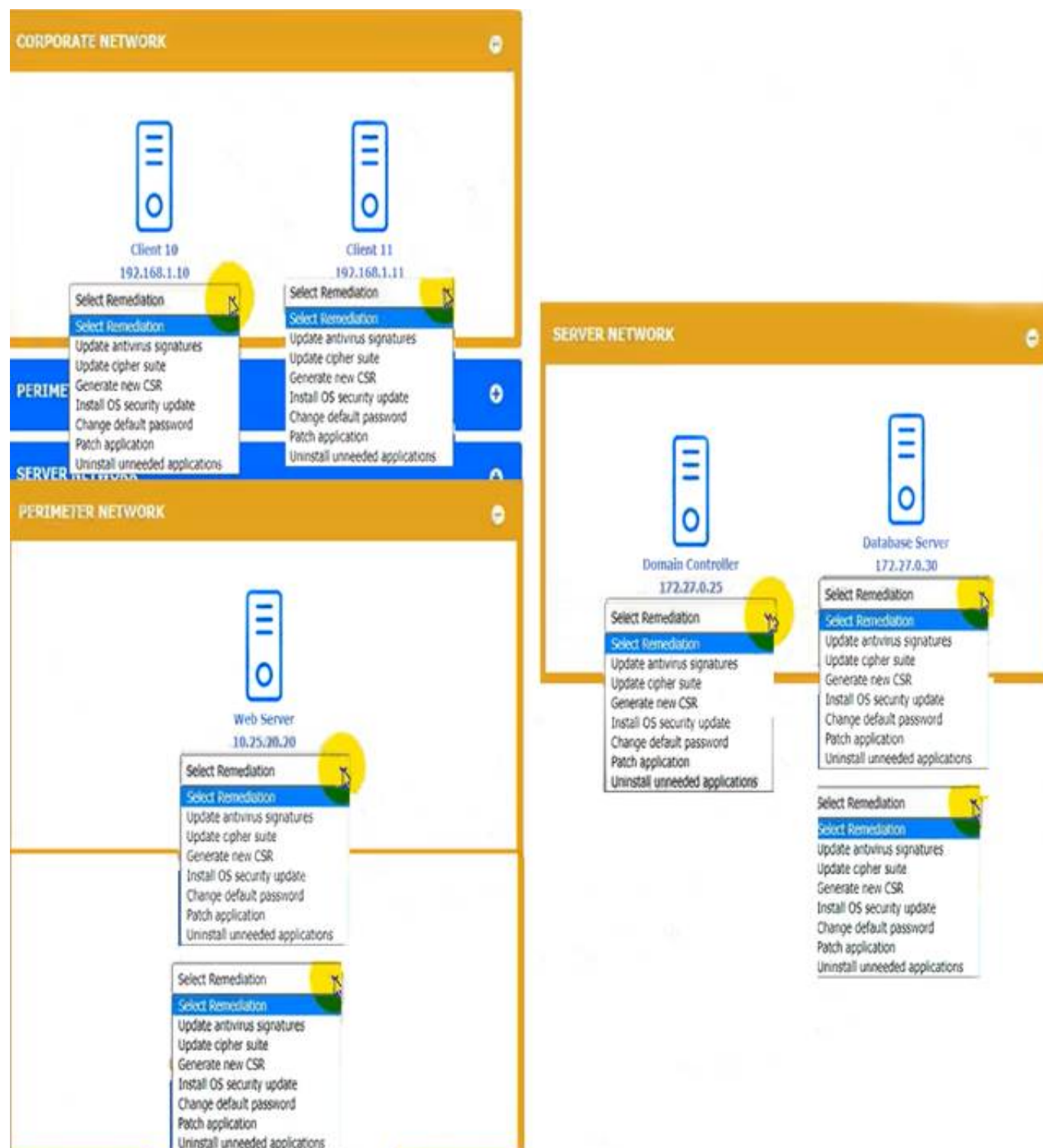
NEW QUESTION 78

- (Exam Topic 1)

You received the output of a recent vulnerability assessment.

Review the assessment and scan output and determine the appropriate remedialion(s) 'or «ach dewce. Remediation options may be selected multiple times, and some devices may require more than one remediation.

If at any time you would like to biing bade the initial state ot the simulation, please dick me Reset All button.



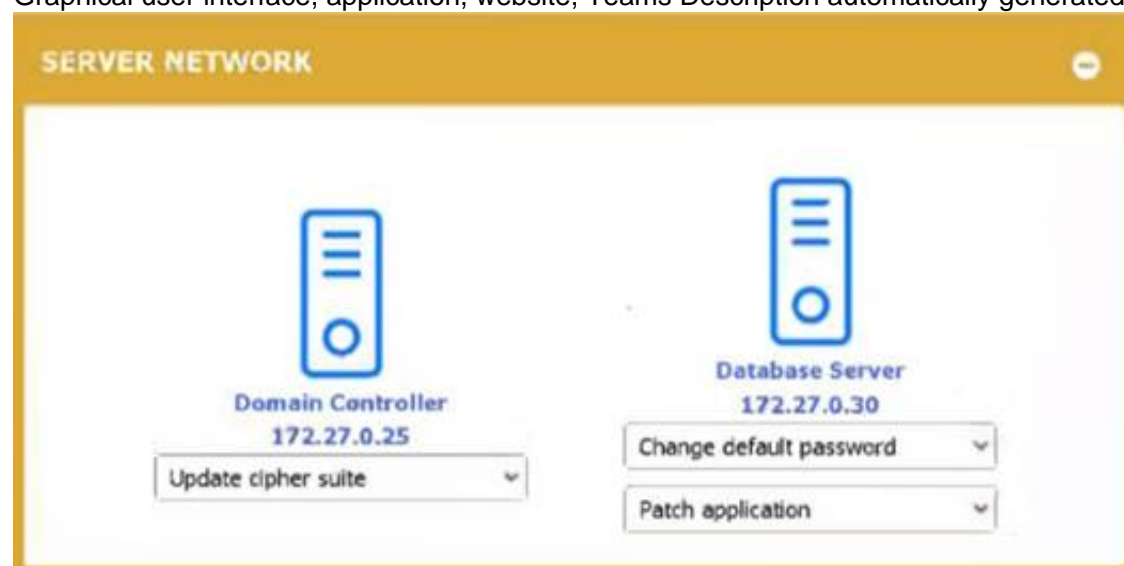
- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



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



Graphical user interface, text, application Description automatically generated



NEW QUESTION 83

- (Exam Topic 1)

Which of the following controls would provide the BEST protection against tailgating?

- A. Access control vestibule
- B. Closed-circuit television
- C. Proximity card reader
- D. Faraday cage

Answer: A

Explanation:

Access control vestibules, also known as mantraps or airlocks, are physical security features that require individuals to pass through two or more doors to enter a secure area. They are effective at preventing tailgating, as only one person can pass through each door at a time.

References:

- > <https://www.comptia.org/content/guides/what-is-a-mantrap>
- > CompTIA Security+ Study Guide, Sixth Edition (SY0-601), page 222

NEW QUESTION 88

- (Exam Topic 1)

The SIEM at an organization has detected suspicious traffic coming a workstation in its internal network. An analyst in the SOC the workstation and discovers malware that is associated with a botnet is installed on the device A review of the logs on the workstation reveals that the privileges of the local account were escalated to a local administrator. To which of the following groups should the analyst report this real-world event?

- A. The NOC team
- B. The vulnerability management team
- C. The CIRT
- D. The read team

Answer: C

Explanation:

The Computer Incident Response Team (CIRT) is responsible for handling incidents and ensuring that the incident response plan is followed. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 9

NEW QUESTION 93

- (Exam Topic 1)

A security analyst reports a company policy violation in a case in which a large amount of sensitive data is being downloaded after hours from various mobile devices to an external site. Upon further investigation, the analyst notices that successful login attempts are being conducted with impossible travel times during the same time periods when the unauthorized downloads are occurring. The analyst also discovers a couple of WAPs are using the same SSID, but they have non-standard DHCP configurations and an overlapping channel. Which of the following attacks is being conducted?

- A. Evil twin
- B. Jamming
- C. DNS poisoning
- D. Bluesnarfing
- E. DDoS

Answer: A

Explanation:

The attack being conducted is an Evil twin attack. An Evil twin attack involves creating a rogue wireless access point (WAP) with the same Service Set Identifier (SSID) as a legitimate WAP to trick users into connecting to it. Once connected, the attacker can intercept traffic or steal login credentials. The successful login attempts with impossible travel times suggest that an attacker is using a stolen or compromised credential to access the external site to which the sensitive data is being downloaded. The non-standard DHCP configurations and overlapping channels of the WAPs suggest that the attacker is using a rogue WAP to intercept traffic. References: CompTIA Security+ Certification Exam Objectives, Exam Domain 1.0: Attacks, Threats, and Vulnerabilities, 1.4 Compare and contrast types of attacks, p. 8

NEW QUESTION 97

- (Exam Topic 2)

A company recently upgraded its authentication infrastructure and now has more computing power. Which of the following should the company consider using to ensure user credentials are being transmitted and stored more securely?

- A. Blockchain

- B. Salting
- C. Quantum
- D. Digital signature

Answer: B

Explanation:

Salting is a technique that adds random data to user credentials before hashing them. This makes the hashed credentials more secure and resistant to brute-force attacks or rainbow table attacks. Salting also ensures that two users with the same password will have different hashed credentials.

A company that has more computing power can consider using salting to ensure user credentials are being transmitted and stored more securely. Salting can increase the complexity and entropy of the hashed credentials, making them harder to crack or reverse.

NEW QUESTION 101

- (Exam Topic 2)

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

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

Answer: D

Explanation:

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

- > <https://www.security.org/antivirus/computer-worm/>
- > https://sec.cloudapps.cisco.com/security/center/resources/worm_mitigation_whitepaper.html

NEW QUESTION 106

- (Exam Topic 2)

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

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

Answer: A

Explanation:

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

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

NEW QUESTION 110

- (Exam Topic 2)

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

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

Answer: B

Explanation:

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

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://www.investopedia.com/terms/n/non-personally-identifiable-information-npii.asp>

NEW QUESTION 114

- (Exam Topic 2)

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

- A. Vendor management

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

Answer: E

Explanation:

Firmware is software that allows your computer to communicate with hardware devices, such as network routers, switches, or firewalls. Firmware updates can fix bugs, improve performance, and enhance security features. Without firmware updates, the devices you connect to your network might not work properly or might be vulnerable to attacks¹. You can have Windows automatically download recommended drivers and firmware updates for your hardware devices¹, or you can use a network monitoring software to keep track of the firmware status of your devices². You should also follow the best practices for keeping devices and software up to date, such as enforcing automatic updates, monitoring update status, and testing updates before deploying them

NEW QUESTION 119

- (Exam Topic 2)

Which of the following would be used to find the most common web-application vulnerabilities?

- A. OWASP
- B. MITRE ATT&CK
- C. Cyber Kill Chain
- D. SDLC

Answer: A

Explanation:

OWASP (Open Web Application Security Project) is a non-profit organization that provides resources and guidance for improving the security of web applications. It publishes a list of the most common web application vulnerabilities, such as injection, broken authentication, cross-site scripting, etc., and provides recommendations and best practices for preventing and mitigating them

NEW QUESTION 120

- (Exam Topic 2)

Which of the following would be best to ensure data is saved to a location on a server, is easily scaled, and is centrally monitored?

- A. Edge computing
- B. Microservices
- C. Containers
- D. Thin client

Answer: C

Explanation:

Containers are a method of virtualization that allow you to run multiple isolated applications on a single server. Containers are lightweight, portable, and scalable, which means they can save resources, improve performance, and simplify deployment. Containers also enable centralized monitoring and management of the applications running on them, using tools such as Docker or Kubernetes. Containers are different from edge computing, which is a distributed computing paradigm that brings computation and data storage closer to the location where it is needed. Microservices are a software architecture style that breaks down complex applications into smaller, independent services that communicate with each other. Thin clients are devices that rely on a server to perform most of the processing tasks and only provide a user interface.

NEW QUESTION 121

- (Exam Topic 2)

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

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

Answer: C

Explanation:

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

NEW QUESTION 126

- (Exam Topic 2)

A security team discovered a large number of company-issued devices with non-work-related software installed. Which of the following policies would most likely contain language that would prohibit this activity?

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

Answer: C

Explanation:

AUP stands for acceptable use policy, which is a document that defines the rules and guidelines for using an organization's network, systems, devices, and resources. An AUP typically covers topics such as authorized and unauthorized activities, security requirements, data protection, user responsibilities, and consequences for violations. An AUP can help prevent non-work-related software installation on company-issued devices by clearly stating what types of software are allowed or prohibited, and what actions will be taken if users do not comply with the policy.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://www.techopedia.com/definition/2471/acceptable-use-policy-aup>

NEW QUESTION 128

- (Exam Topic 2)

A web server has been compromised due to a ransomware attack. Further Investigation reveals the ransomware has been in the server for the past 72 hours. The systems administrator needs to get the services back up as soon as possible. Which of the following should the administrator use to restore services to a secure state?

- A. The last incremental backup that was conducted 72 hours ago
- B. The last known-good configuration stored by the operating system
- C. The last full backup that was conducted seven days ago
- D. The baseline OS configuration

Answer: A

Explanation:

The last incremental backup that was conducted 72 hours ago would be the best option to restore the services to a secure state, as it would contain the most recent data before the ransomware infection. Incremental backups only store the changes made since the last backup, so they are faster and use less storage space than full backups. Restoring from an incremental backup would also minimize the data loss and downtime caused by the ransomware attack. References:

- > <https://www.comptia.org/blog/mature-cybersecurity-response-to-ransomware>
- > <https://www.youtube.com/watch?v=HszU4nEAlFc>

NEW QUESTION 129

- (Exam Topic 2)

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

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

Answer: AF

Explanation:

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

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

NEW QUESTION 131

- (Exam Topic 2)

A systems integrator is installing a new access control system for a building. The new system will need to connect to the Company's AD server In order to validate current employees. Which of the following should the systems integrator configure to be the most secure?

- A. HTTPS
- B. SSH
- C. SFTP
- D. LDAPS

Answer: D

Explanation:

LDAPS (Lightweight Directory Access Protocol Secure) is the most secure protocol to use for connecting to an Active Directory server, as it encrypts the communication between the client and the server using SSL/TLS. This prevents eavesdropping, tampering, or spoofing of the authentication and authorization data.

References: 1

CompTIA Security+ Certification Exam Objectives, page 13, Domain 3.0: Implementation, Objective 3.2: Implement secure protocols 2

CompTIA Security+ Certification Exam Objectives, page 15,

Domain 3.0: Implementation, Objective 3.5: Implement secure authentication mechanisms 3

<https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2008-R2-and-2008/cc731>

NEW QUESTION 136

- (Exam Topic 2)

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

- A. Install DLP software to prevent data loss.
- B. Use the latest version of software.
- C. Install a SIEM device.
- D. Implement MDM.
- E. Implement a screened subnet for the web server.
- F. Install an endpoint security solution.
- G. Update the website certificate and revoke the existing ones.
- H. Deploy additional network sensors.

Answer: BEF

NEW QUESTION 139

- (Exam Topic 2)

The Chief Executive Officer (CEO) of an organization would like staff members to have the flexibility to work from home anytime during business hours, including during a pandemic or crisis. However, the CEO is concerned that some staff members may take advantage of the flexibility and work from high-risk countries while on holiday or outsource work to a third-party organization in another country. The Chief Information Officer believes the company can implement some basic controls to mitigate the majority of the risk. Which of the following would be best to mitigate the CEO's concerns? (Select two).

- A. Geolocation
- B. Time-of-day restrictions
- C. Certificates
- D. Tokens
- E. Geotagging
- F. Role-based access controls

Answer: AB

Explanation:

Geolocation and time-of-day restrictions would be best to mitigate the CEO's concerns about staff members working from high-risk countries while on holiday or outsourcing work to a third-party organization in another country. Geolocation is a technique that involves determining the physical location of a device or user based on its IP address, GPS coordinates, Wi-Fi signals, or other indicators. Time-of-day restrictions are policies that limit the access or usage of resources based on the time of day or week. Geolocation and time-of-day restrictions can help to enforce access control rules, prevent unauthorized access, detect anomalous behavior, and comply with regulations. References: <https://www.comptia.org/blog/what-is-geolocation>
<https://www.certblaster.com/wp-content/uploads/2020/11/CompTIA-Security-SY0-601-Exam-Objectives-1.0.pdf>

NEW QUESTION 142

- (Exam Topic 2)

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:

A company purchased cyber insurance to address items listed on the risk register. This represents a transfer strategy. A transfer strategy involves transferring or sharing some or all of the responsibility or impact of a risk to another party, such as an insurer, a supplier, or a partner. A transfer strategy can help to reduce the financial liability or exposure of the company in case of a security incident or breach. References: <https://www.comptia.org/blog/what-is-cyber-insurance>
<https://www.certblaster.com/wp-content/uploads/2020/11/CompTIA-Security-SY0-601-Exam-Objectives-1.0.pdf>

NEW QUESTION 143

- (Exam Topic 2)

A security analyst is investigating what appears to be unauthorized access to a corporate web application. The security analyst reviews the web server logs and finds the following entries:

```
106.35.45.53 - - [22/May/2020:07:00:58 +0100] "GET /login?username=admin&pin=0000 HTTP/1.1" 200 11705
"http://www.example.com/login.php"
106.35.45.53 - - [22/May/2020:07:01:21 +0100] "GET /login?username=admin&pin=0001 HTTP/1.1" 200 11705
"http://www.example.com/login.php"
106.35.45.53 - - [22/May/2020:07:01:52 +0100] "GET /login?username=admin&pin=0002 HTTP/1.1" 200 11705
"http://www.example.com/login.php"
106.35.45.53 - - [22/May/2020:07:02:18 +0100] "GET /login?username=admin&pin=0003 HTTP/1.1" 200 11705
"http://www.example.com/login.php"
106.35.45.53 - - [22/May/2020:07:02:18 +0100] "GET /login?username=admin&pin=0004 HTTP/1.1" 200 11705
"http://www.example.com/login.php"
```

Which of the following password attacks is taking place?

- A. Dictionary
- B. Brute-force
- C. Rainbow table
- D. Spraying

Answer: D

Explanation:

Spraying is a password attack that involves trying a few common passwords against a large number of usernames. Spraying is different from brute-force attacks, which try many possible passwords against one username, or dictionary attacks, which try a list of words from a dictionary file against one username. Spraying is often used when the web application has a lockout policy that prevents multiple failed login attempts for the same username. Spraying can be detected by looking for patterns of failed login attempts from the same source IP address with different usernames and the same or similar passwords.

NEW QUESTION 146

- (Exam Topic 2)

An attacker is using a method to hide data inside of benign files in order to exfiltrate confidential data. Which of the following is the attacker most likely using?

- A. Base64 encoding
- B. Steganography
- C. Data encryption
- D. Perfect forward secrecy

Answer: B

Explanation:

Steganography is a technique for hiding data inside of benign files such as images, audio, or video. This can be used to exfiltrate confidential data without raising suspicion or detection.

References: How to Hide Files Inside Files [Images, Folder] - Raymond.CC Blog; How to Hide Data in a Secret Text File Compartment - How-To Geek; How to Hide Data Within an Image - Medium

NEW QUESTION 151

- (Exam Topic 2)

A malicious actor recently penetrated a company's network and moved laterally to the data center. Upon investigation, a forensics firm wants to know what was in the memory on the compromised server. Which of the following files should be given to the forensics firm?

- A. Security
- B. Application
- C. Dump
- D. Syslog

Answer: C

Explanation:

A dump file is a file that contains the contents of memory at a specific point in time. It can be used for debugging or forensic analysis of a system or an application. It can reveal what was in the memory on the compromised server, such as processes, variables, passwords, encryption keys, etc.

NEW QUESTION 155

- (Exam Topic 2)

An air traffic controller receives a change in flight plan for an morning aircraft over the phone. The air traffic controller compares the change to what appears on radar and determines the information to be false. As a result, the air traffic controller is able to prevent an incident from occurring. Which of the following is this scenario an example of?

- A. Mobile hijacking
- B. Vishing
- C. Unsecure VoIP protocols
- D. SPIM attack

Answer: B

Explanation:

Vishing is a form of phishing that uses voice calls or voice messages to trick victims into revealing personal information, such as credit card numbers, bank details, or passwords. Vishing often uses spoofed phone numbers, voice-altering software, or social engineering techniques to impersonate legitimate organizations or authorities. In this scenario, the caller pretended to be someone who could change the flight plan of an aircraft, which could have caused a serious incident.

NEW QUESTION 158

- (Exam Topic 2)

A company recently suffered a breach in which an attacker was able to access the internal mail servers and directly access several user inboxes. A large number of email messages were later posted online. Which of the following would best prevent email contents from being released should another breach occur?

- A. Implement S/MIME to encrypt the emails at rest.
- B. Enable full disk encryption on the mail servers.
- C. Use digital certificates when accessing email via the web.
- D. Configure web traffic to only use TLS-enabled channels.

Answer: A

Explanation:

S/MIME stands for Secure/Multipurpose Internet Mail Extensions, which is a standard for encrypting and digitally signing email messages. S/MIME can provide confidentiality, integrity, authentication and

non-repudiation for email communications. S/MIME can encrypt the emails at rest, which means that the

email contents are protected even if they are stored on the mail servers or the user inboxes. S/MIME can prevent email contents from being released should another breach occur, as the attacker would not be able to decrypt or read the encrypted emails without the proper keys or certificates. Verified References:

➤ Cryptography Concepts – SY0-601 CompTIA Security+ : 2.8 <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/cryptography-concepts-2/> (See S/MIME)

- Mail Encryption - CompTIA Security+ All-in-One Exam Guide (Exam SY0-301) https://www.oreilly.com/library/view/comptia-security-all-in-one/9780071771474/sec5_chap14.html (See S/MIME)
- Symmetric and Asymmetric Encryption – CompTIA Security+ SY0-501 – 6.1 <https://www.professormesser.com/security-plus/sy0-501/symmetric-and-asymmetric-encryption/> (See S/MIME)

NEW QUESTION 163

- (Exam Topic 2)

A security operations center wants to implement a solution that can execute files to test for malicious activity. The solution should provide a report of the files' activity against known threats.

Which of the following should the security operations center implement?

- A. theHarvester
- B. Nessus
- C. Cuckoo
- D. Sn1per

Answer: C

Explanation:

Cuckoo is a sandbox that is specifically written to run programs inside and identify any malware. A sandbox is a virtualized environment that isolates the program from the rest of the system and monitors its behavior. Cuckoo can analyze files of various types, such as executables, documents, URLs, and more. Cuckoo can provide a report of the files' activity against known threats, such as network traffic, file operations, registry changes, API calls, and so on.

A security operations center can implement Cuckoo to execute files to test for malicious activity and generate a report of the analysis. Cuckoo can help the security operations center to detect and prevent malware infections, investigate incidents, and perform threat intelligence.

NEW QUESTION 164

- (Exam Topic 2)

A security analyst is investigating a report from a penetration test. During the penetration test, consultants were able to download sensitive data from a back-end server. The back-end server was exposing an API that should have only been available from the companV's mobile application. After reviewing the back-end server logs, the security analyst finds the following entries

```
10.35.45.53 - - [22/May/2020:06:57:31 +0100] "GET /api/cliend_id=1 HTTP/1.1" 403 1705 "http://www.example.com/api/" "PostmanRuntime/7.26.5"
10.35.45.53 - - [22/May/2020:07:00:58 +0100] "GET /api/cliend_id=2 HTTP/1.1" 403 1705 "http://www.example.com/api/" "PostmanRuntime/7.22.0"
10.32.40.13 - - [22/May/2020:08:08:52 +0100] "GET /api/cliend_id=1 HTTP/1.1" 302 21703 "http://www.example.com/api/" "CompanyMobileApp/1.1.1"
10.32.40.25 - - [22/May/2020:08:13:52 +0100] "GET /api/cliend_id=1 HTTP/1.1" 200 21703 "http://www.example.com/api/" "CompanyMobileApp/2.3.1"
10.35.45.53 - - [22/May/2020:08:20:18 +0100] "GET /api/cliend_id=2 HTTP/1.1" 200 22405 "http://www.example.com/api/" "CompanyMobileApp/2.3.0"
```

Which of the following is the most likely cause of the security control bypass?

- A. IP address allow list
- B. user-agent spoofing
- C. WAF bypass
- D. Referrer manipulation

Answer: B

Explanation:

User-agent spoofing is a technique that allows an attacker to modify the user-agent header of an HTTP request to impersonate another browser or device¹². User-agent spoofing can be used to bypass security controls that rely on user-agent filtering or validation¹². In this case, the attacker spoofed the user-agent header to match the company's mobile application, which was allowed to access the back-end server's API².

NEW QUESTION 168

- (Exam Topic 2)

A company would like to protect credit card information that is stored in a database from being exposed and reused. However, the current POS system does not support encryption. Which of the following would be BEST suited to secure this information?

(Give me related explanation and references from CompTIA Security+ SY0-601 documents for Correct answer option)

- A. Masking
- B. Tokenization
- C. DLP
- D. SSL/TLS

Answer: B

Explanation:

Tokenization replaces sensitive data with non-sensitive data, such as a unique identifier. This means that the data is still present in the system, but the sensitive information itself is replaced with the token. Tokenization is more secure than masking, which only obscures the data but does not eliminate it. DLP is not suitable for this task, as it is designed to prevent the loss or leakage of data from the system. SSL/TLS can be used to secure the transmission of data, but it cannot prevent the data itself from being exposed or reused. For more information, please refer to CompTIA Security+ SY0-601 Exam Objectives, Section 3.3: Explain the security purpose of authentication, authorization and accounting (AAA) services, and Section 4.7: Explain the purpose and characteristics of various types of encryption.

NEW QUESTION 171

- (Exam Topic 2)

A security administrator recently used an internal CA to issue a certificate to a public application. A user tries to reach the application but receives a message stating, "Your connection is not private." Which of the following is the best way to fix this issue?

- A. Ignore the warning and continue to use the application normally.
- B. Install the certificate on each endpoint that needs to use the application.
- C. Send the new certificate to the users to install on their browsers.

D. Send a CSR to a known CA and install the signed certificate on the application's server.

Answer: D

Explanation:

A certificate issued by an internal CA is not trusted by default by external users or applications. Therefore, when a user tries to reach the application that uses an internal CA certificate, they will receive a warning message that their connection is not private¹. The best way to fix this issue is to use a certificate signed by a well-known public CA that is trusted by most browsers and operating systems¹. To do this, the security administrator needs to send a certificate signing request (CSR) to a public CA and install the signed certificate on the application's server². The other options are not recommended or feasible. Ignoring the warning and continuing to use the application normally is insecure and exposes the user to potential man-in-the-middle attacks³. Installing the certificate on each endpoint that needs to use the application is impractical and cumbersome, especially if there are many users or devices involved³. Sending the new certificate to the users to install on their browsers is also inconvenient and may not work for some browsers or devices³.

References: 1:

<https://learn.microsoft.com/en-us/azure/active-directory/develop/howto-create-self-signed-certificate> 2:

<https://learn.microsoft.com/en-us/azure/application-gateway/mutual-authentication-certificate-management> 3: <https://serverfault.com/questions/1106443/should-i-use-a-public-or-a-internal-ca-for-client-certificate-mtls>

NEW QUESTION 172

- (Exam Topic 2)

A user downloaded an extension for a browser, and the user's device later became infected. The analyst who is investigating the incident saw various logs where the attacker was hiding activity by deleting data. The following was observed running:

New-Partition -DiskNumber 2 -UseMaximumSize -AssignDriveLetter C | Format-Volume -DriveLetter C - FileSystemLabel "New"-FileSystem NTFS - Full -Force -Confirm:\$false

Which of the following is the malware using to execute the attack?

- A. PowerShell
- B. Python
- C. Bash
- D. Macros

Answer: A

Explanation:

PowerShell is a scripting language and command-line shell that can be used to automate tasks and manage systems. PowerShell can also be used by malware to execute malicious commands and evade detection. The code snippet in the question is a PowerShell command that creates a new partition on disk 2, formats it with NTFS file system, and assigns it a drive letter C. This could be part of an attack that wipes out the original data on the disk or creates a hidden partition for storing malware or stolen data. References:

> <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/scripting-and-automation/>

> <https://learn.microsoft.com/en-us/powershell/module/storage/new-partition?view=windowsserver2022-ps>

NEW QUESTION 175

- (Exam Topic 2)

Which of the following best describes the situation where a successfully onboarded employee who is using a fingerprint reader is denied access at the company's main gate?

- A. Crossover error rate
- B. False match raw
- C. False rejection
- D. False positive

Answer: C

Explanation:

False rejection Short

A false rejection occurs when a biometric system fails to recognize an authorized user and denies access. This can happen due to poor quality of the biometric sample, environmental factors, or system errors. References: <https://www.comptia.org/blog/what-is-biometrics>

NEW QUESTION 178

- (Exam Topic 2)

A security administrator is evaluating remote access solutions for employees who are geographically dispersed. Which of the following would provide the MOST secure remote access? (Select TWO).

- A. IPSec
- B. SFTP
- C. SRTP
- D. LDAPS
- E. S/MIME
- F. SSL VPN

Answer: AF

Explanation:

IPSec (Internet Protocol Security) is a technology that provides secure communication over the internet by encrypting traffic and authenticating it at both the sender and receiver. It can be used to create secure tunnels between two or more devices, allowing users to access resources securely and privately.

SSL VPN (Secure Sockets Layer Virtual Private Network) is a type of VPN that uses an SSL/TLS connection to encrypt traffic between two or more devices. It is a secure and reliable solution for providing remote access, as all traffic is encrypted and authenticated. Additionally, SSL VPNs can also be used to restrict access to certain websites and services, making them a secure and robust solution for remote access.

NEW QUESTION 179

- (Exam Topic 2)

A security analyst was asked to evaluate a potential attack that occurred on a publicly accessible section of the company's website. The malicious actor posted an entry in an attempt to trick users into clicking the following:

```
https://www.c0mpt1a.com/contact-us/%3Ffname%3D%3Cscript%3Ealert(document.cookie)%3C%2Fscript%3E
```

Which of the following was most likely observed?

- A. DLL injection
- B. Session replay
- C. SQLi
- D. xss

Answer: D

Explanation:

Cross-site scripting is a type of web application attack that involves injecting malicious code or scripts into a trusted website or application. The malicious code or script can execute in the browser of the victim who visits the website or application, and can perform actions such as stealing cookies, redirecting to malicious sites, displaying fake content, or compromising the system. References:

<https://www.comptia.org/blog/what-is-cross-site-scripting>

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

NEW QUESTION 183

- (Exam Topic 2)

A contractor overhears a customer recite their credit card number during a confidential phone call. The credit card information is later used for a fraudulent transaction. Which of the following social engineering techniques describes this scenario?

- A. Shoulder surfing
- B. Watering hole
- C. Vishing
- D. Tailgating

Answer: A

Explanation:

Shoulder surfing is a social engineering technique that involves looking over someone's shoulder to see what they are typing, writing, or viewing on their screen. It can be used to steal passwords, PINs, credit card numbers, or other sensitive information. In this scenario, the contractor used shoulder surfing to overhear the customer's credit card number during a phone call.

NEW QUESTION 184

- (Exam Topic 2)

An administrator is configuring a firewall rule set for a subnet to only access DHCP, web pages, and SFTP, and to specifically block FTP. Which of the following would BEST accomplish this goal?

- A. [Permission Source Destination Port]Allow: Any Any 80 -Allow: Any Any 443 -Allow: Any Any 67-Allow: Any Any 68 -Allow: Any Any 22 -Deny: Any Any 21 -Deny: Any Any
- B. [Permission Source Destination Port]Allow: Any Any 80 -Allow: Any Any 443 -Allow: Any Any 67-Allow: Any Any 68 -Deny: Any Any 22 -Allow: Any Any 21 -Deny: Any Any
- C. [Permission Source Destination Port]Allow: Any Any 80 -Allow: Any Any 443 -Allow: Any Any 22-Deny: Any Any 67 -Deny: Any Any 68 -Deny: Any Any 21 -Allow: Any Any
- D. [Permission Source Destination Port]Allow: Any Any 80 -Allow: Any Any 443 -Deny: Any Any 67-Allow: Any Any 68 -Allow: Any Any 22 -Allow: Any Any 21 -Allow: Any Any

Answer: A

Explanation:

This firewall rule set allows a subnet to only access DHCP, web pages, and SFTP, and specifically blocks FTP by allowing or denying traffic based on the source, destination, and port. The rule set is as follows:

- > Allow any source and any destination on port 80 (HTTP)
- > Allow any source and any destination on port 443 (HTTPS)
- > Allow any source and any destination on port 67 (DHCP server)
- > Allow any source and any destination on port 68 (DHCP client)
- > Allow any source and any destination on port 22 (SFTP)
- > Deny any source and any destination on port 21 (FTP)
- > Deny any source and any destination on any other port

NEW QUESTION 189

- (Exam Topic 2)

A network administrator has been alerted that web pages are experiencing long load times. After determining it is not a routing or DNS issue, the administrator logs in to the router, runs a command, and receives the following output:

CPU 0 percent busy, from 300 sec ago 1 sec ave: 99 percent busy

5 sec ave: 97 percent busy

1 min ave: 83 percent busy

Which of the following is the router experiencing?

- A. DDoS attack
- B. Memory leak
- C. Buffer overflow
- D. Resource exhaustion

Answer: D

Explanation:

The router is experiencing a resource exhaustion issue. The output from the command indicates that the CPU is consistently busy, with a 1-second average of 99 percent busy and a 1-minute average of 83 percent busy.

This indicates that the router is struggling to keep up with the demands placed on it, potentially due to a high volume of traffic or other factors. As a result, web pages are experiencing long load times. This is an example of resource exhaustion, where the router's resources are being overwhelmed and are unable to meet the demands placed on them. A DDoS attack, memory leak, or buffer overflow would not typically cause the symptoms described in the scenario.

NEW QUESTION 190

- (Exam Topic 2)

A security analyst is reviewing packet capture data from a compromised host. In the packet capture, the analyst locates packets that contain large amounts of text. Which of the following is most likely installed on the compromised host?

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

Answer: A

Explanation:

A keylogger is a type of malware that records the keystrokes of the user and sends them to a remote attacker. The attacker can use the keystrokes to steal the user's credentials, personal information, or other sensitive data. A keylogger can generate packets that contain large amounts of text, as the packet capture data shows.

NEW QUESTION 191

- (Exam Topic 2)

A retail store has a business requirement to deploy a kiosk computer in an open area. The kiosk computer's operating system has been hardened and tested. A security engineer is concerned that someone could use removable media to install a rootkit. Which of the following should the security engineer configure to BEST protect the kiosk computer?

- A. Measured boot
- B. Boot attestation
- C. UEFI
- D. EDR

Answer: B

Explanation:

Boot attestation is a security feature that enables the computer to verify the integrity of its operating system before it boots. It does this by performing a hash of the operating system and comparing it to the expected hash of the operating system. If the hashes do not match, the computer will not boot and the rootkit will not be allowed to run. This process is also known as measured boot or secure boot.

According to the CompTIA Security+ Study Guide, "Secure Boot is a feature of Unified Extensible Firmware Interface (UEFI) that ensures that code that is executed during the boot process has been authenticated by a cryptographic signature. Secure Boot prevents malicious code from running at boot time, thus providing assurance that the system is executing only code that is legitimate. This provides a measure of protection against rootkits and other malicious code that is designed to run at boot time."

NEW QUESTION 192

- (Exam Topic 2)

An organization with a low tolerance for user inconvenience wants to protect laptop hard drives against loss or data theft. Which of the following would be the most acceptable?

- A. SED
- B. HSM
- C. DLP
- D. TPM

Answer: A

Explanation:

SED stands for Self-Encrypting Drive, which is a type of hard drive that automatically encrypts and decrypts data using a built-in hardware encryption engine. SEDs do not require any additional software or configuration, and they do not affect the performance or usability of the laptop. SEDs also have a feature called Instant Secure Erase, which allows the user to quickly and securely wipe the data on the drive by deleting the encryption key.

NEW QUESTION 193

- (Exam Topic 2)

A security analyst reviews web server logs and notices the following line: 104.35. 45.53 [22/May/2020:07 : 00:58 +0100] "GET . UNION ALL SELECT user login, user _ pass, user email from wp users—— HTTP/1.1" 200 1072

<http://www.example.com/wordpress/wp—admin/>

Which of the following vulnerabilities is the attacker trying to exploit?

- A. SSRF
- B. CSRF
- C. XSS
- D. SQLi

Answer: D

Explanation:

SQLi stands for SQL injection, which is a type of web security vulnerability that allows an attacker to execute malicious SQL statements on a database server. SQLi can result in data theft, data corruption, denial of service, or remote code execution.

The attacker in the web server log is trying to exploit a SQLi vulnerability by sending a malicious GET request that contains a UNION ALL SELECT statement. This statement is used to combine the results of two or more SELECT queries into a single result set. The attacker is attempting to retrieve user login, user pass, and user email from the wp users table, which is a WordPress database table that stores user information. The attacker may use this information to compromise the WordPress site or the users' accounts.

NEW QUESTION 196

- (Exam Topic 2)

An employee's laptop was stolen last month. This morning, the was returned by the A cyberrsecurity analyst retrieved laptop and has since cybersecurity incident checklist Four incident handlers are responsible for executing the checklist. Which of the following best describes the process for evidence collection assurance?

- A. Time stamp
- B. Chain of custody
- C. Admissibility
- D. Legal hold

Answer: B

Explanation:

Chain of custody is a process that documents the chronological and logical sequence of custody, control, transfer, analysis, and disposition of materials, including physical or electronic evidence. Chain of custody is important to ensure the integrity and admissibility of evidence in legal proceedings. Chain of custody can help evidence collection assurance by providing proof that the evidence has been handled properly and has not been tampered with or contaminated.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://www.thoughtco.com/chain-of-custody-4589132>

NEW QUESTION 200

- (Exam Topic 2)

A customer called a company's security team to report that all invoices the customer has received over the last five days from the company appear to have fraudulent banking details. An investigation into the matter reveals the following

- The manager of the accounts payable department is using the same password across multiple external websites and the corporate account
- One of the websites the manager used recently experienced a data breach.
- The manager's corporate email account was successfully accessed in the last five days by an IP address located in a foreign country.

Which of the following attacks has most likely been used to compromise the manager's corporate account?

- A. Remote access Trojan
- B. Brute-force
- C. Dictionary
- D. Credential stuffing
- E. Password spraying

Answer: D

Explanation:

Credential stuffing is a type of attack that involves using stolen or leaked usernames and passwords from one website or service to gain unauthorized access to other websites or services that use the same credentials. It can exploit the common practice of reusing passwords across multiple accounts. It is the most likely attack tha has been used to compromise the manager's corporate account, given that the manager is using the same password across multiple external websites and the corporate account, and one of the websites recently experienced a data breach.

NEW QUESTION 205

- (Exam Topic 2)

A systems administrator is required to enforce MFA for corporate email account access, relying on the possession factor. Which of the following authentication methods should the systems administrator choose? (Select two).

- A. passphrase
- B. Time-based one-time password
- C. Facial recognition
- D. Retina scan
- E. Hardware token
- F. Fingerprints

Answer: BE

Explanation:

Time-based one-time password (TOTP) and hardware token are authentication methods that rely on the possession factor, which means that the user must have a specific device or object in their possession to authenticate. A TOTP is a password that is valid for a short period of time and is generated by an app or a device that the user has. A hardware token is a physical device that displays a code or a password that the user can enter to authenticate. A passphrase (Option A) is a knowledge factor, while facial recognition (Option C), retina scan (Option D), and fingerprints (Option F) are all inherence factors.

https://ptgmedia.pearsoncmg.com/imprint_downloads/pearsonitcertification/bookreg/9780136798675/97801367 <https://www.youtube.com/watch?v=yCJyPPvM-xg>

NEW QUESTION 208

- (Exam Topic 2)

Which of the following can be used to calculate the total loss expected per year due to a threat targeting an asset?

- A. EF x asset value
- B. ALE / SLE
- C. MTBF x impact
- D. SLE x ARO

Answer: D

Explanation:

The total loss expected per year due to a threat targeting an asset can be calculated using the Single Loss Expectancy (SLE) multiplied by the Annualized Rate of Occurrence (ARO). SLE is the monetary loss expected from a single event, while ARO is the estimated frequency of that event occurring in a year. Reference: CompTIA Security+ Study Guide: Exam SY0-501, 7th Edition, by Emmett Dulaney and Chuck Easttom, Chapter 9: Risk Management, page 414.

NEW QUESTION 212

- (Exam Topic 2)

A penetration tester was able to compromise a host using previously captured network traffic. Which of the following is the result of this action?

- A. Integer overflow
- B. Race condition
- C. Memory leak
- D. Replay attack

Answer: D

Explanation:

A replay attack is a form of network attack in which valid data transmission is maliciously or fraudulently repeated or delayed¹². This can allow an attacker to compromise a host by resending a previously captured message, such as a password or a session token, that looks legitimate to the receiver¹. A replay attack can be prevented by using methods such as random session keys, timestamps, or one-time passwords that expire after use¹². A replay attack is different from an integer overflow, which is a type of software vulnerability that occurs when an arithmetic operation attempts to create a numeric value that is too large to be represented within the available storage space³. A race condition is another type of software vulnerability that occurs when multiple processes access and manipulate the same data concurrently, and the outcome depends on the order of execution³. A memory leak is a type of software defect that occurs when a program fails to release memory that is no longer needed, causing the program to consume more memory than necessary and potentially affecting the performance or stability of the system³.

NEW QUESTION 215

- (Exam Topic 2)

A web server log contains two million lines. A security analyst wants to obtain the next 500 lines starting from line 4,600. Which of the following commands will help the security analyst to achieve this objective?

- A. cat webserver.log | head -4600 | tail +500 |
- B. cat webserver.log | tail -1995400 | tail -500 |
- C. cat webserver.log | tail -4600 | head -500 |
- D. cat webserver.log | head -5100 | tail -500 |

Answer: D

Explanation:

the cat command displays the contents of a file, the head command displays the first lines of a file, and the tail command displays the last lines of a file. To display a specific number of lines from a file, you can use a minus sign followed by a number as an option for head or tail. For example, head -10 will display the first 10 lines of a file.

To obtain the next 500 lines starting from line 4,600, you need to use both head and tail commands. <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/file-manipulation-tools/>

NEW QUESTION 219

- (Exam Topic 2)

A company is moving its retail website to a public cloud provider. The company wants to tokenize audit card data but not allow the cloud provider to see the stored credit card information. Which of the following would BEST meet these objectives?

- A. WAF
- B. CASB
- C. VPN
- D. TLS

Answer: B

Explanation:

CASB stands for cloud access security broker, which is a software tool or service that acts as an intermediary between users and cloud service providers. CASB can help protect data stored in cloud services by enforcing security policies and controls such as encryption, tokenization, authentication, authorization, logging, auditing, and threat detection. Tokenization is a process that replaces sensitive data with non-sensitive substitutes called tokens that have no intrinsic value. Tokenization can help prevent data leakage by ensuring that only authorized users can access the original data using a tokenization system.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://www.cisco.com/c/en/us/products/security/what>

NEW QUESTION 220

- (Exam Topic 2)

A company's help desk received several AV alerts indicating Mimikatz attempted to run on the remote systems Several users also reported that the new company flash drives they picked up in the break room only have 512KB of storage Which of the following is most likely the cause?

- A. The GPO prevents the use of flash drives, which triggers a false positive AV indication and restricts the drives to only 512KB of storage
- B. The new flash drives need a driver that is being blocked by the AV software because the flash drives are not on the application's allow list, temporarily restricting the drives to 512KB of storage.
- C. The new flash drives are incorrectly partitioned, and the systems are automatically trying to use an unapproved application to repartition the drives.
- D. The GPO blocking the flash drives is being bypassed by a malicious flash drive that is attempting to harvest plaintext credentials from memory.

Answer: D

Explanation:

Mimikatz is a tool that can extract plaintext credentials from memory on Windows systems. A malicious flash drive can bypass the GPO blocking the flash drives by using techniques such as autorun.inf or HID spoofing to execute Mimikatz on the target system without user interaction or consent. This can cause AV alerts indicating Mimikatz attempted to run on the remote systems and also reduce the storage capacity of the flash drives to only 512KB by creating hidden partitions or files on them.

NEW QUESTION 221

- (Exam Topic 2)

Which Of the following will provide the best physical security countermeasures to Stop intruders? (Select two).

- A. Alarm
- B. Signage
- C. Lighting
- D. Access control vestibules
- E. Fencing
- F. Sensors

Answer: CE

Explanation:

Lighting and fencing are physical security countermeasures that can deter or stop intruders from accessing a facility or an asset. Lighting can increase visibility and reduce hiding spots for intruders, while fencing can create a physical barrier and limit access points for intruders.

NEW QUESTION 224

- (Exam Topic 2)

A company recently implemented a patch management policy; however, vulnerability scanners have still been flagging several hosts, even after the completion of the patch process. Which of the following is the most likely cause of the issue?

- A. The vendor firmware lacks support.
- B. Zero-day vulnerabilities are being discovered.
- C. Third-party applications are not being patched.
- D. Code development is being outsourced.

Answer: C

Explanation:

Third-party applications are applications that are developed and provided by external vendors or sources, rather than by the organization itself. Third-party applications may introduce security risks if they are not properly vetted, configured, or updated. One of the most likely causes of vulnerability scanners flagging several hosts after the completion of the patch process is that third-party applications are not being patched. Patching is the process of applying updates or fixes to software to address bugs, vulnerabilities, or performance issues. Patching third-party applications is essential for maintaining their security and functionality, as well as preventing attackers from exploiting known flaws.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://www.csoonline.com/article/2124681/why-third-party-security-is-your-security.html>

NEW QUESTION 226

- (Exam Topic 2)

A security administrator needs to block a TCP connection using the corporate firewall, Because this connection is potentially a threat. the administrator not want to back an RST Which of the following actions in rule would work best?

- A. Drop
- B. Reject
- C. Log alert
- D. Permit

Answer: A

Explanation:

the difference between drop and reject in firewall is that the drop target sends nothing to the source, while the reject target sends a reject response to the source. This can affect how the source handles the connection attempt and how fast the port scanning is. In this context, a human might say that the best action to block a TCP connection using the corporate firewall is A. Drop, because it does not send back an RST packet and it may slow down the port scanning and protect against DoS attacks.

NEW QUESTION 231

- (Exam Topic 2)

A security analyst received the following requirements for the deployment of a security camera solution:

- * The cameras must be viewable by the on-site security guards.
- + The cameras must be able to communicate with the video storage server.
- * The cameras must have the time synchronized automatically.
- * The cameras must not be reachable directly via the internet.
- * The servers for the cameras and video storage must be available for remote maintenance via the company VPN.

Which of the following should the security analyst recommend to securely meet the remote connectivity requirements?

- A. Creating firewall rules that prevent outgoing traffic from the subnet the servers and cameras reside on
- B. Deploying a jump server that is accessible via the internal network that can communicate with the servers
- C. Disabling all unused ports on the switch that the cameras are plugged into and enabling MAC filtering
- D. Implementing a WAF to allow traffic from the local NTP server to the camera server

Answer: B

Explanation:

A jump server is a system that is used to manage and access systems in a separate security zone. It acts as a bridge between two different security zones and provides a controlled and secure way of accessing systems between them¹². A jump server can also be used for auditing traffic and user activity for real-time surveillance³. By deploying a jump server that is accessible via the internal network, the security analyst can securely meet the remote connectivity requirements for the servers and cameras without exposing them directly to the internet or allowing outgoing traffic from their subnet. The other options are not suitable because:

- A. Creating firewall rules that prevent outgoing traffic from the subnet the servers and cameras reside on would not allow remote maintenance via the company VPN.
- C. Disabling all unused ports on the switch that the cameras are plugged into and enabling MAC filtering would not prevent direct internet access to the cameras or servers.
- D. Implementing a WAF to allow traffic from the local NTP server to the camera server would not address the remote connectivity requirements or protect the servers from internet access.

References:

1: <https://www.thesecuritybuddy.com/network-security/what-is-a-jump-server/> 3:
<https://www.ssh.com/academy/iam/jump-server> 2: https://en.wikipedia.org/wiki/Jump_server

NEW QUESTION 234

- (Exam Topic 2)

During a recent cybersecurity audit, the auditors pointed out various types of vulnerabilities in the production area. The production area hardware runs applications that are critical to production. Which of the following describes what the company should do first to lower the risk to the Production the hardware.

- A. Back up the hardware.
- B. Apply patches.
- C. Install an antivirus solution.
- D. Add a banner page to the hardware.

Answer: B

Explanation:

Applying patches is the first step to lower the risk to the production hardware, as patches are updates that fix vulnerabilities or bugs in the software or firmware. Patches can prevent attackers from exploiting known vulnerabilities and compromising the production hardware. Applying patches should be done regularly and in a timely manner, following a patch management policy and process. References: 1

CompTIA Security+

Certification Exam Objectives, page 9, Domain 2.0: Architecture and Design, Objective 2.3: Summarize secure application development, deployment, and automation concepts 2

CompTIA Security+ Certification

Exam Objectives, page 10, Domain 2.0: Architecture and Design, Objective 2.4: Explain the importance of embedded and specialized systems security 3 <https://www.comptia.org/blog/patch-management-best-practices>

NEW QUESTION 238

- (Exam Topic 2)

A research company discovered that an unauthorized piece of software has been detected on a small number of machines in its lab. The researchers collaborate with other machines using port 445 and on the internet using port 443. The unauthorized software is starting to be seen on additional machines outside of the lab and is making outbound communications using HTTPS and SMS. The security team has been instructed to resolve the issue as quickly as possible while causing minimal disruption to the researchers. Which of the following is the best course of action in this scenario?

- A. Update the host firewalls to block outbound traffic.
- B. Place the machines with the unapproved software in containment.
- C. Place the unauthorized application in a Blocklist.
- D. Implement a content filter to block the unauthorized software communication.

Answer: B

Explanation:

Containment is an incident response strategy that aims to isolate and prevent the spread of an attack or compromise within a network or system. It can resolve the issue of unauthorized software detected on a small number of machines in a lab as quickly as possible while causing minimal disruption to the researchers by stopping the software from communicating with external sources using HTTPS and SMS and preventing it from infecting additional machines outside of the lab.

NEW QUESTION 242

- (Exam Topic 2)

During a recent security assessment, a vulnerability was found in a common OS. The OS vendor was unaware of the issue and promised to release a patch within the next quarter. Which of the following best describes this type of vulnerability?

- A. Legacy operating system
- B. Weak configuration
- C. Zero day
- D. Supply chain

Answer: C

Explanation:

A zero-day vulnerability is a security flaw that is unknown to the vendor and the public, and therefore has no patch or fix available. A zero-day attack is an exploit that takes advantage of a zero-day vulnerability before the vendor or the security community becomes aware of it. A zero-day attack can cause serious damage to a system or network, as there is no defense against it until a patch is released. References:

- <https://resources.infosecinstitute.com/certification/security-domain-1-threats-attacks-and-vulnerabilities/>
- <https://www.professormesser.com/security-plus/sy0-501/zero-day-attacks-4/>

NEW QUESTION 245

- (Exam Topic 2)

While performing a threat-hunting exercise, a security analyst sees some unusual behavior occurring in an application when a user changes the display name. The security analyst decides to perform a static code analysis and receives the following pseudocode:

```
function change.display.name
set variable $displayname [8]
print "Enter a new display name:"
getstring ($displayname)
goto function exit.display.name.setting
```

Which of the following attack types best describes the root cause of the unusual behavior?

- A. Server-side request forgery
- B. Improper error handling
- C. Buffer overflow
- D. SQL injection

Answer: D

Explanation:

SQL injection is one of the most common web hacking techniques. SQL injection is the placement of malicious code in SQL statements, via web page input¹². A SQL injection attack consists of insertion or “injection” of a SQL query via the input data from the client to the application. A successful SQL injection exploit can read sensitive data from the database, modify database data (Insert/Update/Delete), execute administration operations on the database (such as shutdown the DBMS), recover the content of a given file present on the DBMS file system and in some cases issue commands to the operating system³.

According to the pseudocode given in the question, the application takes a user input for display name and concatenates it with a SQL query to update the user’s profile. This is a vulnerable practice that allows an attacker to inject malicious SQL code into the query and execute it on the database. For example, an attacker could enter something like this as their display name:

John'; DROP TABLE users; -

This would result in the following SQL query being executed:

UPDATE profile SET displayname = 'John'; DROP TABLE users; --' WHERE userid = 1;

The semicolon (;) terminates the original update statement and starts a new one that drops the users table. The double dash (–) comments out the rest of the query. This would cause a catastrophic loss of data for the application.

NEW QUESTION 247

- (Exam Topic 2)

Which of the following roles is responsible for defining the protection type and Classification type for a given set of files?

- A. General counsel
- B. Data owner
- C. Risk manager
- D. Chief Information Officer

Answer: B

Explanation:

Data owner is the role that is responsible for defining the protection type and classification type for a given set of files. Data owner is a person in the organization who is accountable for a certain set of data and determines how it should be protected and classified. General counsel is the role that provides legal advice and guidance to the organization. Risk manager is the role that identifies, analyzes, and mitigates risks to the organization. Chief Information Officer is the role that oversees the information technology strategy and operations of the organization

<https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/data-roles-and-responsibilities/>

NEW QUESTION 252

- (Exam Topic 2)

Given the following snippet of Python code:

Which of the following types of malware MOST likely contains this snippet?

```
#!/usr/bin/env python3
import logging
from pynput.keyboard import Key, Listener
logging.basicConfig(filename="output.txt", level=logging.DEBUG, format="%(asctime)s - %(message)s")
def on_press(key):
    logging.info(str(key))
with Listener(on_press=on_press) as listener:
    listener.join()
```

- A. Logic bomb
- B. Keylogger
- C. Backdoor
- D. Ransomware

Answer: A

Explanation:

A logic bomb is a type of malware that executes malicious code when certain conditions are met. A logic bomb can be triggered by various events, such as a specific date or time, a user action, a system configuration change, or a command from an attacker. A logic bomb can perform various malicious actions, such as deleting files, encrypting data, displaying messages, or launching other malware.

The snippet of Python code shows a logic bomb that executes a function called delete_all_files() when the current date is December 25th. The code uses the

datetime module to get the current date and compare it with a predefined date object. If the condition is true, the code calls the delete_all_files() function, which presumably deletes all files on the system.

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

NEW QUESTION 253

- (Exam Topic 2)

A Chief Information Security Officer (CISO) wants to implement a new solution that can protect against certain categories of websites, whether the employee is in the office or away. Which of the following solutions should the CISO implement?

- A. VAF
- B. SWG
- C. VPN
- D. WDS

Answer: B

Explanation:

A secure web gateway (SWG) is a solution that can filter and block malicious or inappropriate web traffic based on predefined policies. It can protect users from web-based threats, such as malware, phishing, or ransomware, whether they are in the office or away. An SWG can be deployed as a hardware appliance, a software application, or a cloud service. References:

<https://www.comptia.org/content/guides/what-is-a-secure-web-gateway>

NEW QUESTION 258

- (Exam Topic 2)

Which of the following social engineering attacks best describes an email that is primarily intended to mislead recipients into forwarding the email to others?

- A. Hoaxing
- B. Pharming
- C. Watering-hole
- D. Phishing

Answer: A

Explanation:

Hoaxing is a type of social engineering attack that involves sending false or misleading information via email or other means to trick recipients into believing something that is not true. Hoaxing emails often contain a request or an incentive for the recipients to forward the email to others, such as a warning of a virus, a promise of a reward, or a petition for a cause. The goal of hoaxing is to spread misinformation, cause panic, waste resources, or damage reputations.

A hoaxing email is primarily intended to mislead recipients into forwarding the email to others, which can increase the reach and impact of the hoax.

NEW QUESTION 259

- (Exam Topic 2)

A network administrator needs to determine the sequence of a server farm's logs. Which of the following should the administrator consider? (Select TWO).

- A. Chain of custody
- B. Tags
- C. Reports
- D. Time stamps
- E. Hash values
- F. Time offset

Answer: DF

Explanation:

A server farm's logs are records of events that occur on a group of servers that provide the same service or function. Logs can contain information such as date, time, source, destination, message, error code, and severity level. Logs can help administrators monitor the performance, security, and availability of the servers and troubleshoot any issues.

To determine the sequence of a server farm's logs, the administrator should consider the following factors:

➤ Time stamps: Time stamps are indicators of when an event occurred on a server. Time stamps can help administrators sort and correlate events across different servers based on chronological order. However, time stamps alone may not be sufficient to determine the sequence of events if the servers have different time zones or clock settings.

➤ Time offset: Time offset is the difference between the local time of a server and a reference time, such as Coordinated Universal Time (UTC) or Greenwich Mean Time (GMT). Time offset can help administrators adjust and synchronize the time stamps of different servers to a common reference time and eliminate any discrepancies caused by time zones or clock settings.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>
<https://docs.microsoft.com/en-us/windows-server/administration/server-manager/view-event-logs>

NEW QUESTION 264

- (Exam Topic 2)

Which of the following types of controls is a turnstile?

- A. Physical
- B. Detective
- C. Corrective
- D. Technical

Answer: A

Explanation:

A turnstile is a physical security control that regulates the entry and exit of people into a facility or an area. It can prevent unauthorized access, tailgating, etc., by requiring valid credentials or tokens to pass through

NEW QUESTION 268

- (Exam Topic 2)

A security engineer obtained the following output from a threat intelligence source that recently performed an attack on the company's server:

```
GET index.php?page=../../../../../../../../../../../../etc2fpasswd
GET index.php?page=../../../../../../../../../../../../etc2fpasswd
GET index.php?page=../../../../../../../../../../../../etc2fpasswd
```

Which of the following best describes this kind of attack?

- A. Directory traversal
- B. SQL injection
- C. API
- D. Request forgery

Answer: A

Explanation:

Directory traversal is a type of web application attack that involves exploiting a vulnerability in the web server or application to access files or directories that are outside the intended scope or root directory. It can allow an attacker to read, modify, or execute files on the target system by using special characters such as `../` or `%2e%2e/` to manipulate the path or URL. In this case, the attacker used `../` to access the `/etc/passwd` file, which contains user account information on Linux systems.

NEW QUESTION 273

- (Exam Topic 2)

A company wants the ability to restrict web access and monitor the websites that employees visit, Which Of the following would best meet these requirements?

- A. Internet Proxy
- B. VPN
- C. WAF
- D. Firewall

Answer: A

Explanation:

An internet proxy is a server that acts as an intermediary between a client and a destination server on the internet. It can restrict web access and monitor the websites that employees visit by filtering the requests and responses based on predefined rules and policies, and logging the traffic and activities for auditing purposes

NEW QUESTION 278

- (Exam Topic 2)

A network penetration tester has successfully gained access to a target machine. Which of the following should the penetration tester do next?

- A. Clear the log files of all evidence
- B. Move laterally to another machine.
- C. Establish persistence for future use.
- D. Exploit a zero-day vulnerability.

Answer: C

Explanation:

Establishing persistence for future use is the next step that a network penetration tester should do after gaining access to a target machine. Persistence means creating a backdoor or a covert channel that allows the penetration tester to maintain access to the target machine even if the initial exploit is patched or the connection is lost. Persistence can be achieved by installing malware, creating hidden user accounts, modifying registry keys, or setting up remote access tools. Establishing persistence can help the penetration tester to perform further reconnaissance, move laterally to other machines, or exfiltrate data from the target network.

NEW QUESTION 281

- (Exam Topic 2)

A security administrator Installed a new web server. The administrator did this to Increase the capacity (or an application due to resource exhaustion on another server. Which o(the following algorithms should the administrator use to split the number of the connections on each server In half?

- A. Weighted response
- B. Round-robin
- C. Least connection
- D. Weighted least connection

Answer: B

Explanation:

The administrator should use a round-robin algorithm to split the number of connections on each server in half. Round-robin is a load-balancing algorithm that distributes incoming requests to the available servers one by one in a cyclical order. This helps to evenly distribute the load across all of the servers, ensuring that no single server is overloaded.

NEW QUESTION 286

- (Exam Topic 2)

Which of the following supplies non-repudiation during a forensics investigation?

- A. Dumping volatile memory contents first
- B. Duplicating a drive with dd
- C. Using a SHA-2 signature of a drive image
- D. Logging everyone in contact with evidence
- E. Encrypting sensitive data

Answer: C

Explanation:

Using a SHA-2 signature of a drive image is a way to supply non-repudiation during a forensics investigation, as it can verify the integrity and authenticity of the data captured in the image. SHA-2 is a family of secure hash algorithms that can produce a unique and fixed-length digest of any input data. By hashing the drive image and comparing the signature with the original hash, the investigator can prove that the image has not been altered or tampered with since the time of acquisition. This can also help to identify the source of the data and prevent any denial from the suspect. References:

- > <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/managing-evidence/>
- > <https://www.skillssoft.com/course/comptia-security-incident-response-digital-forensics-supporting-investigations>

NEW QUESTION 291

- (Exam Topic 2)

An organization is building a new headquarters and has placed fake cameras around the building in an attempt to discourage potential intruders. Which of the following kinds of controls describes this security method?

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

Answer: B

Explanation:

A deterrent control is a type of security control that is designed to discourage potential intruders from attempting to access or harm a system or network. A deterrent control relies on the perception or fear of negative consequences rather than the actual enforcement of those consequences. A deterrent control can also be used to influence the behavior of authorized users by reminding them of their obligations and responsibilities. An example of a deterrent control is placing fake cameras around the building, as it can create the illusion of surveillance and deter potential intruders from trying to break in. Other examples of deterrent controls are warning signs, security guards, or audit trails. References:

- > <https://www.ibm.com/topics/security-controls>
- > <https://www.f5.com/labs/learning-center/what-are-security-controls>

NEW QUESTION 296

- (Exam Topic 2)

A cybersecurity analyst needs to adopt controls to properly track and log user actions to an individual. Which of the following should the analyst implement?

- A. Non-repudiation
- B. Baseline configurations
- C. MFA
- D. DLP

Answer: A

Explanation:

Non-repudiation is the process of ensuring that a party involved in a transaction or communication cannot deny their involvement. By implementing non-repudiation controls, a cybersecurity analyst can properly track and log user actions, attributing them to a specific individual. This can be achieved through methods such as digital signatures, timestamps, and secure logging mechanisms.

References:

- * 1. CompTIA Security+ Certification Exam Objectives (SY0-601): <https://www.comptia.jp/pdf/CompTIA%20Security%2B%20SY0-601%20Exam%20Objectives.pdf>
- * 2. Stewart, J. M., Chapple, M., & Gibson, D. (2021). CompTIA Security+ Study Guide: Exam SY0-601. John Wiley & Sons.

NEW QUESTION 299

- (Exam Topic 2)

A security team is engaging a third-party vendor to do a penetration test of a new proprietary application prior to its release. Which of the following documents would the third-party vendor most likely be required to review and sign?

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

Answer: B

Explanation:

NDA stands for Non-Disclosure Agreement, which is a legal contract that binds the parties to keep confidential information secret and not to disclose it to unauthorized parties. A third-party vendor who is doing a penetration test of a new proprietary application would most likely be required to review and sign an NDA to protect the intellectual property and trade secrets of the security team.

NEW QUESTION 304

- (Exam Topic 2) A

candidate attempts to go to but accidentally visits <http://comptia.org>. The malicious website looks exactly like the legitimate website. Which of the following best describes this type of attack?

- A. Reconnaissance
- B. Impersonation
- C. Typosquatting
- D. Watering-hole

Answer: C

Explanation:

Typosquatting is a type of cyberattack that involves registering domains with deliberately misspelled names of well-known websites. The attackers do this to lure unsuspecting visitors to alternative websites, typically for malicious purposes. Visitors may end up at these alternative websites by inadvertently mistyping the name of popular websites into their web browser or by being lured by a phishing scam. The attackers may emulate the look and feel of the legitimate websites and trick users into entering sensitive information or downloading malware.

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

NEW QUESTION 308

- (Exam Topic 2)

An attacker is targeting a company. The attacker notices that the company's employees frequently access a particular website. The attacker decides to infect the website with malware and hopes the employees' devices will also become infected. Which of the following techniques is the attacker using?

- A. Watering-hole attack
- B. Pretexting
- C. Typosquatting
- D. Impersonation

Answer: A

Explanation:

a watering hole attack is a form of cyberattack that targets a specific group of users by infecting websites that they commonly visit¹²³. The attacker seeks to compromise the user's computer and gain access to the network at the user's workplace or personal data¹²³. The attacker observes the websites often visited by the victim or the group and infects those sites with malware¹⁴. The attacker may also lure the user to a malicious site⁴. A watering hole attack is difficult to diagnose and poses a significant threat to websites and users².

NEW QUESTION 312

- (Exam Topic 2)

A security administrator needs to add fault tolerance and load balancing to the connection from the file server to the backup storage. Which of the following is the best choice to achieve this objective?

- A. Multipathing
- B. RAID
- C. Segmentation
- D. 8021.1

Answer: A

Explanation:

to achieve the objective of adding fault tolerance and load balancing to the connection from the file server to the backup storage is multipath^{in1g}. Multipathing is a technique that allows a system to use more than one path to access a storage device¹. This can improve performance by distributing the workload across multiple paths, and also provide fault tolerance by switching to an alternative path if one path fails¹. Multipathing can be implemented using software or hardware solutions¹.

NEW QUESTION 313

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