



CompTIA

Exam Questions CAS-004

CompTIA Advanced Security Practitioner (CASP+) Exam

NEW QUESTION 1

Ann, a CIRT member, is conducting incident response activities on a network that consists of several hundred virtual servers and thousands of endpoints and users. The network generates more than 10,000 log messages per second. The enterprise belong to a large, web-based cryptocurrency startup, Ann has distilled the relevant information into an easily digestible report for executive management . However, she still needs to collect evidence of the intrusion that caused the incident. Which of the following should Ann use to gather the required information?

- A. Traffic interceptor log analysis
- B. Log reduction and visualization tools
- C. Proof of work analysis
- D. Ledger analysis software

Answer: B

NEW QUESTION 2

A company recently acquired a SaaS provider and needs to integrate its platform into the company's existing infrastructure without impact to the customer's experience. The SaaS provider does not have a mature security program A recent vulnerability scan of the SaaS provider's systems shows multiple critical vulnerabilities attributed to very old and outdated Oss. Which of the following solutions would prevent these vulnerabilities from being introduced into the company's existing infrastructure?

- A. Segment the systems to reduce the attack surface if an attack occurs
- B. Migrate the services to new systems with a supported and patched OS.
- C. Patch the systems to the latest versions of the existing OSs
- D. Install anti-malwar
- E. HIPS, and host-based firewalls on each of the systems

Answer: B

NEW QUESTION 3

A large telecommunications equipment manufacturer needs to evaluate the strengths of security controls in a new telephone network supporting first responders. Which of the following techniques would the company use to evaluate data confidentiality controls?

- A. Eavesdropping
- B. On-path
- C. Cryptanalysis
- D. Code signing
- E. RF sidelobe sniffing

Answer: A

NEW QUESTION 4

A company's employees are not permitted to access company systems while traveling internationally. The company email system is configured to block logins based on geographic location, but some employees report their mobile phones continue to sync email traveling . Which of the following is the MOST likely explanation? (Select TWO.)

- A. Outdated escalation attack
- B. Privilege escalation attack
- C. VPN on the mobile device
- D. Unrestricted email administrator accounts
- E. Chief use of UDP protocols
- F. Disabled GPS on mobile devices

Answer: CF

NEW QUESTION 5

A new requirement for legislators has forced a government security team to develop a validation process to verify the integrity of a downloaded file and the sender of the file Which of the following is the BEST way for the security team to comply with this requirement?

- A. Digital signature
- B. Message hash
- C. Message digest
- D. Message authentication code

Answer: A

Explanation:

A digital signature is a cryptographic technique that allows the sender of a file to sign it with their private key and the receiver to verify it with the sender's public key. This ensures the integrity and authenticity of the file, as well as the non-repudiation of the sender. A message hash or a message digest is a one-way function that produces a fixed- length output from an input, but it does not provide any information about the sender. A message authentication code (MAC) is a symmetric-key technique that allows both the sender and the receiver to generate and verify a code using a shared secret key, but it does not provide non-repudiation. References: [CompTIA Advanced Security Practitioner (CASP+) Certification Exam Objectives], Domain 2: Enterprise Security Architecture, Objective 2.1: Apply cryptographic techniques

NEW QUESTION 6

Which of the following BEST sets expectation between the security team and business units within an organization?

- A. Risk assessment

- B. Memorandum of understanding
- C. Business impact analysis
- D. Business partnership agreement
- E. Services level agreement

Answer: E

Explanation:

A service level agreement (SLA) is the best option to set expectations between the security team and business units within an organization. An SLA is a document that defines the scope, quality, roles, responsibilities, and metrics of a service provided by one party to another. An SLA can help align the security team's objectives and activities with the business units' needs and expectations, as well as establish accountability and communication channels. Verified References: <https://www.comptia.org/training/books/casp-cas-004-study-guide> , <https://searchitchannel.techtarget.com/definition/service-level-agreement>

NEW QUESTION 7

An enterprise is undergoing an audit to review change management activities when promoting code to production. The audit reveals the following:

- Some developers can directly publish code to the production environment.
- Static code reviews are performed adequately.
- Vulnerability scanning occurs on a regularly scheduled basis per policy.

Which of the following should be noted as a recommendation within the audit report?

- A. Implement short maintenance windows.
- B. Perform periodic account reviews.
- C. Implement job rotation.
- D. Improve separation of duties.

Answer: D

NEW QUESTION 8

An organization's existing infrastructure includes site-to-site VPNs between datacenters. In the past year, a sophisticated attacker exploited a zero-day vulnerability on the VPN concentrator. Consequently, the Chief Information Security Officer (CISO) is making infrastructure changes to mitigate the risk of service loss should another zero-day exploit be used against the VPN solution.

Which of the following designs would be BEST for the CISO to use?

- A. Adding a second redundant layer of alternate vendor VPN concentrators
- B. Using Base64 encoding within the existing site-to-site VPN connections
- C. Distributing security resources across VPN sites
- D. Implementing IDS services with each VPN concentrator
- E. Transitioning to a container-based architecture for site-based services

Answer: A

Explanation:

If on VPN concentrator goes down due to a zero day threat, having a redundant VPN concentrator of a different vendor should keep you going.

NEW QUESTION 9

A company processes data subject to NDAs with partners that define the processing and storage constraints for the covered data. The agreements currently do not permit moving the covered data to the cloud, and the company would like to renegotiate the terms of the agreements.

Which of the following would MOST likely help the company gain consensus to move the data to the cloud?

- A. Designing data protection schemes to mitigate the risk of loss due to multitenancy
- B. Implementing redundant stores and services across diverse CSPs for high availability
- C. Emulating OS and hardware architectures to blur operations from CSP view
- D. Purchasing managed FIM services to alert on detected modifications to covered data

Answer: A

NEW QUESTION 10

Users are claiming that a web server is not accessible. A security engineer logs for the site. The engineer connects to the server and runs netstat -an and receives the following output:

```
TCP    192.168.5.107:54585    64.78.243.12:443    ESTABLISHED
TCP    192.168.5.107:54587    54.164.78.234:80    ESTABLISHED
TCP    192.168.5.107:54636    104.16.33.27:5228    ESTABLISHED
TCP    192.168.5.107:54676    69.65.64.94:443    ESTABLISHED
TCP    192.168.5.107:54689    91.190.130.171:443    TIME_WAIT
TCP    192.168.5.107:54775    91.190.130.171:443    FIN_WAIT_2
TCP    192.168.5.107:54789    91.190.130.171:443    ESTABLISHED
TCP    192.168.5.107:55983    79.136.88.109:31802    ESTABLISHED
TCP    192.168.5.107:56234    50.112.252.181:443    TIME_WAIT
TCP    192.168.5.107:56874    40.117.100.83:443    ESTABLISHED
TCP    192.168.5.107:00      213.37.55.67:600873    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600874    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600875    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600876    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600877    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600878    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600879    TIME_WAIT
TCP    192.168.5.107:00      213.37.55.67:600880    TIME_WAIT
```

Which of the following is MOST likely happening to the server?

- A. Port scanning
- B. ARP spoofing
- C. Buffer overflow
- D. Denial of service

Answer: D

Explanation:

A denial of service (DoS) attack is a malicious attempt to disrupt the normal functioning of a server by overwhelming it with requests or traffic¹. One possible indicator of a DoS attack is a large number of connections from a single source IP address¹. In this case, the output of netstat -an shows that there are many connections from 213.37.55.67 with different port numbers and in TIME WAIT state²³. This suggests that the attacker is sending many SYN packets to initiate connections but not completing them, thus exhausting the server's resources and preventing legitimate users from accessing it¹.

NEW QUESTION 10

A Chief Information Officer (CIO) wants to implement a cloud solution that will satisfy the following requirements:

Support all phases of the SDLC. Use tailored website portal software.

Allow the company to build and use its own gateway software. Utilize its own data management platform.

Continue using agent-based security tools.

Which of the following cloud-computing models should the CIO implement?

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

Answer: D

Explanation:

Reference: <https://www.bmc.com/blogs/saas-vs-paas-vs-iaas-whats-the-difference-and-how-to-choose/>

NEW QUESTION 13

The Chief Information Security Officer is concerned about the possibility of employees downloading 'malicious files from the internet and 'opening them on corporate workstations. Which of the following solutions would be BEST to reduce this risk?

- A. Integrate the web proxy with threat intelligence feeds.
- B. Scan all downloads using an antivirus engine on the web proxy.
- C. Block known malware sites on the web proxy.
- D. Execute the files in the sandbox on the web proxy.

Answer: D

Explanation:

Executing the files in the sandbox on the web proxy is the best solution to reduce the risk of employees downloading and opening malicious files from the internet. A sandbox is a secure and isolated environment that can run untrusted or potentially harmful code without affecting the rest of the system. By executing the files in the sandbox, the web proxy can analyze their behavior and detect any malicious activity before allowing them to reach the corporate workstations.

References: [CompTIA CASP+ Study Guide, Second Edition, page 273]

NEW QUESTION 14

A security analyst is reviewing network connectivity on a Linux workstation and examining the active TCP connections using the command line.

Which of the following commands would be the BEST to run to view only active Internet connections?

- A. sudo netstat -antu | grep "LISTEN" | awk '{print\$5}'
- B. sudo netstat -nlt -p | grep "ESTABLISHED"
- C. sudo netstat -plntu | grep -v "Foreign Address"
- D. sudo netstat -pnut -w | column -t -s '\$\w'
- E. sudo netstat -pnut | grep -P ^tcp

Answer: E

Explanation:

Reference: <https://www.codegrepper.com/code-examples/shell/netstat+find+port>

The netstat command is a tool that displays network connections, routing tables, interface statistics, masquerade connections, and multicast memberships. The command has various options that can modify its output. The options used in the correct answer are:

p: Show the PID and name of the program to which each socket belongs.

n: Show numerical addresses instead of trying to determine symbolic host, port or user names.

u: Show only UDP connections. t: Show only TCP connections.

The grep command is a tool that searches for a pattern in a file or input. The option used in the correct answer is:

P: Interpret the pattern as a Perl-compatible regular expression (PCRE).

The pattern used in the correct answer is ^tcp, which means any line that starts with tcp. This will filter out any UDP connections from the output.

The sudo command is a tool that allows a user to run programs with the security privileges of another user (usually the superuser or root). This is necessary to run the netstat command with the -p option, which requires root privileges.

The correct answer will show only active TCP connections with numerical addresses and program names, which can be considered as active Internet connections.

The other answers will either show different types of connections (such as listening or local), use different options that are not relevant (such as -a, -l, -w, or -s), or use different commands that are not useful (such as awk or column). References: <https://man7.org/linux/man-pages/man8/netstat.8.html>

<https://man7.org/linux/man-pages/man1/grep.1.html> <https://man7.org/linux/man-pages/man8/sudo.8.html>

NEW QUESTION 19

A company just released a new video card. Due to limited supply and high demand, attackers are employing automated systems to purchase the device through the company's web store so they can resell it on the secondary market. The company's intended customers are frustrated. A security engineer suggests implementing a CAPTCHA system on the web store to help reduce the number of video cards purchased through automated systems. Which of the following now describes the level of risk?

- A. Inherent Low
- B. Mitigated
- C. Residual
- D. Transferred

Answer: A

NEW QUESTION 24

A networking team was asked to provide secure remote access to all company employees. The team decided to use client-to-site VPN as a solution. During a discussion, the Chief Information Security Officer raised a security concern and asked the networking team to route the Internet traffic of remote users through the main office infrastructure. Doing this would prevent remote users from accessing the Internet through their local networks while connected to the VPN. Which of the following solutions does this describe?

- A. Full tunneling
- B. Asymmetric routing
- C. SSH tunneling
- D. Split tunneling

Answer: A

Explanation:

The concern is users operating in a split tunnel config which is what is being described. Using a Full Tunnel would route traffic from all applications through a single tunnel. <https://cybernews.com/what-is-vpn/split-tunneling/>

NEW QUESTION 28

An attacker infiltrated an electricity-generation site and disabled the safety instrumented system. Ransomware was also deployed on the engineering workstation. The environment has back-to-back firewalls separating the corporate and OT systems. Which of the following is the MOST likely security consequence of this attack?

- A. A turbine would overheat and cause physical harm.
- B. The engineers would need to go to the historian.
- C. The SCADA equipment could not be maintained.
- D. Data would be exfiltrated through the data diodes.

Answer: A

NEW QUESTION 29

An organization's assessment of a third-party, non-critical vendor reveals that the vendor does not have cybersecurity insurance and IT staff turnover is high. The organization uses the vendor to move customer office equipment from one service location to another. The vendor acquires customer data and access to the business via an API. Given this information, which of the following is a noted risk?

- A. Feature delay due to extended software development cycles
- B. Financial liability from a vendor data breach
- C. Technical impact to the API configuration
- D. The possibility of the vendor's business ceasing operations

Answer: A

Explanation:

Reference: <https://legal.thomsonreuters.com/en/insights/articles/data-breach-liability>

NEW QUESTION 31

A security engineer estimates the company's popular web application experiences 100 attempted breaches per day. In the past four years, the company's data

has been breached two times.

Which of the following should the engineer report as the ARO for successful breaches?

- A. 0.5
- B. 8
- C. 50
- D. 36,500

Answer: A

Explanation:

Reference: <https://blog.netwrix.com/2020/07/24/annual-loss-expectancy-and-quantitative-risk-analysis/>

The ARO (annualized rate of occurrence) for successful breaches is the number of times an event is expected to occur in a year. To calculate the ARO for successful breaches, the engineer can divide the number of breaches by the number of years. In this case, the company's data has been breached two times in four years, so the ARO is $2 / 4 = 0.5$. The other options are incorrect calculations. Verified References: <https://www.comptia.org/blog/what-is-risk-management>
<https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 33

A security is assisting the marketing department with ensuring the security of the organization's social media platforms. The two main concerns are: The Chief marketing officer (CMO) email is being used department wide as the username The password has been shared within the department Which of the following controls would be BEST for the analyst to recommend?

- A. Configure MFA for all users to decrease their reliance on other authentication.
- B. Have periodic, scheduled reviews to determine which OAuth configuration are set for each media platform.
- C. Create multiple social media accounts for all marketing user to separate their actions.
- D. Ensure the password being shared is sufficiently and not written down anywhere.

Answer: A

Explanation:

Configuring MFA for all users to decrease their reliance on other authentication is the best option to improve email security at the company. MFA stands for multi-factor authentication, which is a method of verifying a user's identity by requiring two or more factors, such as something the user knows (e.g., password), something the user has (e.g., token), or something the user is (e.g., biometric). MFA can prevent unauthorized access to email accounts even if the username or password is compromised or shared. Verified References: <https://www.comptia.org/training/books/casp-cas-004-study-guide> , <https://www.csoonline.com/article/3239144/what-is-mfa-how-multi-factor-authentication-works.html>

NEW QUESTION 37

A software house is developing a new application. The application has the following requirements:
Reduce the number of credential requests as much as possible
Integrate with social networks
Authenticate users
Which of the following is the BEST federation method to use for the application?

- A. WS-Federation
- B. OpenID
- C. OAuth
- D. SAML

Answer: D

Explanation:

Reference: <https://auth0.com/blog/how-saml-authentication-works/>

NEW QUESTION 39

Which of the following allows computation and analysis of data within a ciphertext without knowledge of the plaintext?

- A. Lattice-based cryptography
- B. Quantum computing
- C. Asymmetric cryptography
- D. Homomorphic encryption

Answer: D

Explanation:

Reference: <https://searchsecurity.techtarget.com/definition/cryptanalysis>

Homomorphic encryption is a type of encryption that allows computation and analysis of data within a ciphertext without knowledge of the plaintext. This means that encrypted data can be processed without being decrypted first, which enhances the security and privacy of the data. Homomorphic encryption can enable applications such as secure cloud computing, machine learning, and data analytics. References: <https://www.ibm.com/security/homomorphic-encryption>
<https://www.synopsys.com/blogs/software-security/homomorphic-encryption/>

NEW QUESTION 42

A junior developer is informed about the impact of new malware on an Advanced RISC Machine (ARM) CPU, and the code must be fixed accordingly. Based on the debug, the malware is able to insert itself in another process 'memory location. Which of the following technologies can the developer enable on the ARM architecture to prevent this type of malware?

- A. Execute never
- B. Noexecute
- C. Total memory encryption
- D. Virtual memory protection

Answer: A

Explanation:

Execute never is a technology that can be enabled on the ARM architecture to prevent malware from inserting itself in another process' memory location. Execute never (also known as XN or NX) is a feature that marks certain memory regions as non-executable, meaning that they cannot be used to run code. This prevents malware from exploiting buffer overflows or other memory corruption vulnerabilities to inject malicious code into another process' memory space.

References: [CompTIA CASP+ Study Guide, Second Edition, page 295]

NEW QUESTION 45

A security analyst is reviewing the following vulnerability assessment report:

```
192.168.1.5, Host = Server1, CVS7.5, Web Server, Remotely Executable = Yes, Exploit = Yes
205.1.3.5, Host = Server2, CVS6.5, Bind Server, Remotely Executable = Yes, Exploit = POC
207.1.5.7, Host = Server3, CVS5.5, Email server, Remotely Executable = Yes, Exploit = Yes
192.168.1.6, Host = Server4, CVS9.8, Domain Controller, Remotely Executable = Yes, Exploit = No
```

Which of the following should be patched FIRST to minimize attacks against Internet-facing hosts?

- A. Server1
- B. Server2
- C. Server 3
- D. Servers

Answer: A

NEW QUESTION 50

A security analyst detected a malicious PowerShell attack on a single server. The malware used the Invoke-Expression function to execute an external malicious script. The security analyst scanned the disk with an antivirus application and did not find any IOCs. The security analyst now needs to deploy a protection solution against this type of malware.

Which of the following BEST describes the type of malware the solution should protect against?

- A. Worm
- B. Logic bomb
- C. Fileless
- D. Rootkit

Answer: C

Explanation:

Reference: <https://www.trendmicro.com/vinfo/us/security/news/cybercrime-and-digital-threats/tracking-detecting-and-thwarting-powershell-based-malware-and-attacks>

NEW QUESTION 52

A security engineer is hardening a company's multihomed SFTP server. When scanning a public-facing network interface, the engineer finds the following ports are open:

22
25
110
137
138
139
445

Internal Windows clients are used to transferring files to the server to stage them for customer download as part of the company's distribution process.

Which of the following would be the BEST solution to harden the system?

- A. Close ports 110, 138, and 139. Bind ports 22, 25, and 137 to only the internal interface.
- B. Close ports 25 and 110. Bind ports 137, 138, 139, and 445 to only the internal interface.
- C. Close ports 22 and 139. Bind ports 137, 138, and 445 to only the internal interface.
- D. Close ports 22, 137, and 138. Bind ports 110 and 445 to only the internal interface.

Answer: A

NEW QUESTION 53

A security architect is given the following requirements to secure a rapidly changing enterprise with an increasingly distributed and remote workforce

- Cloud-delivered services
- Full network security stack
- SaaS application security management
- Minimal latency for an optimal user experience
- Integration with the cloud IAM platform Which of the following is the BEST solution?

- A. Routing and Remote Access Service (RRAS)
- B. NGFW
- C. Managed Security Service Provider (MSSP)
- D. SASE

Answer: D

NEW QUESTION 56

The Chief Information Security Officer (CISO) is working with a new company and needs a legal "document to ensure all parties understand their roles during an

assessment. Which of the following should the CISO have each party sign?

- A. SLA
- B. ISA
- C. Permissions and access
- D. Rules of engagement

Answer: D

Explanation:

Rules of engagement are legal documents that should be signed by all parties involved in an assessment to ensure they understand their roles and responsibilities. Rules of engagement define the scope, objectives, methods, deliverables, limitations, and expectations of an assessment project. They also specify the legal and ethical boundaries, communication channels, escalation procedures, and reporting formats for the assessment. Rules of engagement help to avoid misunderstandings, conflicts, or liabilities during or after an assessment.

References: [CompTIA CASP+ Study Guide, Second Edition, page 34]

NEW QUESTION 59

Which of the following is the MOST important security objective when applying cryptography to control messages that tell an ICS how much electrical power to output?

- A. Importing the availability of messages
- B. Ensuring non-repudiation of messages
- C. Enforcing protocol conformance for messages
- D. Assuring the integrity of messages

Answer: D

Explanation:

Assuring the integrity of messages is the most important security objective when applying cryptography to control messages that tell an ICS (industrial control system) how much electrical power to output. Integrity is the security objective that ensures the accuracy and completeness of data or information, preventing unauthorized modifications or tampering. Assuring the integrity of messages can prevent malicious or accidental changes to the control messages that could affect the operation or safety of the ICS or the electrical power output. Importing the availability of messages is not a security objective when applying cryptography, but a security objective that ensures the accessibility and usability of data or information, preventing unauthorized denial or disruption of service.

Ensuring non-repudiation of messages is not a security objective when applying cryptography, but a security objective that ensures the authenticity and accountability of data or information, preventing unauthorized denial or dispute of actions or transactions. Enforcing protocol conformance for messages is not a security objective when applying cryptography, but a security objective that ensures the compliance and consistency of data or information, preventing unauthorized deviations or violations of rules or standards. Verified References: <https://www.comptia.org/blog/what-is-integrity>
<https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 61

A company plans to build an entirely remote workforce that utilizes a cloud-based infrastructure. The Chief Information Security Officer asks the security engineer to design connectivity to meet the following requirements:

Only users with corporate-owned devices can directly access servers hosted by the cloud provider.

The company can control what SaaS applications each individual user can access. User browser activity can be monitored.

Which of the following solutions would BEST meet these requirements?

- A. IAM gateway, MDM, and reverse proxy
- B. VPN, CASB, and secure web gateway
- C. SSL tunnel, DLP, and host-based firewall
- D. API gateway, UEM, and forward proxy

Answer: B

Explanation:

A VPN (virtual private network) can provide secure connectivity for remote users to access servers hosted by the cloud provider. A CASB (cloud access security broker) can enforce policies and controls for accessing SaaS applications. A secure web gateway can monitor and filter user browser activity to prevent malicious or unauthorized traffic. Verified References: <https://partners.comptia.org/docs/default-source/resources/casp-content-guide> <https://www.comptia.org/blog/what-is-a-vpn>

NEW QUESTION 64

A security architect is designing a solution for a new customer who requires significant security capabilities in its environment. The customer has provided the architect with the following set of requirements:

* Capable of early detection of advanced persistent threats.

* Must be transparent to users and cause no performance degradation.

+ Allow integration with production and development networks seamlessly.

+ Enable the security team to hunt and investigate live exploitation techniques.

Which of the following technologies BEST meets the customer's requirements for security capabilities?

- A. Threat Intelligence
- B. Deception software
- C. Centralized logging
- D. Sandbox detonation

Answer: B

Explanation:

Deception software is a technology that creates realistic but fake assets (such as servers, applications, data, etc.) that mimic the real environment and lure attackers into interacting with them. By doing so, deception software can help detect advanced persistent threats (APTs) that may otherwise evade traditional security tools.

. Deception software can also provide valuable insights into the attacker's tactics, techniques, and procedures (TTPs) by capturing their actions and behaviors on

the decoys 13.

Deception software can meet the customer's requirements for security capabilities because:

? It is capable of early detection of APTs by creating attractive targets for them and alerting security teams when they are engaged¹².

? It is transparent to users and causes no performance degradation because it does not interfere with legitimate traffic or resources¹³.

? It allows integration with production and development networks seamlessly because it can create decoys that match the network topology and configuration¹³.

? It enables the security team to hunt and investigate live exploitation techniques because it can record and analyze the attacker's activities on the decoys¹³.

NEW QUESTION 69

An organization is researching the automation capabilities for systems within an OT network. A security analyst wants to assist with creating secure coding practices and would like to learn about the programming languages used on the PLCs. Which of the following programming languages is the MOST relevant for PLCs?

- A. Ladder logic
- B. Rust
- C. C
- D. Python
- E. Java

Answer: A

NEW QUESTION 73

Immediately following the report of a potential breach, a security engineer creates a forensic image of the server in question as part of the organization incident response procedure. Which of the must occur to ensure the integrity of the image?

- A. The image must be password protected against changes.
- B. A hash value of the image must be computed.
- C. The disk containing the image must be placed in a sealed container.
- D. A duplicate copy of the image must be maintained

Answer: B

NEW QUESTION 75

An analyst received a list of IOCs from a government agency. The attack has the following characteristics:

- * 1. The attack starts with bulk phishing.
- * 2. If a user clicks on the link, a dropper is downloaded to the computer.
- * 3. Each of the malware samples has unique hashes tied to the user.

The analyst needs to identify whether existing endpoint controls are effective. Which of the following risk mitigation techniques should the analyst use?

- A. Update the incident response plan.
- B. Blocklist the executable.
- C. Deploy a honeypot onto the laptops.
- D. Detonate in a sandbox.

Answer: D

Explanation:

Detonating the malware in a sandbox is the best way to analyze its behavior and determine whether the existing endpoint controls are effective. A sandbox is an isolated environment that mimics a real system but prevents any malicious actions from affecting the actual system. By detonating the malware in a sandbox, the analyst can observe how it interacts with the system, what files it creates or modifies, what network connections it establishes, and what indicators of compromise it exhibits. This can help the analyst identify the malware's capabilities, objectives, and weaknesses. A sandbox can also help the analyst compare different malware samples and determine if they are related or part of the same campaign.

* A. Updating the incident response plan is not a risk mitigation technique, but rather a proactive measure to prepare for potential incidents. It does not help the analyst identify whether existing endpoint controls are effective against the malware.

* B. Blocklisting the executable is a risk mitigation technique that can prevent the malware from running on the system, but it does not help the analyst analyze its behavior or determine whether existing endpoint controls are effective. Moreover, blocklisting may not be feasible if each malware sample has a unique hash tied to the user.

* C. Deploying a honeypot onto the laptops is a risk mitigation technique that can lure attackers away from the real systems and collect information about their activities, but it does not help the analyst analyze the malware's behavior or determine whether existing endpoint controls are effective. A honeypot is also more suitable for detecting network- based attacks rather than endpoint-based attacks.

NEW QUESTION 79

Which of the following agreements includes no penalties and can be signed by two entities that are working together toward the same goal?

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

Answer: A

NEW QUESTION 84

An organization is considering a BYOD standard to support remote working. The first iteration of the solution will utilize only approved collaboration applications and the ability to move corporate data between those applications. The security team has concerns about the following:

Unstructured data being exfiltrated after an employee leaves the organization
Data being exfiltrated as a result of compromised credentials

Sensitive information in emails being exfiltrated

Which of the following solutions should the security team implement to mitigate the risk of data loss?

- A. Mobile device management, remote wipe, and data loss detection
- B. Conditional access, DoH, and full disk encryption
- C. Mobile application management, MFA, and DRM
- D. Certificates, DLP, and geofencing

Answer: C

Explanation:

Mobile application management (MAM) is a solution that allows the organization to control and secure the approved collaboration applications and the data within them on personal devices. MAM can prevent unstructured data from being exfiltrated by restricting the ability to move, copy, or share data between applications. Multi-factor authentication (MFA) is a solution that requires the user to provide more than one piece of evidence to prove their identity when accessing corporate data. MFA can prevent data from being exfiltrated as a result of compromised credentials by adding an extra layer of security. Digital rights management (DRM) is a solution that protects the intellectual property rights of digital content by enforcing policies and permissions on how the content can be used, accessed, or distributed. DRM can prevent sensitive information in emails from being exfiltrated by encrypting the content and limiting the actions that can be performed on it, such as forwarding, printing, or copying. Verified References:

- ? <https://www.manageengine.com/data-security/what-is/byod.html>
- ? <https://www.cimcor.com/blog/7-scariest-byod-security-risks-how-to-mitigate>

NEW QUESTION 89

An engineering team is developing and deploying a fleet of mobile devices to be used for specialized inventory management purposes. These devices should:

- * Be based on open-source Android for user familiarity and ease.
- * Provide a single application for inventory management of physical assets.
- * Permit use of the camera be only the inventory application for the purposes of scanning
- * Disallow any and all configuration baseline modifications.
- * Restrict all access to any device resource other than those requirement ?

- A. Set an application wrapping policy, wrap the application, distributes the inventory APK via the MAM tool, and test the application restrictions.
- B. Write a MAC sepolicy that defines domains with rules, label the inventory application, build the policy, and set to enforcing mode.
- C. Swap out Android Linux kernel version for >2,4,0, but the internet build Android, remove unnecessary functions via MDL, configure to block network access, and perform integration testing
- D. Build and install an Android middleware policy with requirements added, copy the file into/ user/init, and then built the inventory application.

Answer: A

NEW QUESTION 94

SIMULATION

An IPsec solution is being deployed. The configuration files for both the VPN concentrator and the AAA server are shown in the diagram.

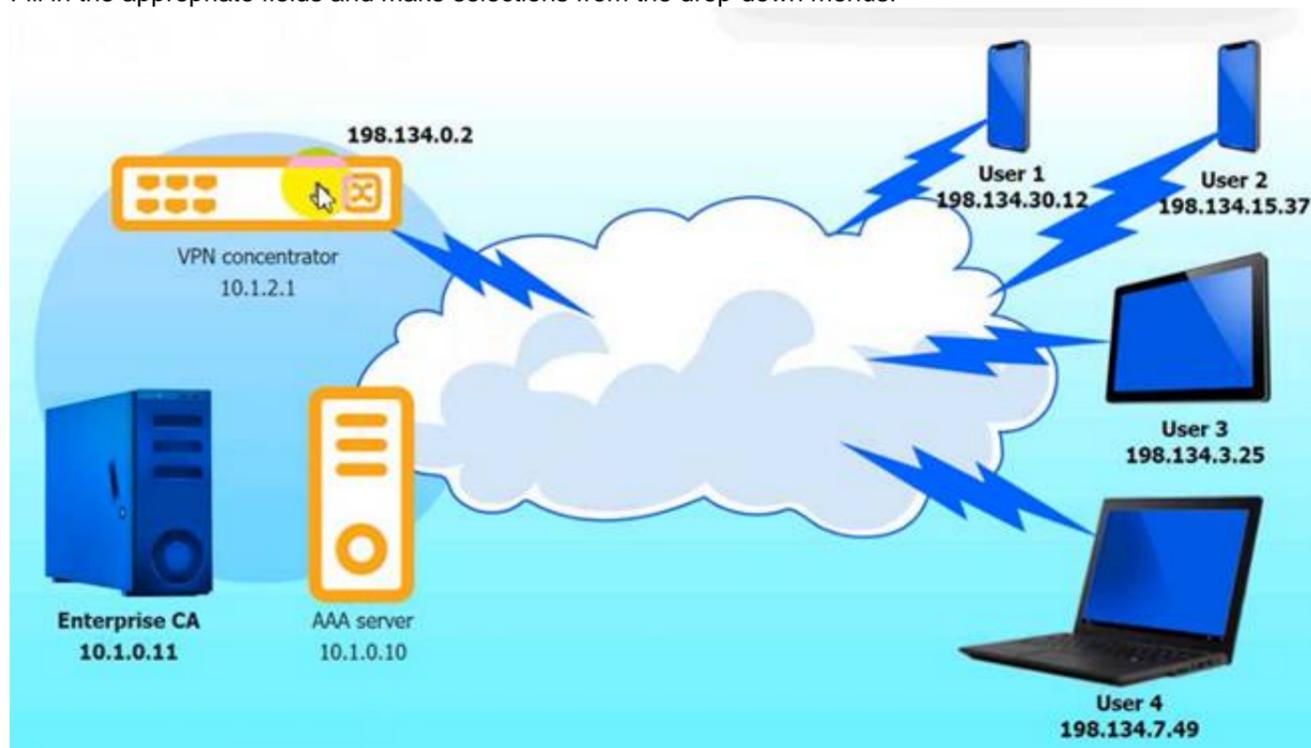
Complete the configuration files to meet the following requirements:

- The EAP method must use mutual certificate-based authentication (With issued client certificates).
- The IKEv2 Cipher suite must be configured to the MOST secure authenticated mode of operation,
- The secret must contain at least one uppercase character, one lowercase character, one numeric character, and one special character, and it must meet a minimum length requirement of eight characters,

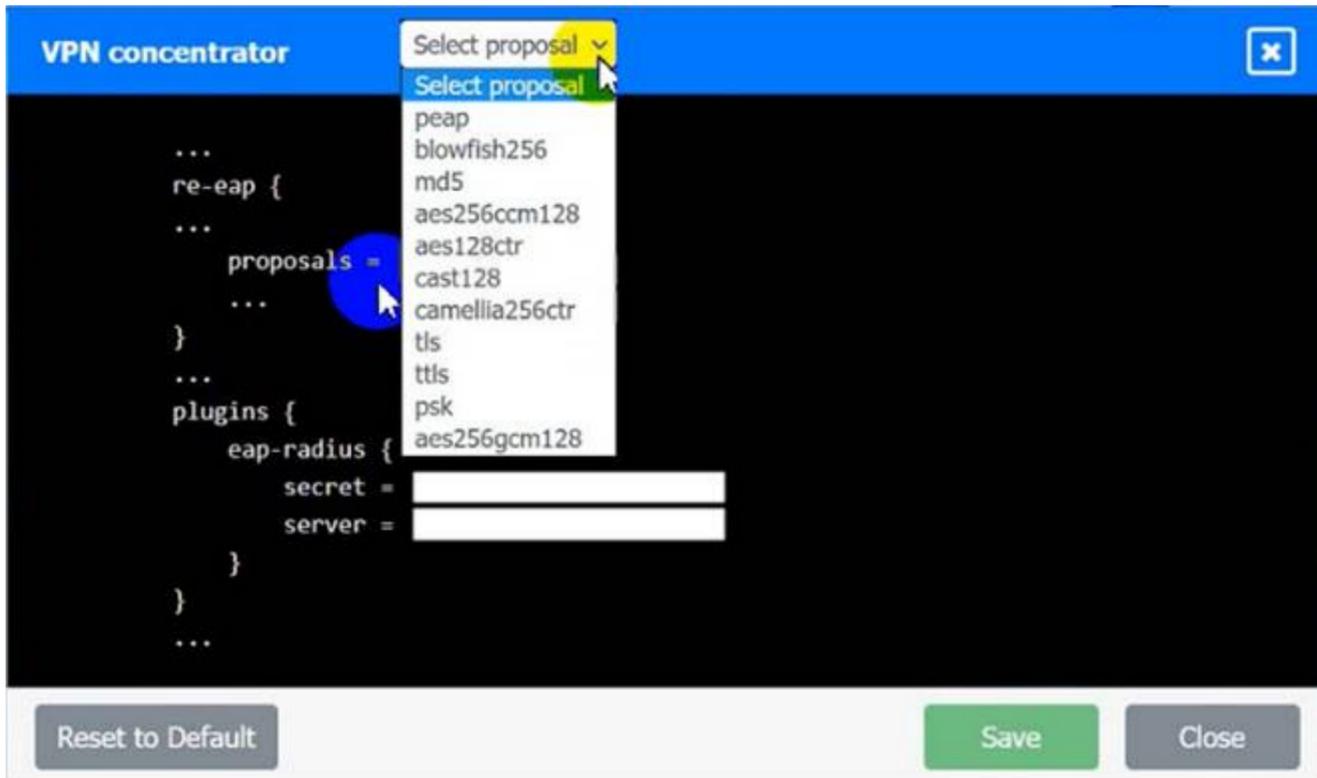
INSTRUCTIONS

Click on the AAA server and VPN concentrator to complete the configuration.

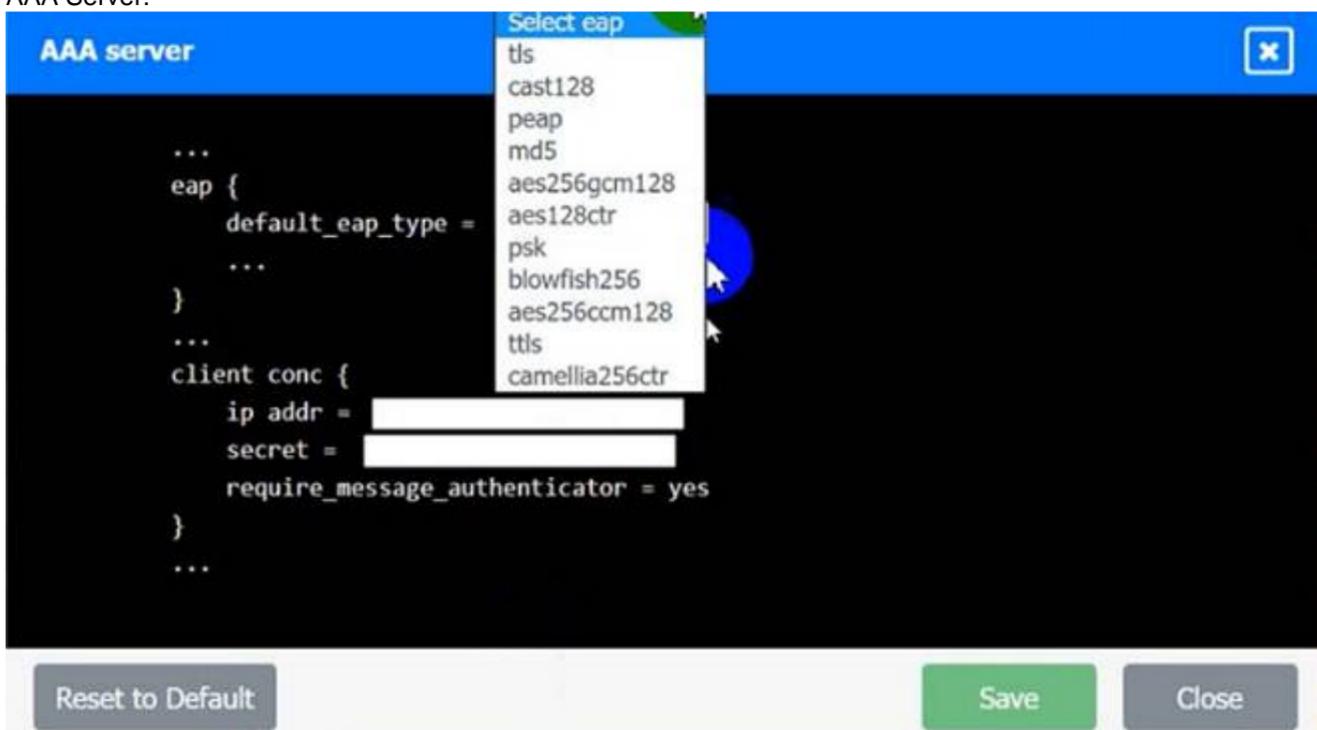
Fill in the appropriate fields and make selections from the drop-down menus.



VPN Concentrator:



AAA Server:



- A. Mastered
- B. Not Mastered

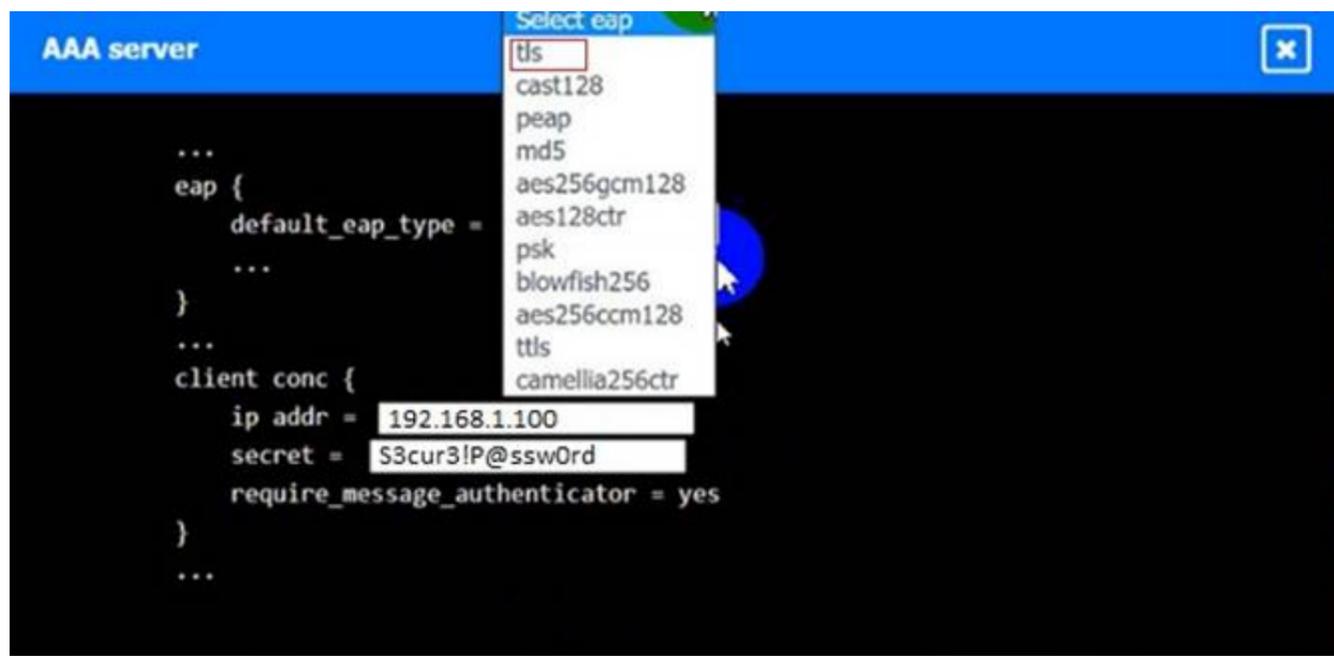
Answer: A

Explanation:

VPN Concentrator:



AAA Server:



NEW QUESTION 95

A financial institution has several that currently employ the following controls:

- * The servers follow a monthly patching cycle.
- * All changes must go through a change management process.
- * Developers and systems administrators must log into a jumpbox to access the servers hosting the data using two-factor authentication.
- * The servers are on an isolated VLAN and cannot be directly accessed from the internal production network.

An outage recently occurred and lasted several days due to an upgrade that circumvented the approval process. Once the security team discovered an unauthorized patch was installed, they were able to resume operations within an hour. Which of the following should the security administrator recommend to reduce the time to resolution if a similar incident occurs in the future?

- A. Require more than one approver for all change management requests.
- B. Implement file integrity monitoring with automated alerts on the servers.
- C. Disable automatic patch update capabilities on the servers
- D. Enhanced audit logging on the jump servers and ship the logs to the SIEM.

Answer: B

NEW QUESTION 97

A web service provider has just taken on a very large contract that comes with requirements that are currently not being implemented in order to meet contractual requirements, the company must achieve the following thresholds

- 99.99% uptime
- Load time in 3 seconds
- Response time = <1.0 seconds

Starting with the computing environment, which of the following should a security engineer recommend to BEST meet the requirements? (Select THREE)

- A. Installing a firewall at corporate headquarters
- B. Deploying a content delivery network
- C. Implementing server clusters
- D. Employing bare-metal loading of applications
- E. Lowering storage input/output
- F. Implementing RAID on the backup servers
- G. Utilizing redundant power for all developer workstations
- H. Ensuring technological diversity on critical servers

Answer: BCE

Explanation:

To meet the contractual requirements of the web service provider, a security engineer should recommend the following actions:

? Deploying a content delivery network (CDN): A CDN is a distributed system of servers that delivers web content to users based on their geographic location, the origin of the content, and the performance of the network. A CDN can help improve the uptime, load time, and response time of web services by caching content closer to the users, reducing latency and bandwidth consumption. A CDN can also help mitigate distributed denial-of-service (DDoS) attacks by absorbing or filtering malicious traffic before it reaches the origin servers, reducing the impact on the web service availability¹².

? Implementing server clusters: A server cluster is a group of servers that work together to provide high availability, scalability, and load balancing for web services. A server cluster can help improve the uptime, load time, and response time of web services by distributing the workload across multiple servers, reducing the risk of single points of failure and performance bottlenecks. A server cluster can also help recover from failures by automatically switching to another server in case of a malfunction³⁴.

? Lowering storage input/output (I/O): Storage I/O is the amount of data that can be read from or written to a storage device in a given time. Storage I/O can affect the performance of web services by limiting the speed of data transfer between the servers and the storage devices. Lowering storage I/O can help improve the load time and response time of web services by reducing the latency and congestion of data access. Lowering storage I/O can be achieved by using faster storage devices, such as solid-state drives (SSDs), optimizing the storage layout and configuration, such as using RAID or striping, and caching frequently accessed data in memory⁵.

Installing a firewall at corporate headquarters is not a recommended action to meet the contractual requirements, as it does not directly affect the uptime, load time, or response time of web services. A firewall is a device or software that filters and blocks unwanted network traffic based on predefined rules. A firewall can help improve the security of web services by preventing unauthorized access and attacks, but it may also introduce additional latency and complexity to the network.

Employing bare-metal loading of applications is not a recommended action to meet the contractual requirements, as it does not directly affect the uptime, load time, or response time of web services. Bare-metal loading is a technique that allows applications to run directly on hardware without an operating system or a hypervisor. Bare-metal loading can help improve the performance and efficiency of applications by eliminating the overhead and interference of other software

layers, but it may also increase the difficulty and cost of deployment and maintenance.

Implementing RAID on the backup servers is not a recommended action to meet the contractual requirements, as it does not directly affect the uptime, load time, or response time of web services. RAID (redundant array of independent disks) is a technique that combines multiple disks into a logical unit that provides improved performance, reliability, or both. RAID can help improve the availability and security of backup data by protecting it from disk failures or corruption, but it may also introduce additional complexity and overhead to the backup process.

Utilizing redundant power for all developer workstations is not a recommended action to meet the contractual requirements, as it does not directly affect the uptime, load time, or response time of web services. Redundant power is a technique that provides multiple sources of power for an IT system in case one fails. Redundant power can help improve the availability and reliability of developer workstations by preventing them from losing power due to outages or surges, but it may also increase the cost and energy consumption of the system.

Ensuring technological diversity on critical servers is not a recommended action to meet the contractual requirements, as it does not directly affect the uptime, load time, or response time of web services. Technological diversity is a technique that uses different types of hardware, software, or platforms in an IT environment. Technological diversity can help improve resilience by reducing single points of failure and increasing compatibility, but it may also introduce additional complexity and inconsistency to the

environment. References: What Is CDN? How Does CDN Work? | Imperva, What Is Server Clustering? | IBM, What Is Server Clustering? | IBM, Server Clustering: What It Is & How It Works | Liquid Web, Storage I/O Performance - an overview | ScienceDirect Topics, [How to Improve Storage I/O Performance | StarWind Blog], [What Is Firewall Security? | Cisco], [What is Bare Metal? | IBM], [What is RAID? | Dell Technologies US], [What Is Redundant Power Supply? | Dell Technologies US], [Technological Diversity - an overview | ScienceDirect Topics]

NEW QUESTION 101

A security analyst discovered that the company's WAF was not properly configured. The main web server was breached, and the following payload was found in one of the malicious requests:

```
(&(objectClass=*)(objectClass=*))(&(objectClass=void)(type=admin))
```

Which of the following would BEST mitigate this vulnerability?

- A. Network intrusion prevention
- B. Data encoding
- C. Input validation
- D. CAPTCHA

Answer: C

NEW QUESTION 104

A forensic investigator would use the foremost command for:

- A. cloning disks.
- B. analyzing network-captured packets.
- C. recovering lost files.
- D. extracting features such as email addresses

Answer: C

NEW QUESTION 108

In preparation for the holiday season, a company redesigned the system that manages retail sales and moved it to a cloud service provider. The new infrastructure did not meet the company's availability requirements. During a postmortem analysis, the following issues were highlighted:

- * 1. International users reported latency when images on the web page were initially loading.
- * 2. During times of report processing, users reported issues with inventory when attempting to place orders.
- * 3. Despite the fact that ten new API servers were added, the load across servers was heavy at peak times.

Which of the following infrastructure design changes would be BEST for the organization to implement to avoid these issues in the future?

- A. Serve static content via distributed CDNs, create a read replica of the central database and pull reports from there, and auto-scale API servers based on performance.
- B. Increase the bandwidth for the server that delivers images, use a CDN, change the database to a non-relational database, and split the ten API servers across two load balancers.
- C. Serve images from an object storage bucket with infrequent read times, replicate the database across different regions, and dynamically create API servers based on load.
- D. Serve static-content object storage across different regions, increase the instance size on the managed relational database, and distribute the ten API servers across multiple regions.

Answer: A

Explanation:

This solution would address the three issues as follows:

? Serving static content via distributed CDNs would reduce the latency for international users by delivering images from the nearest edge location to the user's request.

? Creating a read replica of the central database and pulling reports from there would offload the read-intensive workload from the primary database and avoid affecting the inventory data for order placement.

? Auto-scaling API servers based on performance would dynamically adjust the number of servers to match the demand and balance the load across them at peak times.

NEW QUESTION 112

A security engineer needs to implement a solution to increase the security posture of user endpoints by providing more visibility and control over local administrator accounts. The endpoint security team is overwhelmed with alerts and wants a solution that has minimal operational burdens. Additionally, the solution must maintain a positive user experience after implementation.

Which of the following is the BEST solution to meet these objectives?

- A. Implement Privileged Access Management (PAM), keep users in the local administrators group, and enable local administrator account monitoring.

- B. Implement PAM, remove users from the local administrators group, and prompt users for explicit approval when elevated privileges are required.
- C. Implement EDR, remove users from the local administrators group, and enable privilege escalation monitoring.
- D. Implement EDR, keep users in the local administrators group, and enable user behavior analytics.

Answer: B

Explanation:

PAM (Privileged Access Management) is a solution that can increase the security posture of user endpoints by providing more visibility and control over local administrator accounts. By implementing PAM, removing users from the local administrators group, and prompting users for explicit approval when elevated privileges are required, the security engineer can reduce the attack surface, prevent unauthorized access, and enforce the principle of least privilege. Implementing PAM, keeping users in the local administrators group, and enabling local administrator account monitoring may not provide enough control or visibility over local administrator accounts, as users could still abuse or compromise their privileges. Implementing EDR (Endpoint Detection and Response) may not provide enough control or visibility over local administrator accounts, as EDR is mainly focused on detecting and responding to threats, not managing privileges. Enabling user behavior analytics may not provide enough control or visibility over local administrator accounts, as user behavior analytics is mainly focused on identifying anomalies or risks in user activity, not managing privileges. Verified References: <https://www.comptia.org/blog/what-is-pam>
<https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 114

While investigating a security event, an analyst finds evidence that a user opened an email attachment from an unknown source. Shortly after the user opened the attachment, a group of servers experienced a large amount of network and resource activity. Upon investigating the servers, the analyst discovers the servers were encrypted by ransomware that is demanding payment within 48 hours or all data will be destroyed. The company has no response plans for ransomware. Which of the following is the NEXT step the analyst should take after reporting the incident to the management team?

- A. Pay the ransom within 48 hours.
- B. Isolate the servers to prevent the spread.
- C. Notify law enforcement.
- D. Request that the affected servers be restored immediately.

Answer: B

Explanation:

Isolating the servers is the best immediate action to take after reporting the incident to the management team, as it can limit the damage and contain the ransomware infection. Paying the ransom is not advisable, as it does not guarantee the recovery of the data and may encourage further attacks. Notifying law enforcement is a possible step, but not the next one after reporting. Requesting that the affected servers be restored immediately may not be feasible or effective, as it depends on the availability and integrity of backups, and it does not address the root cause of the attack. Verified References: <https://www.comptia.org/blog/what-is-ransomware-and-how-to-protect-yourself> <https://www.comptia.org/certifications/comptia-advanced-security-practitioner>

NEW QUESTION 116

A review of the past year's attack patterns shows that attackers stopped reconnaissance after finding a susceptible system to compromise. The company would like to find a way to use this information to protect the environment while still gaining valuable attack information. Which of the following would be BEST for the company to implement?

- A. A WAF
- B. An IDS
- C. A SIEM
- D. A honeypot

Answer: D

Explanation:

Reference: <https://www.kaspersky.com/resource-center/threats/what-is-a-honeypot>

NEW QUESTION 117

Which of the following is the MOST important cloud-specific risk from the CSP's viewpoint?

- A. Isolation control failure
- B. Management plane breach
- C. Insecure data deletion
- D. Resource exhaustion

Answer: B

NEW QUESTION 120

A company has moved its sensitive workloads to the cloud and needs to ensure high availability and resiliency of its web-based application. The cloud architecture team was given the following requirements

- The application must run at 70% capacity at all times
- The application must sustain DoS and DDoS attacks.
- Services must recover automatically.

Which of the following should the cloud architecture team implement? (Select THREE).

- A. Read-only replicas
- B. BCP
- C. Autoscaling
- D. WAF
- E. CDN
- F. Encryption
- G. Continuous snapshots
- H. Containerization

Answer: CDF

Explanation:

The cloud architecture team should implement Autoscaling (C), WAF (D) and Encryption (F). Autoscaling (C) will ensure that the application is running at 70% capacity at all times. WAF (D) will protect the application from DoS and DDoS attacks. Encryption (F) will protect the data from unauthorized access and ensure that the sensitive workloads remain secure.

NEW QUESTION 123

A company undergoing digital transformation is reviewing the resiliency of a CSP and is concerned about meeting SLA requirements in the event of a CSP incident.

Which of the following would be BEST to proceed with the transformation?

- A. An on-premises solution as a backup
- B. A load balancer with a round-robin configuration
- C. A multicloud provider solution
- D. An active-active solution within the same tenant

Answer: C

Explanation:

A multicloud provider solution is the best option for proceeding with the digital transformation while ensuring SLA (service level agreement) requirements in the event of a CSP (cloud service provider) incident. A multicloud provider solution is a strategy that involves using multiple CSPs for different cloud services or applications, such as infrastructure, platform, or software as a service. A multicloud provider solution can provide resiliency, redundancy, and availability for cloud services or applications, as it can distribute the workload and risk across different CSPs and avoid single points of failure or vendor lock-in. An on-premises solution as a backup is not a good option for proceeding with the digital transformation, as it could involve high costs, complexity, or maintenance for maintaining both cloud and on-premises resources, as well as affect the scalability or flexibility of cloud services or applications. A load balancer with a round-robin configuration is not a good option for proceeding with the digital transformation, as it could introduce latency or performance issues for cloud services or applications, as well as not provide sufficient resiliency or redundancy in case of a CSP incident. An active-active solution within the same tenant is not a good option for proceeding with the digital transformation, as it could still be affected by a CSP incident that impacts the entire tenant or region, as well as increase the costs or complexity of managing multiple instances of cloud services or applications. Verified References: <https://www.comptia.org/blog/what-is-multicloud> <https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 128

A security engineer is troubleshooting an issue in which an employee is getting an IP address in the range on the wired network. The engineer plus another PC into the same port, and that PC gets an IP address in the correct range. The engineer then puts the employee' PC on the wireless network and finds the PC still not get an IP address in the proper range. The PC is up to date on all software and antivirus definitions, and the IP address is not an APIPA address. Which of the following is MOST likely the problem?

- A. The company is using 802.1x for VLAN assignment, and the user or computer is in the wrong group.
- B. The DHCP server has a reservation for the PC's MAC address for the wired interface.
- C. The WiFi network is using WPA2 Enterprise, and the computer certificate has the wrong IP address in the SAN field.
- D. The DHCP server is unavailable, so no IP address is being sent back to the PC.

Answer: A

NEW QUESTION 130

A security analyst is concerned that a malicious piece of code was downloaded on a Linux system. After some research, the analyst determines that the suspected piece of code is performing a lot of input/output (I/O) on the disk drive.

```
procs -----memory-----swap---io--  --system--  -----cpu-----
r b swpd free buff cache si so bi bo in cs us sy id wa st
3 0 0 44712 110052 623096 0 0 304023 30004040 217 883 13 3 83 1 0
1 0 0 44408 110052 623096 0 0 300 200003 88 1446 31 4 65 0 0
0 0 0 44524 110052 623096 0 0 400020 20 84 872 11 2 87 0 0
0 2 0 44516 110052 623096 0 0 10 0 149 142 18 5 77 0 0
0 0 0 44524 110052 623096 0 0 0 0 60 431 14 1 85 0 0
```

Based on the output above, from which of the following process IDs can the analyst begin an investigation?

- A. 65
- B. 77
- C. 83
- D. 87

Answer: D

Explanation:

The process ID 87 can be the starting point for an investigation of a possible buffer overflow attack, as it shows a high percentage of CPU utilization (99.7%) and a suspicious command name (graphic.linux_randomization.prg). A buffer overflow attack is a type of attack that exploits a vulnerability in an application or system that allows an attacker to write data beyond the allocated buffer size, potentially overwriting memory segments and executing malicious code. A high CPU utilization could indicate that the process is performing intensive or abnormal operations, such as a buffer overflow attack. A suspicious command name could indicate that the process is trying to disguise itself or evade detection, such as by mimicking a legitimate program or using random characters. The other process IDs do not show signs of a buffer overflow attack, as they have low CPU utilization and normal command names. Verified References: <https://www.comptia.org/blog/what-is-buffer-overflow> <https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 133

After a security incident, a network security engineer discovers that a portion of the company's sensitive external traffic has been redirected through a secondary ISP that is not normally used.

Which of the following would BEST secure the routes while allowing the network to function in the event of a single provider failure?

- A. Disable BGP and implement a single static route for each internal network.
- B. Implement a BGP route reflector.
- C. Implement an inbound BGP prefix list.
- D. Disable BGP and implement OSPF.

Answer: C

Explanation:

Defenses against BGP hijacks include IP prefix filtering, meaning IP address announcements are sent and accepted only from a small set of well-defined autonomous systems, and monitoring Internet traffic to identify signs of abnormal traffic flows.

NEW QUESTION 138

A network administrator who manages a Linux web server notices the following traffic: `http://corr.ptia.org/../../../../etc/shadow`
Which of the following is the BEST action for the network administrator to take to defend against this type of web attack?

- A. Validate the server certificate and trust chain.
- B. Validate the server input and append the input to the base directory path.
- C. Validate that the server is not deployed with default account credentials.
- D. Validate that multifactor authentication is enabled on the server for all user accounts.

Answer: B

Explanation:

The network administrator is noticing a web attack that attempts to access the `/etc/shadow` file on a Linux web server. The `/etc/shadow` file contains the encrypted passwords of all users on the system and is a common target for attackers. The attack uses a technique called directory traversal, which exploits a vulnerability in the web application that allows an attacker to access files or directories outside of the intended scope by manipulating the file path.

Validating the server input and appending the input to the base directory path would be the best action for the network administrator to take to defend against this type of web attack, because it would:

- ? Check the user input for any errors, malicious data, or unexpected values before processing it by the web application.
- ? Prevent directory traversal by ensuring that the user input is always relative to the base directory path of the web application, and not absolute to the root directory of the web server.
- ? Deny access to any files or directories that are not part of the web application's scope or functionality.

NEW QUESTION 139

A local government that is investigating a data exfiltration claim was asked to review the fingerprint of the malicious user's actions. An investigator took a forensic image of the VM and downloaded the image to a secured USB drive to share with the government. Which of the following should be taken into consideration during the process of releasing the drive to the government?

- A. Encryption in transit
- B. Legal issues
- C. Chain of custody
- D. Order of volatility
- E. Key exchange

Answer: C

NEW QUESTION 141

A company's Chief Information Security Officer is concerned that the company's proposed move to the cloud could lead to a lack of visibility into network traffic flow logs within the VPC.

Which of the following compensating controls would be BEST to implement in this situation?

- A. EDR
- B. SIEM
- C. HIDS
- D. UEBA

Answer: B

Explanation:

Reference: <https://runpanther.io/cyber-explained/cloud-based-siem-explained/>

NEW QUESTION 146

A company's claims processed department has a mobile workforce that receives a large number of email submissions from personal email addresses. An employee recently received an email that appeared to be a claim form, but it installed malicious software on the employee's laptop when it was opened.

- A. Implement application whitelisting and add only the email client to the whitelist for laptop in the claims processing department.
- B. Required all laptops to connect to the VPN before accessing email.
- C. Implement cloud-based content filtering with sandboxing capabilities.
- D. Install a mail gateway to scan incoming messages and strip attachments before they reach the mailbox.

Answer: C

Explanation:

Implementing cloud-based content filtering with sandboxing capabilities is the best solution for preventing malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form. Cloud-based content filtering is a technique that uses a cloud service to filter or block web traffic based on predefined rules or policies, preventing unauthorized or malicious access to web resources or services. Cloud-based content filtering can prevent malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form, as it can scan or analyze email attachments before they reach the mailbox and block or quarantine them if they are malicious. Sandboxing is a technique that uses an isolated or virtualized

environment to execute or test suspicious or untrusted code or applications, preventing them from affecting the host system or network. Sandboxing can prevent malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form, as it can run or detonate email attachments in a safe environment and observe their behavior or impact before allowing them to reach the mailbox. Implementing application whitelisting and adding only the email client to the whitelist for laptops in the claims processing department is not a good solution for preventing malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form, as it could affect the usability or functionality of other applications on the laptops that may be needed for work purposes, as well as not prevent malicious software from running within the email client. Requiring all laptops to connect to the VPN (virtual private network) before accessing email is not a good solution for preventing malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form, as it could introduce latency or performance issues for accessing email, as well as not prevent malicious software from reaching or executing on the laptops. Installing a mail gateway to scan incoming messages and strip attachments before they reach the mailbox is not a good solution for preventing malicious software installation on the employee's laptop due to opening an email attachment that appeared to be a claim form, as it could affect the normal operations or functionality of email communication, as well as not prevent legitimate attachments from reaching the mailbox. Verified References: <https://www.comptia.org/blog/what-is-cloud-based-content-filtering> <https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 150

An auditor needs to scan documents at rest for sensitive text. These documents contain both text and Images. Which of the following software functionalities must be enabled in the DLP solution for the auditor to be able to fully read these documents? (Select TWO).

- A. Document interpolation
- B. Regular expression pattern matching
- C. Optical character recognition functionality
- D. Baseline image matching
- E. Advanced rasterization
- F. Watermarking

Answer: AC

NEW QUESTION 151

A company wants to improve the security of its web applications that are running on in-house servers. A risk assessment has been performed and the following capabilities are desired:

- Terminate SSL connections at a central location
- Manage both authentication and authorization for incoming and outgoing web service calls
- Advertise the web service API
- Implement DLP and anti-malware features

Which of the following technologies will be the BEST option?

- A. WAF
- B. XML gateway
- C. ESB gateway
- D. API gateway

Answer: D

Explanation:

An API gateway is a device or software that acts as an intermediary between clients and servers that provide web services through application programming interfaces (APIs). An API gateway can provide various functions such as:

- ? Terminating SSL connections at a central location, reducing the overhead on the backend servers and simplifying certificate management
 - ? Managing both authentication and authorization for incoming and outgoing web service calls, enforcing security policies and access control
 - ? Advertising the web service API, providing documentation and discovery features for developers and consumers
 - ? Implementing DLP and anti-malware features, preventing data leakage and malicious code injection
- A web application firewall (WAF) is a device or software that filters and blocks malicious web traffic from reaching an application. A WAF can provide some protection for web services, but it does not provide all the functions of an API gateway. An XML gateway is a device or software that validates, transforms, and routes XML messages between clients and servers that provide web services. An XML gateway can provide some functions of an API gateway, but it is limited to XML-based web services and does not support other formats such as JSON. An enterprise service bus (ESB) gateway is a device or software that integrates and orchestrates multiple web services into a single service or application. An ESB gateway can provide some functions of an API gateway, but it is more focused on business logic and workflow rather than security and performance. References: [CompTIA Advanced Security Practitioner (CASP+) Certification Exam Objectives], Domain 2: Enterprise Security Architecture, Objective 2.3: Implement solutions for the secure use of cloud services

NEW QUESTION 155

All staff at a company have started working remotely due to a global pandemic. To transition to remote work, the company has migrated to SaaS collaboration tools. The human resources department wants to use these tools to process sensitive information but is concerned the data could be:

- Leaked to the media via printing of the documents
 - Sent to a personal email address
 - Accessed and viewed by systems administrators
 - Uploaded to a file storage site
- Which of the following would mitigate the department's concerns?

- A. Data loss detection, reverse proxy, EDR, and PGP
- B. VDI, proxy, CASB, and DRM
- C. Watermarking, forward proxy, DLP, and MFA
- D. Proxy, secure VPN, endpoint encryption, and AV

Answer: B

Explanation:

VDI (virtual desktop infrastructure), proxy, CASB (cloud access security broker), and DRM (digital rights management) are technologies that can mitigate the concerns of processing sensitive information using SaaS (software as a service) collaboration tools. VDI is a technology that provides virtualized desktop environments for users that are hosted and managed by a central server, allowing users to access applications or data from any device or location. VDI can prevent data leakage to the media via printing of documents, as it can restrict or monitor the printing capabilities or permissions of users or devices. Proxy is a technology that acts as an intermediary between clients and servers, filtering or modifying web traffic based on predefined rules or policies. Proxy can prevent data leakage to a personal email address, as it can block or redirect web requests to unauthorized or untrusted email domains or services. CASB is a technology that provides visibility and control over cloud services or applications, enforcing security policies or compliance requirements based on predefined rules or criteria.

CASB can prevent data access and viewing by systems administrators, as it can encrypt or mask sensitive data before it reaches the cloud provider or application, making it unreadable or inaccessible by unauthorized parties. DRM is a technology that restricts the access, use, modification, or distribution of digital content or devices, enforcing the rights and permissions granted by the content owner or provider to authorized users or devices. DRM can prevent data upload to a file storage site, as it can limit or disable the copying, sharing, or transferring capabilities or permissions of users or devices. Verified References: <https://www.comptia.org/blog/what-is-vdi> <https://partners.comptia.org/docs/default-source/resources/casp-content-guide>

NEW QUESTION 158

A company is outsourcing to an MSSP that performs managed detection and response services. The MSSP requires a server to be placed inside the network as a log aggregate and allows remote access to MSSP analyst. Critical devices send logs to the log aggregator, where data is stored for 12 months locally before being archived to a

multitenant cloud. The data is then sent from the log aggregate to a public IP address in the MSSP datacenter for analysis.

A security engineer is concerned about the security of the solution and notes the following.

- * The critical device send cleartext logs to the aggregator.
- * The log aggregator utilize full disk encryption.
- * The log aggregator sends to the analysis server via port 80.
- * MSSP analysis utilize an SSL VPN with MFA to access the log aggregator remotely.
- * The data is compressed and encrypted prior to being archived in the cloud. Which of the following should be the engineer's GREATEST concern?

- A. Hardware vulnerabilities introduced by the log aggregate server
- B. Network bridging from a remote access VPN
- C. Encryption of data in transit
- D. Multitenancy and data remnants in the cloud

Answer: C

Explanation:

Encryption of data in transit should be the engineer's greatest concern regarding the security of the solution. Data in transit refers to data that is being transferred over a network or between devices. If data in transit is not encrypted, it can be intercepted, modified, or stolen by attackers who can exploit vulnerabilities in the network protocols or devices. The solution in the question sends logs from the critical devices to the aggregator in cleartext and from the aggregator to the analysis server via port 80, which are both insecure methods that expose the data to potential attacks. Verified References: <https://www.comptia.org/training/books/casp-cas-004-study-guide> , <https://us-cert.cisa.gov/ncas/tips/ST04-019>

NEW QUESTION 163

A security analyst receives an alert from the SIEM regarding unusual activity on an authorized public SSH jump server. To further investigate, the analyst pulls the event logs directly from `/var/log/auth.log: graphic.ssh_auth_log`.

Which of the following actions would BEST address the potential risks by the activity in the logs?

- A. Alerting the misconfigured service account password
- B. Modifying the AllowUsers configuration directive
- C. Restricting external port 22 access
- D. Implementing host-key preferences

Answer: B

Explanation:

Reference: <https://www.rapid7.com/blog/post/2017/10/04/how-to-secure-ssh-server-using-port-knocking-on-ubuntu-linux/>

The AllowUsers configuration directive is an option for SSH servers that specifies which users are allowed to log in using SSH. The directive can include usernames, hostnames, IP addresses, or patterns. The directive can also be negated with a preceding exclamation mark (!) to deny access to specific users. The logs show that there are multiple failed login attempts from different IP addresses using different usernames, such as root, admin, test, etc. This indicates a brute-force attack that is trying to guess the SSH credentials. To address this risk, the security analyst should modify the AllowUsers configuration directive to only allow specific users or hosts that are authorized to access the SSH jump server. This will prevent unauthorized users from attempting to log in using SSH and reduce the attack surface. References: https://man.openbsd.org/sshd_config#AllowUsers
<https://www.ssh.com/academy/ssh/brute-force>

NEW QUESTION 168

A company wants to quantify and communicate the effectiveness of its security controls but must establish measures. Which of the following is MOST likely to be included in an effective assessment roadmap for these controls?

- A. Create a change management process.
- B. Establish key performance indicators.
- C. Create an integrated master schedule.
- D. Develop a communication plan.
- E. Perform a security control assessment.

Answer: C

NEW QUESTION 171

The Chief Security Officer (CSO) requested the security team implement technical controls that meet the following requirements:

- * Monitors traffic to and from both local NAS and cloud-based file repositories
- * Prevents on-site staff who are accessing sensitive customer PII documents on file repositories from accidentally or deliberately sharing sensitive documents on personal SaaS solutions
- * Uses document attributes to reduce false positives
- * Is agentless and not installed on staff desktops or laptops

Which of the following when installed and configured would BEST meet the CSO's requirements? (Select TWO).

- A. DLP
- B. NGFW
- C. UTM
- D. UEBA

- E. CASB
- F. HIPS

Answer: AE

Explanation:

DLP, or data loss prevention, and CASB, or cloud access security broker, are the solutions that when installed and configured would best meet the CSO's requirements. DLP is a technology that monitors and prevents unauthorized or accidental data leakage or exfiltration from an organization's network or devices. DLP can use document attributes, such as metadata, keywords, or fingerprints, to identify and classify sensitive data and enforce policies on how they can be accessed, transferred, or shared. CASB is a technology that acts as a proxy or intermediary between an organization's cloud services and its users. CASB can provide visibility, compliance, threat protection, and data security for cloud-based applications and data. CASB can also prevent on-site staff from accessing personal SaaS solutions that are not authorized by the organization. References: [CompTIA CASP+ Study Guide, Second Edition, pages 281-282 and 424-425]

NEW QUESTION 172

A security administrator has been tasked with hardening a domain controller against lateral movement attacks. Below is an output of running services:

Name	Status	Startup type
Active Directory Domain Services	Running	Automatic
Active Directory Web Services	Running	Automatic
Bluetooth Support Service		Manual
Credential Manager	Running	Manual
DNS Server	Running	Automatic
Kerberos Key Distribution Center	Running	Automatic
Microsoft Passport Container	Running	Manual
Print Spooler	Running	Automatic
Remote Desktop Services		Disabled
SNMP Trap		Disabled

Which of the following configuration changes must be made to complete this task?

- A. Stop the Print Spooler service and set the startup type to disabled.
- B. Stop the DNS Server service and set the startup type to disabled.
- C. Stop the Active Directory Web Services service and set the startup type to disabled.
- D. Stop Credential Manager service and leave the startup type to disabled.

Answer: A

Explanation:

Stopping the Print Spooler service and setting the startup type to disabled is the best configuration change to harden a domain controller against lateral movement attacks. The Print Spooler service has been known to be vulnerable to remote code execution exploits that can allow attackers to gain access to domain controllers and other sensitive machines. Disabling this service can reduce the attack surface and prevent exploitation attempts.

NEW QUESTION 173

An organization is moving its intellectual property data from on premises to a CSP and wants to secure the data from theft. Which of the following can be used to mitigate this risk?

- A. An additional layer of encryption
- B. A third-party data integrity monitoring solution
- C. A complete backup that is created before moving the data
- D. Additional application firewall rules specific to the migration

Answer: A

Explanation:

The company should use an additional layer of encryption to secure the data from theft when moving to a CSP. Encryption is a process of transforming data into an unreadable format using a secret key. Encryption can protect the data from unauthorized access or modification during transit and at rest. Encryption can be applied at different levels, such as disk, file, or application. An additional layer of encryption can provide an extra security measure on top of the encryption provided by the CSP. Verified References:

- > <https://learn.microsoft.com/en-us/partner-center/transition-seat-based-services>
- > <https://cloud.google.com/architecture/patterns-for-connecting-other-csps-with-gcp>

NEW QUESTION 174

A hospitality company experienced a data breach that included customer PII. The hacker used social engineering to convince an employee to grant a third-party application access to some company documents within a cloud file storage service. Which of the following is the BEST solution to help prevent this type of attack in the future?

- A. NGFW for web traffic inspection and activity monitoring
- B. CSPM for application configuration control

- C. Targeted employee training and awareness exercises
- D. CASB for OAuth application permission control

Answer: D

Explanation:

The company should use CASB for OAuth application permission control to help prevent this type of attack in the future. CASB stands for cloud access security broker, which is a software tool that monitors and enforces security policies for cloud applications. CASB can help control which third-party applications can access the company's cloud file storage service and what permissions they have. CASB can also detect and block any unauthorized or malicious applications that try to access the company's data. Verified References:

- <https://www.kaspersky.com/resource-center/threats/how-to-avoid-social-engineering-attacks>
- <https://www.eccouncil.org/cybersecurity-exchange/ethical-hacking/understanding-preventing-social-engin>
- <https://www.indusface.com/blog/10-ways-businesses-can-prevent-social-engineering-attacks/>

NEW QUESTION 179

A security analyst is reviewing SIEM events and is uncertain how to handle a particular event. The file is reviewed with the security vendor who is aware that this type of file routinely triggers this alert.

Based on this information, the security analyst acknowledges this alert Which of the following event classifications is MOST likely the reason for this action?

- A. True negative
- B. False negative
- C. False positive
- D. Non-automated response

Answer: C

Explanation:

The security analyst acknowledges this alert because it is a false positive. A false positive is an event classification that indicates a benign or normal activity is mistakenly flagged as malicious or suspicious by the SIEM system. A false positive can occur due to misconfigured rules, outdated signatures, or faulty algorithms. A false positive can waste the security analyst's time and resources, so it is important to acknowledge and dismiss it after verifying that it is not a real threat.

Verified References:

- <https://www.ibm.com/topics/siem>
- <https://www.microsoft.com/en-us/security/business/security-101/what-is-siem>
- https://www.splunk.com/en_us/data-insider/what-is-siem.html

NEW QUESTION 183

A network administrator receives a ticket regarding an error from a remote worker who is trying to reboot a laptop. The laptop has not yet loaded the operating system, and the user is unable to continue the boot process. The administrator is able to provide the user with a recovery PIN, and the user is able to reboot the system and access the device as needed. Which of the following is the MOST likely cause of the error?

- A. Lockout of privileged access account
- B. Duration of the BitLocker lockout period
- C. Failure of the Kerberos time drift sync
- D. Failure of TPM authentication

Answer: D

Explanation:

The most likely cause of the error is the failure of TPM authentication. TPM stands for Trusted Platform Module, which is a hardware component that stores encryption keys and other security information. TPM can be used by BitLocker to protect the encryption keys and verify the integrity of the boot process. If TPM fails to authenticate the laptop, BitLocker will enter recovery mode and ask for a recovery PIN, which is a 48-digit numerical password that can be used to unlock the system. The administrator should check the TPM status and configuration and make sure it is working properly. Verified References:

- <https://support.microsoft.com/en-us/windows/finding-your-bitlocker-recovery-key-in-windows-6b71ad27->
- <https://learn.microsoft.com/en-us/windows/security/operating-system-security/data-protection/bitlocker/bi>
- <https://docs.sophos.com/esg/sgn/8-1/user/win/en-us/esg/SafeGuard-Enterprise/tasks/BitLockerRecoveryK>

NEW QUESTION 187

An analyst has prepared several possible solutions to a successful attack on the company. The solutions need to be implemented with the LEAST amount of downtime. Which of the following should the analyst perform?

- A. Implement all the solutions at once in a virtual lab and then run the attack simulatio
- B. Collect the metrics and then choose the best solution based on the metrics.
- C. Implement every solution one at a time in a virtual lab, running a metric collection each tim
- D. After the collection, run the attack simulation, roll back each solution, and then implement the nex
- E. Choose the best solution based on the best metrics.
- F. Implement every solution one at a time in a virtual lab, running an attack simulation each time while collecting metric
- G. Roll back each solution and then implement the nex
- H. Choose the best solution based on the best metrics.
- I. Implement all the solutions at once in a virtual lab and then collect the metric
- J. After collection, run the attack simulatio
- K. Choose the best solution based on the best metrics.

Answer: C

NEW QUESTION 190

The analyst should implement every solution one at a time in a virtual lab, running an attack simulation each time while collecting metrics. Roll back each solution

and then implement the next. Choose the best solution based on the best metrics. This approach would allow the analyst to test each solution individually and measure its effectiveness against the attack, without affecting the other solutions or the production environment. This would also minimize the downtime required to implement the best solution, as only one change would be needed. The other options would either involve implementing multiple solutions at once, which could cause conflicts or errors, or collecting metrics before running the attack simulation, which would not reflect the actual impact of the solutions. Which of the following processes involves searching and collecting evidence during an investigation or lawsuit?

- A. E-discovery
- B. Review analysis
- C. Information governance
- D. Chain of custody

Answer: A

Explanation:

The process that involves searching and collecting evidence during an investigation or lawsuit is e-discovery. E-discovery stands for electronic discovery, which is the process of identifying, preserving, collecting, processing, reviewing, analyzing, and producing electronically stored information (ESI) that is relevant to a legal matter. E-discovery can be used for civil litigation, criminal prosecution, regulatory compliance, internal investigations, and other purposes. E-discovery can help parties obtain evidence from various sources, such as emails, documents, databases, social media, cloud services, mobile devices, and others. Verified References:

- > <https://www.techtarget.com/searchsecurity/definition/electronic-discovery>
- > <https://www.edrm.net/frameworks-and-standards/edrm-model/>
- > [https://www.law.cornell.edu/wex/electronic_discovery_\(federal\)](https://www.law.cornell.edu/wex/electronic_discovery_(federal))

NEW QUESTION 195

A security researcher detonated some malware in a lab environment and identified the following commands running from the EDR tool:

```
netsh advfirewall set allprofiles firewall policy blockinbound, blockoutbound
netsh advfirewall set allprofiles state on
init.ps1 -win32_shadow copy
```

With which of the following MITRE ATT&CK TTPs is the command associated? (Select TWO).

- A. Indirect command execution
- B. OS credential dumping
- C. Inhibit system recovery
- D. External remote services
- E. System information discovery
- F. Network denial of service

Answer: BE

Explanation:

OS credential dumping is the process of obtaining account login and password information, normally in the form of a hash or a clear text password, from the operating system and software. System information discovery is the process of gathering information about the system, such as hostname, IP address, OS version, running processes, etc. Both of these techniques are commonly used by adversaries to gain access to sensitive data and resources on the target system. The command shown in the image is using Mimikatz, a tool that can dump credentials from memory, and also querying the system information using WMIC. Verified References:

- > <https://attack.mitre.org/techniques/T1003/>
- > <https://attack.mitre.org/techniques/T1082/>
- > <https://github.com/gentilkiwi/mimikatz>
- > <https://docs.microsoft.com/en-us/windows/win32/wmisdk/wmic>

NEW QUESTION 199

A security architect recommends replacing the company's monolithic software application with a containerized solution. Historically, secrets have been stored in the application's configuration files. Which of the following changes should the security architect make in the new system?

- A. Use a secrets management tool.
- B. 'Save secrets in key escrow.
- C. Store the secrets inside the Dockerfiles.
- D. Run all Dockerfiles in a randomized namespace

Answer: A

Explanation:

A secrets management tool is a tool that helps companies securely store, transmit, and manage sensitive digital authentication credentials such as passwords, keys, tokens, certificates, and other secrets. A secrets management tool can help prevent secrets sprawl, enforce business policies, and inject secrets into pipelines. A secrets management tool can also help protect secrets from unauthorized access, leakage, or compromise by using encryption, tokenization, access control, auditing, and rotation. A secrets management tool is a recommended solution for replacing the company's monolithic software application with a containerized solution, because it can provide a centralized and consistent way to manage secrets across multiple containers and environments.

- * B. Saving secrets in key escrow is not a recommended solution for replacing the company's monolithic software application with a containerized solution, because it does not address the operational challenges of managing secrets for containers. Key escrow is a process of storing cryptographic keys with a trusted third party that can release them under certain conditions. Key escrow can be useful for backup or recovery purposes, but it does not provide the same level of security and automation as a secrets management tool.
- * C. Storing the secrets inside the Dockerfiles is not a recommended solution for replacing the company's monolithic software application with a containerized solution, because it exposes the secrets to anyone who can access the Dockerfiles or the images built from them. Storing secrets inside the Dockerfiles is equivalent to hardcoding them into the application code, which is a bad practice that violates the principle of least privilege and increases the risk of secrets leakage or compromise.
- * D. Running all Dockerfiles in a randomized namespace is not a recommended solution for replacing the company's monolithic software application with a containerized solution, because it does not address the issue of storing and managing secrets for containers. Running Dockerfiles in a randomized namespace is a

technique to avoid name conflicts and collisions between containers, but it does not provide any security benefits for secrets.

NEW QUESTION 204

Which of the following BEST describes a common use case for homomorphic encryption ?

- A. Processing data on a server after decrypting in order to prevent unauthorized access in transit
- B. Maintaining the confidentiality of data both at rest and in transit to and from a CSP for processing
- C. Transmitting confidential data to a CSP for processing on a large number of resources without revealing information
- D. Storing proprietary data across multiple nodes in a private cloud to prevent access by unauthenticated users

Answer: C

Explanation:

Homomorphic encryption is a type of encryption method that allows computations to be performed on encrypted data without first decrypting it with a secret key. The results of the computations also remain encrypted and can only be decrypted by the owner of the private key. Homomorphic encryption can be used for privacy-preserving outsourced storage and computation. This means that data can be encrypted and sent to a cloud service provider (CSP) for processing, without revealing any information to the CSP or anyone else who might intercept the data. Homomorphic encryption can enable new services and applications that require processing confidential data on a large number of resources, such as machine learning, data analytics, health care, finance, and voting.

* A. Processing data on a server after decrypting in order to prevent unauthorized access in transit is not a common use case for homomorphic encryption, because it does not take advantage of the main feature of homomorphic encryption, which is computing over encrypted data. This use case can be achieved by using any standard encryption method that provides confidentiality for data in transit.

* B. Maintaining the confidentiality of data both at rest and in transit to and from a CSP for processing is not a common use case for homomorphic encryption, because it does not take advantage of the main feature of homomorphic encryption, which is computing over encrypted data. This use case can be achieved by using any standard encryption method that provides confidentiality for data at rest and in transit.

* D. Storing proprietary data across multiple nodes in a private cloud to prevent access by unauthenticated users is not a common use case for homomorphic encryption, because it does not involve any computation over encrypted data. This use case can be achieved by using any standard encryption method that provides confidentiality for data at rest.

https://www.splunk.com/en_us/blog/learn/homomorphic-encryption.html <https://research.aimultiple.com/homomorphic-encryption/>

NEW QUESTION 209

A security analyst is reviewing a new IOC in which data is injected into an online process. The IOC shows the data injection could happen in the following ways:

- Five numerical digits followed by a dash, followed by four numerical digits; or
- Five numerical digits

When one of these IOCs is identified, the online process stops working. Which of the following regular expressions should be implemented in the NIPS?

- A. `^\d{4}(-\d{5})?$`
- B. `^\d{5}(-\d{4})?$`
- C. `^\d{5-4}$`
- D. `^\d{9}$`

Answer: B

NEW QUESTION 211

A security analyst for a managed service provider wants to implement the most up-to-date and effective security methodologies to provide clients with the best offerings. Which of the following resources would the analyst MOST likely adopt?

- A. OSINT
- B. ISO
- C. MITRE ATT&CK
- D. OWASP

Answer: C

Explanation:

MITRE ATT&CK is a threat management framework that provides a comprehensive and detailed knowledge base of adversary tactics and techniques based on real-world observations. It can help security analysts to identify, understand, and prioritize potential threats, as well as to develop effective detection and response strategies. MITRE ATT&CK covers the entire lifecycle of a cyberattack, from initial access to impact, and provides information on how to mitigate, detect, and hunt for each technique. It also includes threat actor profiles, software descriptions, and data sources that can be used for threat intelligence and analysis. MITRE ATT&CK is the most likely resource that a security analyst would adopt to implement the most up-to-date and effective security methodologies for their clients.

Verified References:

? <https://attack.mitre.org/>

? <https://resources.infosecinstitute.com/topic/top-threat-modeling-frameworks-stride-owasp-top-10-mitre-attck-framework/>

NEW QUESTION 216

An engineering team has deployed a new VPN service that requires client certificates to be used in order to successfully connect. On iOS devices, however, the following error occurs after importing the .p12 certificate file:

mbedTLS: ca certificate undefined

Which of the following is the root cause of this issue?

- A. iOS devices have an empty root certificate chain by default.
- B. OpenSSL is not configured to support PKCS#12 certificate files.
- C. The VPN client configuration is missing the CA private key.
- D. The iOS keychain imported only the client public and private keys.

Answer: D

Explanation:

The root cause of this issue is that the iOS keychain imported only the client public and private keys, but not the CA certificate. A PKCS#12 file (.p12 or .pfx) is a file format that contains a certificate and its private key, optionally protected by a password. A PKCS#12 file can also contain intermediate certificates or root certificates that are needed to verify the certificate chain. However, when importing a PKCS#12 file into the iOS keychain, only the certificate and its private key are imported, not the CA certificate. This means that the iOS device cannot verify the authenticity of the certificate, and displays the error message “mbedTLS: ca certificate undefined”. To fix this issue, the CA certificate needs to be imported separately into the iOS keychain, either manually or using a configuration profile. Verified References:

- ? <https://developer.apple.com/documentation/devicemanagement/certificatepkcs12>
- ? <https://support.apple.com/guide/deployment/distribute-certificates-depcdc9a6a3f/web>
- ? <https://openvpn.net/faq/how-do-i-use-a-client-certificate-and-private-key-from-the-ios-keychain/>

NEW QUESTION 217

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