

## CAS-003 Dumps

### CompTIA Advanced Security Practitioner (CASP)

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**NEW QUESTION 1**

An engineer needs to provide access to company resources for several offshore contractors. The contractors require:  
Access to a number of applications, including internal websites  
Access to database data and the ability to manipulate it  
The ability to log into Linux and Windows servers remotely  
Which of the following remote access technologies are the BEST choices to provide all of this access securely? (Choose two.)

- A. VTC
- B. VRRP
- C. VLAN
- D. VDI
- E. VPN
- F. Telnet

**Answer:** DE

**NEW QUESTION 2**

During the deployment of a new system, the implementation team determines that APIs used to integrate the new system with a legacy system are not functioning properly. Further investigation shows there is a misconfigured encryption algorithm used to secure data transfers between systems. Which of the following should the project manager use to determine the source of the defined algorithm in use?

- A. Code repositories
- B. Security requirements traceability matrix
- C. Software development lifecycle
- D. Data design diagram
- E. Roles matrix
- F. Implementation guide

**Answer:** F

**NEW QUESTION 3**

A network engineer is upgrading the network perimeter and installing a new firewall, IDS, and external edge router. The IDS is reporting elevated UDP traffic, and the internal routers are reporting high utilization. Which of the following is the BEST solution?

- A. Reconfigure the firewall to block external UDP traffic.
- B. Establish a security baseline on the IDS.
- C. Block echo reply traffic at the firewall.
- D. Modify the edge router to not forward broadcast traffi

**Answer:** B

**NEW QUESTION 4**

DRAG DROP

A security consultant is considering authentication options for a financial institution. The following authentication options are available security mechanism to the appropriate use case. Options may be used once.

Use case	Security mechanism
Where users are attached to the corporate network, single sign-on will be utilized	<div></div>
Authentication to cloud-based corporate portals will feature single sign-on	<div></div>
Any infrastructure portal will require time-based authentication	<div></div>
Customers will have delegated access to multiple digital services	<div></div>

Kerberos

oAuth

OTP

SAML

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Use case	Security mechanism
Where users are attached to the corporate network, single sign-on will be utilized	oAuth
Authentication to cloud-based corporate portals will feature single sign-on	SAML
Any infrastructure portal will require time-based authentication	OTP
Customers will have delegated access to multiple digital services	Kerberos

#### NEW QUESTION 5

Given the following output from a local PC:

```
C:\>ipconfig
Windows IP Configuration

Wireless LAN adapter Wireless Network Connection:
Connection-specific DNS Suffix . : comptia.org
Link-local IPv6 Address . . . . . : fe80::4551:67ba:77a6:62e1%11
IPv4 Address. . . . . : 172.30.0.28
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . : 172.30.0.5
C:\>
```

Which of the following ACLs on a stateful host-based firewall would allow the PC to serve an intranet website?

- A. Allow 172.30.0.28:80 -> ANY
- B. Allow 172.30.0.28:80 -> 172.30.0.0/16
- C. Allow 172.30.0.28:80 -> 172.30.0.28:443
- D. Allow 172.30.0.28:80 -> 172.30.0.28:53

**Answer:** B

#### NEW QUESTION 6

A penetration tester has been contracted to conduct a physical assessment of a site. Which of the following is the MOST plausible method of social engineering to be conducted during this engagement?

- A. Randomly calling customer employees and posing as a help desk technician requiring user password to resolve issues
- B. Posing as a copier service technician and indicating the equipment had “phoned home” to alert the technician for a service call
- C. Simulating an illness while at a client location for a sales call and then recovering once listening devices are installed
- D. Obtaining fake government credentials and impersonating law enforcement to gain access to a company facility

**Answer:** A

#### NEW QUESTION 7

An organization has employed the services of an auditing firm to perform a gap assessment in preparation for an upcoming audit. As part of the gap assessment, the auditor supporting the assessment recommends the organization engage with other industry partners to share information about emerging attacks to organizations in the industry in which the organization functions. Which of the following types of information could be drawn from such participation?

- A. Threat modeling
- B. Risk assessment
- C. Vulnerability data
- D. Threat intelligence
- E. Risk metrics
- F. Exploits frameworks

**Answer:** F

#### NEW QUESTION 8

A server (10.0.0.2) on the corporate network is experiencing a DoS from a number of marketing desktops that have been compromised and are connected to a separate network segment. The security engineer implements the following configuration on the management router:

```
Router(config)# ip route 192.168.3.1 255.255.255.255 Null0
Router(config)# route-map DATA
Router(config-route-map)#match tag 101
Router(config-route-map)#set ip next-hop 192.168.3.1
Router(config-route-map)#set community no-export

Router(config-router)#redistribute static route-map DATA

Router(config)#ip route 10.0.0.2 255.255.255.255 Null0 tag 101
```

Which of the following is the engineer implementing?

- A. Remotely triggered black hole
- B. Route protection
- C. Port security
- D. Transport security
- E. Address space layout randomization

**Answer:** B

#### NEW QUESTION 9

A user workstation was infected with a new malware variant as a result of a drive-by download. The security administrator reviews key controls on the infected workstation and discovers the following:

Antivirus	Enabled
AV Engine	Current
AV Signatures	Auto Update
Update Status	Success
Heuristic Scanning	Enabled
Scan Type	On Access Scanning
Malware Engine	Enabled
Auto System Update	Enabled
Last System Update	Yesterday 2 PM
DLP Agent	Disabled
DLP DB Update	Poll every 5 mins
Proxy Settings	Auto

Which of the following would BEST prevent the problem from reoccurring in the future? (Choose two.)

- A. Install HIPS
- B. Enable DLP
- C. Install EDR
- D. Install HIDS
- E. Enable application blacklisting
- F. Improve patch management processes

**Answer:** BE

#### NEW QUESTION 10

A systems administrator at a medical imaging company discovers protected health information (PHI) on a general purpose file server. Which of the following steps should the administrator take NEXT?

- A. Isolate all of the PHI on its own VLAN and keep it segregated at Layer 2
- B. Immediately encrypt all PHI with AES 256
- C. Delete all PHI from the network until the legal department is consulted
- D. Consult the legal department to determine legal requirements

**Answer:** B

**NEW QUESTION 10**

One of the objectives of a bank is to instill a security awareness culture. Which of the following are techniques that could help to achieve this? (Choose two.)

- A. Blue teaming
- B. Phishing simulations
- C. Lunch-and-learn
- D. Random audits
- E. Continuous monitoring
- F. Separation of duties

**Answer:** BE

**NEW QUESTION 13**

The risk subcommittee of a corporate board typically maintains a master register of the most prominent risks to the company. A centralized holistic view of risk is particularly important to the corporate Chief Information Security Officer (CISO) because:

- A. IT systems are maintained in silos to minimize interconnected risks and provide clear risk boundaries used to implement compensating controls
- B. risks introduced by a system in one business unit can affect other business units in ways in which the individual business units have no awareness
- C. corporate general counsel requires a single system boundary to determine overall corporate risk exposure
- D. major risks identified by the subcommittee merit the prioritized allocation of scare funding to address cybersecurity concerns

**Answer:** A

**NEW QUESTION 15**

An insurance company has two million customers and is researching the top transactions on its customer portal. It identifies that the top transaction is currently password reset. Due to users not remembering their secret questions, a large number of calls are consequently routed to the contact center for manual password resets. The business wants to develop a mobile application to improve customer engagement in the future, continue with a single factor of authentication, minimize management overhead of the solution, remove passwords, and eliminate to the contact center. Which of the following techniques would BEST meet the requirements? (Choose two.)

- A. Magic link sent to an email address
- B. Customer ID sent via push notification
- C. SMS with OTP sent to a mobile number
- D. Third-party social login
- E. Certificate sent to be installed on a device
- F. Hardware tokens sent to customers

**Answer:** CE

**NEW QUESTION 16**

A security engineer has implemented an internal user access review tool so service teams can baseline user accounts and group memberships. The tool is functional and popular among its initial set of onboarded teams. However, the tool has not been built to cater to a broader set of internal teams yet. The engineer has sought feedback from internal stakeholders, and a list of summarized requirements is as follows:

The tool needs to be responsive so service teams can query it, and then perform an automated response action.

The tool needs to be resilient to outages so service teams can perform the user access review at any point in time and meet their own SLAs.

The tool will become the system-of-record for approval, reapproval, and removal life cycles of group memberships and must allow for data retrieval after failure.

Which of the following need specific attention to meet the requirements listed above? (Choose three.)

- A. Scalability
- B. Latency
- C. Availability
- D. Usability
- E. Recoverability
- F. Maintainability

**Answer:** BCE

**NEW QUESTION 21**

The Chief Information Security Officer (CISO) has asked the security team to determine whether the organization is susceptible to a zero-day exploit utilized in the banking industry and whether attribution is possible. The CISO has asked what process would be utilized to gather the information, and then wants to apply signatureless controls to stop these kinds of attacks in the future. Which of the following are the MOST appropriate ordered steps to take to meet the CISO's request?

- A. 1. Perform the ongoing research of the best practices2. Determine current vulnerabilities and threats3. Apply Big Data techniques4. Use antivirus control
- B. 1. Apply artificial intelligence algorithms for detection2. Inform the CERT team3. Research threat intelligence and potential adversaries4. Utilize threat intelligence to apply Big Data techniques
- C. 1. Obtain the latest IOCs from the open source repositories2. Perform a sweep across the network to identify positive matches3. Sandbox any suspicious files4. Notify the CERT team to apply a future proof threat model
- D. 1. Analyze the current threat intelligence2. Utilize information sharing to obtain the latest industry IOCs3. Perform a sweep across the network to identify positive matches4. Apply machine learning algorithms

**Answer:** C

**NEW QUESTION 26**

A software development team is conducting functional and user acceptance testing of internally developed web applications using a COTS solution. For automated testing, the solution uses valid user credentials from the enterprise directory to authenticate to each application. The solution stores the username in plain text and the corresponding password as an encoded string in a script within a file, located on a globally accessible network share. The account credentials used belong to the development team lead. To reduce the risks associated with this scenario while minimizing disruption to ongoing testing, which of the following are the BEST

actions to take? (Choose two.)

- A. Restrict access to the network share by adding a group only for developers to the share's ACL
- B. Implement a new COTS solution that does not use hard-coded credentials and integrates with directory services
- C. Obfuscate the username within the script file with encoding to prevent easy identification and the account used
- D. Provision a new user account within the enterprise directory and enable its use for authentication to the target application
- E. Share the username and password with all developers for use in their individual scripts
- F. Redesign the web applications to accept single-use, local account credentials for authentication

**Answer:** AB

#### NEW QUESTION 29

Management is reviewing the results of a recent risk assessment of the organization's policies and procedures. During the risk assessment it is determined that procedures associated with background checks have not been effectively implemented. In response to this risk, the organization elects to revise policies and procedures related to background checks and use a third-party to perform background checks on all new employees. Which of the following risk management strategies has the organization employed?

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

**Answer:** B

#### NEW QUESTION 31

A company wants to perform analysis of a tool that is suspected to contain a malicious payload. A forensic analyst is given the following snippet:

```
^32^[34fda19(fd^43gfd/home/user/lib/module.so.343jk^rfw(342fds43g
```

Which of the following did the analyst use to determine the location of the malicious payload?

- A. Code deduplicators
- B. Binary reverse-engineering
- C. Fuzz testing
- D. Security containers

**Answer:** B

#### NEW QUESTION 36

A newly hired systems administrator is trying to connect a new and fully updated, but very customized, Android device to access corporate resources. However, the MDM enrollment process continually fails. The administrator asks a security team member to look into the issue. Which of the following is the MOST likely reason the MDM is not allowing enrollment?

- A. The OS version is not compatible
- B. The OEM is prohibited
- C. The device does not support FDE
- D. The device is rooted

**Answer:** D

#### NEW QUESTION 40

A SaaS-based email service provider often receives reports from legitimate customers that their IP netblocks are on blacklists and they cannot send email. The SaaS has confirmed that affected customers typically have IP addresses within broader network ranges and some abusive customers within the same IP ranges may have performed spam campaigns. Which of the following actions should the SaaS provider perform to minimize legitimate customer impact?

- A. Inform the customer that the service provider does not have any control over third-party blacklist entries
- B. The customer should reach out to the blacklist operator directly
- C. Perform a takedown of any customer accounts that have entries on email blacklists because this is a strong indicator of hostile behavior
- D. Work with the legal department and threaten legal action against the blacklist operator if the netblocks are not removed because this is affecting legitimate traffic
- E. Establish relationship with a blacklist operators so broad entries can be replaced with more granular entries and incorrect entries can be quickly pruned

**Answer:** D

#### NEW QUESTION 44

An agency has implemented a data retention policy that requires tagging data according to type before storing it in the data repository. The policy requires all business emails be automatically deleted after two years. During an open records investigation, information was found on an employee's work computer concerning a conversation that occurred three years prior and proved damaging to the agency's reputation. Which of the following MOST likely caused the data leak?

- A. The employee manually changed the email client retention settings to prevent deletion of emails
- B. The file that contained the damaging information was mistagged and retained on the server for longer than it should have been
- C. The email was encrypted and an exception was put in place via the data classification application
- D. The employee saved a file on the computer's hard drive that contained archives of emails, which were more than two years old

**Answer:** D

#### NEW QUESTION 48

A security architect is implementing security measures in response to an external audit that found vulnerabilities in the corporate collaboration tool suite. The report

identified the lack of any mechanism to provide confidentiality for electronic correspondence between users and between users and group mailboxes. Which of the following controls would BEST mitigate the identified vulnerability?

- A. Issue digital certificates to all users, including owners of group mailboxes, and enable S/MIME
- B. Federate with an existing PKI provider, and reject all non-signed emails
- C. Implement two-factor email authentication, and require users to hash all email messages upon receipt
- D. Provide digital certificates to all systems, and eliminate the user group or shared mailboxes

**Answer:** A

#### NEW QUESTION 53

An engineer maintains a corporate-owned mobility infrastructure, and the organization requires that all web browsing using corporate-owned resources be monitored. Which of the following would allow the organization to meet its requirement? (Choose two.)

- A. Exempt mobile devices from the requirement, as this will lead to privacy violations
- B. Configure the devices to use an always-on IPsec VPN
- C. Configure all management traffic to be tunneled into the enterprise via TLS
- D. Implement a VDI solution and deploy supporting client apps to devices
- E. Restrict application permissions to establish only HTTPS connections outside of the enterprise boundary

**Answer:** BE

#### NEW QUESTION 54

A security controls assessor intends to perform a holistic configuration compliance test of networked assets. The assessor has been handed a package of definitions provided in XML format, and many of the files have two common tags within them: “<object object\_ref=... />” and “<state state\_ref=... />”. Which of the following tools BEST supports the use of these definitions?

- A. HTTP interceptor
- B. Static code analyzer
- C. SCAP scanner
- D. XML fuzzer

**Answer:** D

#### NEW QUESTION 55

Legal authorities notify a company that its network has been compromised for the second time in two years. The investigation shows the attackers were able to use the same vulnerability on different systems in both attacks. Which of the following would have allowed the security team to use historical information to protect against the second attack?

- A. Key risk indicators
- B. Lessons learned
- C. Recovery point objectives
- D. Tabletop exercise

**Answer:** A

#### NEW QUESTION 58

A team is at the beginning stages of designing a new enterprise-wide application. The new application will have a large database and require a capital investment in hardware. The Chief Information Officer (?IO) has directed the team to save money and reduce the reliance on the datacenter, and the vendor must specialize in hosting large databases in the cloud. Which of the following cloud-hosting options would BEST meet these needs?

- A. Multi-tenancy SaaS
- B. Hybrid IaaS
- C. Single-tenancy PaaS
- D. Community IaaS

**Answer:** C

#### NEW QUESTION 60

A software development manager is running a project using agile development methods. The company cybersecurity engineer has noticed a high number of vulnerabilities have been making it into production code on the project.

Which of the following methods could be used in addition to an integrated development environment to reduce the severity of the issue?

- A. Conduct a penetration test on each function as it is developed
- B. Develop a set of basic checks for common coding errors
- C. Adopt a waterfall method of software development
- D. Implement unit tests that incorporate static code analyzers

**Answer:** D

#### NEW QUESTION 65

Given the code snippet below:

```
#include <stdio.h>

#include <stdlib.h>

int main(void) {

    char username[8];

    printf("Enter your username: ");

    gets(username)

    printf("\n");

    if (username == NULL) {

        printf("you did not enter a username\n");

    }

    if strcmp(username, "admin") {

        printf("%s", "Admin user, enter your physical token value: ");

        // rest of conditional logic here has been snipped for brevity

    } else {

        printf("Standard user, enter your password: ");

        // rest of conditional logic here has been snipped for brevity

    }

}
```

Which of the following vulnerability types is the MOST concerning?

- A. Only short usernames are supported, which could result in brute forcing of credentials.
- B. Buffer overflow in the username parameter could lead to a memory corruption vulnerability.
- C. Hardcoded usernames with different code paths taken depend on which user is entered.
- D. Format string vulnerability is present for admin users but not for standard user

**Answer: B**

#### NEW QUESTION 66

A recent CRM upgrade at a branch office was completed after the desired deadline. Several technical issues were found during the upgrade and need to be discussed in depth before the next branch office is upgraded. Which of the following should be used to identify weak processes and other vulnerabilities?

- A. Gap analysis
- B. Benchmarks and baseline results
- C. Risk assessment
- D. Lessons learned report

**Answer: D**

#### NEW QUESTION 68

A threat advisory alert was just emailed to the IT security staff. The alert references specific types of host operating systems that can allow an unauthorized person to access files on a system remotely. A fix was recently published, but it requires a recent endpoint protection engine to be installed prior to running the fix. Which of the following MOST likely need to be configured to ensure the system are mitigated accordingly? (Select two.)

- A. Antivirus
- B. HIPS
- C. Application whitelisting
- D. Patch management
- E. Group policy implementation
- F. Firmware updates

**Answer: DF**

#### NEW QUESTION 73

A systems administrator recently joined an organization and has been asked to perform a security assessment of controls on the organization's file servers, which contain client data from a number of sensitive systems. The administrator needs to compare documented access requirements to the access implemented within the file system.

Which of the following is MOST likely to be reviewed during the assessment? (Select two.)

- A. Access control list
- B. Security requirements traceability matrix

- C. Data owner matrix
- D. Roles matrix
- E. Data design document
- F. Data access policies

**Answer:** DF

#### NEW QUESTION 75

A consultant is hired to perform a passive vulnerability assessment of a company to determine what information might be collected about the company and its employees. The assessment will be considered successful if the consultant can discover the name of one of the IT administrators. Which of the following is MOST likely to produce the needed information?

- A. Whois
- B. DNS enumeration
- C. Vulnerability scanner
- D. Fingerprinting

**Answer:** A

#### NEW QUESTION 77

A security engineer is embedded with a development team to ensure security is built into products being developed. The security engineer wants to ensure developers are not blocked by a large number of security requirements applied at specific schedule points. Which of the following solutions BEST meets the engineer's goal?

- A. Schedule weekly reviews of all unit test results with the entire development team and follow up between meetings with surprise code inspections.
- B. Develop and implement a set of automated security tests to be installed on each development team leader's workstation.
- C. Enforce code quality and reuse standards into the requirements definition phase of the waterfall development process.
- D. Deploy an integrated software tool that builds and tests each portion of code committed by developers and provides feedback.

**Answer:** C

#### NEW QUESTION 79

An organization enables BYOD but wants to allow users to access the corporate email, calendar, and contacts from their devices. The data associated with the user's accounts is sensitive, and therefore, the organization wants to comply with the following requirements:

Active full-device encryption Enabled remote-device wipe Blocking unsigned applications

Containerization of email, calendar, and contacts

Which of the following technical controls would BEST protect the data from attack or loss and meet the above requirements?

- A. Require frequent password changes and disable NFC.
- B. Enforce device encryption and activate MAM.
- C. Install a mobile antivirus application.
- D. Configure and monitor devices with an MD

**Answer:** B

#### NEW QUESTION 84

Which of the following is the GREATEST security concern with respect to BYOD?

- A. The filtering of sensitive data out of data flows at geographic boundaries.
- B. Removing potential bottlenecks in data transmission paths.
- C. The transfer of corporate data onto mobile corporate devices.
- D. The migration of data into and out of the network in an uncontrolled manner

**Answer:** D

#### NEW QUESTION 87

A security administrator wants to implement two-factor authentication for network switches and routers. The solution should integrate with the company's RADIUS server, which is used for authentication to the network infrastructure devices. The security administrator implements the following:

An HOTP service is installed on the RADIUS server.

The RADIUS server is configured to require the HOTP service for authentication.

The configuration is successfully tested using a software supplicant and enforced across all network devices. Network administrators report they are unable to log onto the network devices because they are not being prompted for the second factor.

Which of the following should be implemented to BEST resolve the issue?

- A. Replace the password requirement with the second factor
- B. Network administrators will enter their username and then enter the token in place of their password in the password field.
- C. Configure the RADIUS server to accept the second factor appended to the password
- D. Network administrators will enter a password followed by their token in the password field.
- E. Reconfigure network devices to prompt for username, password, and a token
- F. Network administrators will enter their username and password, and then they will enter the token.
- G. Install a TOTP service on the RADIUS server in addition to the HOTP service
- H. Use the HOTP on older devices that do not support two-factor authentication
- I. Network administrators will use a web portal to log onto these devices

**Answer:** B

#### NEW QUESTION 90

A government organization operates and maintains several ICS environments. The categorization of one of the ICS environments led to a moderate baseline. The organization has complied a set of applicable security controls based on this categorization.

Given that this is a unique environment, which of the following should the organization do NEXT to determine if other security controls should be considered?

- A. Check for any relevant or required overlays.
- B. Review enhancements within the current control set.
- C. Modify to a high-baseline set of controls.
- D. Perform continuous monitorin

**Answer: C**

#### NEW QUESTION 93

A security analyst is inspecting pseudocode of the following multithreaded application:

- 1. perform daily ETL of data
  - 1.1 validate that yesterday's data model file exists
  - 1.2 validate that today's data model file does not exist
  - 1.2 extract yesterday's data model
  - 1.3 transform the format
  - 1.4 load the transformed data into today's data model file
  - 1.5 exit

Which of the following security concerns is evident in the above pseudocode?

- A. Time of check/time of use
- B. Resource exhaustion
- C. Improper storage of sensitive data
- D. Privilege escalation

**Answer: A**

#### NEW QUESTION 98

A newly hired security analyst has joined an established SOC team. Not long after going through corporate orientation, a new attack method on web-based applications was publicly revealed. The security analyst immediately brings this new information to the team lead, but the team lead is not concerned about it. Which of the following is the MOST likely reason for the team lead's position?

- A. The organization has accepted the risks associated with web-based threats.
- B. The attack type does not meet the organization's threat model.
- C. Web-based applications are on isolated network segments.
- D. Corporate policy states that NIPS signatures must be updated every hou

**Answer: A**

#### NEW QUESTION 102

The Chief Information Officer (CISO) is concerned that certain systems administrators will privileged access may be reading other user's emails. Review of a tool's output shows the administrators have used web mail to log into other users' inboxes. Which of the following tools would show this type of output?

- A. Log analysis tool
- B. Password cracker
- C. Command-line tool
- D. File integrity monitoring tool

**Answer: A**

#### NEW QUESTION 107

A security analyst is troubleshooting a scenario in which an operator should only be allowed to reboot remote hosts but not perform other activities. The analyst inspects the following portions of different configuration files:

Configuration file 1: Operator ALL=/sbin/reboot Configuration file 2:

Command="/sbin/shutdown now", no-x11-forwarding, no-pty, ssh-dss Configuration file 3:

Operator:x:1000:1000:/home/operator:/bin/bash

Which of the following explains why an intended operator cannot perform the intended action?

- A. The sudoers file is locked down to an incorrect command
- B. SSH command shell restrictions are misconfigured
- C. The passwd file is misconfigured
- D. The SSH command is not allowing a pty session

**Answer: D**

#### NEW QUESTION 109

The director of sales asked the development team for some small changes to increase the usability of an application used by the sales team. Prior security reviews of the code showed no significant vulnerabilities, and since the changes were small, they were given a peer review and then pushed to the live environment. Subsequent vulnerability scans now show numerous flaws that were not present in the previous versions of the code. Which of the following is an SDLC best practice that should have been followed?

- A. Versioning
- B. Regression testing
- C. Continuous integration
- D. Integration testing

**Answer: B**

#### NEW QUESTION 112

An organization is engaged in international business operations and is required to comply with various legal frameworks. In addition to changes in legal frameworks, which of the following is a primary purpose of a compliance management program?

- A. Following new requirements that result from contractual obligations
- B. Answering requests from auditors that relate to e-discovery
- C. Responding to changes in regulatory requirements
- D. Developing organizational policies that relate to hiring and termination procedures

**Answer: C**

#### NEW QUESTION 114

Company.org has requested a black-box security assessment be performed on key cyber terrain. On area of concern is the company's SMTP services. The security assessor wants to run reconnaissance before taking any additional action and wishes to determine which SMTP server is Internet-facing. Which of the following commands should the assessor use to determine this information?

- A. `dnsrecon -d company.org -t SOA`
- B. `dig company.org mx`
- C. `nc -v company.org`
- D. `whois company.org`

**Answer: A**

#### NEW QUESTION 117

A medical device company is implementing a new COTS antivirus solution in its manufacturing plant.

All validated machines and instruments must be retested for interoperability with the new software. Which of the following would BEST ensure the software and instruments are working as designed?

- A. System design documentation
- B. User acceptance testing
- C. Peer review
- D. Static code analysis testing
- E. Change control documentation

**Answer: A**

#### NEW QUESTION 118

A company has created a policy to allow employees to use their personally owned devices. The Chief Information Officer (CISO) is getting reports of company data appearing on unapproved forums and an increase in theft of personal electronic devices. Which of the following security controls would BEST reduce the risk of exposure?

- A. Disk encryption on the local drive
- B. Group policy to enforce failed login lockout
- C. Multifactor authentication
- D. Implementation of email digital signatures

**Answer: A**

#### NEW QUESTION 123

A company has decided to lower costs by conducting an internal assessment on specific devices and various internal and external subnets. The assessment will be done during regular office hours, but it must not affect any production servers. Which of the following would MOST likely be used to complete the assessment? (Select two.)

- A. Agent-based vulnerability scan
- B. Black-box penetration testing
- C. Configuration review
- D. Social engineering
- E. Malware sandboxing
- F. Tabletop exercise

**Answer: AC**

#### NEW QUESTION 124

During a routine network scan, a security administrator discovered an unidentified service running on a new embedded and unmanaged HVAC controller, which is used to monitor the company's datacenter

Port state 161/UDP open 162/UDP open 163/TCP open

The enterprise monitoring service requires SNMP and SNMPTRAP connectivity to operate. Which of the following should the security administrator implement to harden the system?

- A. Patch and restart the unknown services.
- B. Segment and firewall the controller's network
- C. Disable the unidentified service on the controller.
- D. Implement SNMPv3 to secure communication.
- E. Disable TCP/UDP PORTS 161 THROUGH 163

**Answer:** D

#### NEW QUESTION 126

An organization is attempting to harden its web servers and reduce the information that might be disclosed by potential attackers. A security analyst is reviewing a vulnerability scan result from a recent web server scan.

Portions of the scan results are shown below: Finding# 5144322

First time detected 10 nov 2015 09:00 GMT\_0600

Last time detected 10 nov 2015 09:00 GMT\_0600

CVSS base: 5

Access path: http://myorg.com/maillinglist.htm

Request: GET http://maillinglist.aspx?content=volunteer Response: C:\Documents\MarySmith\maillinglist.pdf

Which of the following lines indicates information disclosure about the host that needs to be remediated?

A. Response: C:\Documents\marysmith\maillinglist.pdf

B. Finding#5144322

C. First Time detected 10 nov 2015 09:00 GMT\_0600

D. Access path: http://myorg.com/maillinglist.htm

E. Request: GET http://myorg.com/maillinglist.aspx?content=volunteer

**Answer:** A

#### NEW QUESTION 130

A technician receives the following security alert from the firewall's automated system: Match\_Time: 10/10/16 16:20:43

Serial: 002301028176

Device\_name: COMPSEC1 Type: CORRELATION

Srcuser: domain\samjones Src: 10.50.50.150

Object\_name: beacon detection Object\_id: 6005

Category: compromised-host Severity: medium

Evidence: host repeatedly visited a dynamic DNS domain (17 time) After reviewing the alert, which of the following is the BEST analysis?

A. the alert is a false positive because DNS is a normal network function.

B. this alert indicates a user was attempting to bypass security measures using dynamic DNS.

C. this alert was generated by the SIEM because the user attempted too many invalid login attempts.

D. this alert indicates an endpoint may be infected and is potentially contacting a suspect host

**Answer:** B

#### NEW QUESTION 132

A malware infection spread to numerous workstations within the marketing department. The workstations were quarantined and replaced with machines. Which of the following represents a FINAL step in the prediction of the malware?

A. The workstations should be isolated from the network.

B. The workstations should be donated for reuse.

C. The workstations should be reimaged

D. The workstations should be patched and scanned

**Answer:** C

#### NEW QUESTION 136

A systems administrator establishes a CIFS share on a UNIX device to share data to Windows systems. The security authentication on the Windows domain is set to the highest level. Windows users are stating that they cannot authenticate to the UNIX share. Which of the following settings on the UNIX server would correct this problem?

A. Refuse LM and only accept NTLMv2

B. Accept only LM

C. Refuse NTLMv2 and accept LM

D. Accept only NTLM

**Answer:** A

#### Explanation:

In a Windows network, NT LAN Manager (NTLM) is a suite of Microsoft security protocols that provides authentication, integrity, and confidentiality to users. NTLM is the successor to the authentication protocol in Microsoft LAN Manager (LANMAN or LM), an older Microsoft product, and attempts to provide backwards compatibility with LANMAN. NTLM version 2 (NTLMv2), which was introduced in Windows NT 4.0 SP4 (and natively supported in Windows 2000), enhances NTLM security by hardening the protocol against many spoofing attacks, and adding the ability for a server to authenticate to the client.

This question states that the security authentication on the Windows domain is set to the highest level. This will be NTLMv2. Therefore, the answer to the question is to allow NTLMv2 which will enable the Windows users to connect to the UNIX server. To improve security, we should disable the old and insecure LM protocol as it is not used by the Windows computers.

Incorrect Answers:

B: The question states that the security authentication on the Windows domain is set to the highest level. This will be NTLMv2, not LM.

C: The question states that the security authentication on the Windows domain is set to the highest level. This will be NTLMv2, not LM so we need to allow NTLMv2.

D: The question states that the security authentication on the Windows domain is set to the highest level. This will be NTLMv2, not NTLM (version1). References: [https://en.wikipedia.org/wiki/NT\\_LAN\\_Manager](https://en.wikipedia.org/wiki/NT_LAN_Manager)

#### NEW QUESTION 139

A security architect is designing a new infrastructure using both type 1 and type 2 virtual machines. In addition to the normal complement of security controls (e.g.

antivirus, host hardening, HIPS/NIDS) the security architect needs to implement a mechanism to securely store cryptographic keys used to sign code and code modules on the VMs. Which of the following will meet this goal without requiring any hardware pass-through implementations?

- A. vTPM
- B. HSM
- C. TPM
- D. INE

**Answer:** A

**Explanation:**

A Trusted Platform Module (TPM) is a microchip designed to provide basic security-related functions, primarily involving encryption keys. The TPM is usually installed on the motherboard of a computer, and it communicates with the remainder of the system by using a hardware bus.

A vTPM is a virtual Trusted Platform Module.

IBM extended the current TPM V1.2 command set with virtual TPM management commands that allow us to create and delete instances of TPMs. Each created instance of a TPM holds an association with a virtual machine (VM) throughout its lifetime on the platform.

Incorrect Answers:

B: A hardware security module (HSM) is a physical computing device that safeguards and manages digital keys for strong authentication and provides cryptoprocessing. These modules traditionally come in the form of a plug-in card or an external device that attaches directly to a computer or network server. This solution would require hardware pass-through.

C: A Trusted Platform Module (TPM) is a microchip designed to provide basic security-related functions, primarily involving encryption keys. The TPM is usually installed on the motherboard of a computer, and it communicates with the remainder of the system by using a hardware bus. Virtual machines cannot access a hardware TPM.

D: INE (intelligent network element) is not used for storing cryptographic keys. References:

[https://en.wikipedia.org/wiki/Hardware\\_security\\_module](https://en.wikipedia.org/wiki/Hardware_security_module) <http://HYPERLINK>

"[http://researcher.watson.ibm.com/researcher/view\\_group.php?id=2850](http://researcher.watson.ibm.com/researcher/view_group.php?id=2850)"researcher.watson.ibm.co m/researcher/[HYPERLINK](http://HYPERLINK)

"[http://researcher.watson.ibm.com/researcher/view\\_group.php?id=2850](http://researcher.watson.ibm.com/researcher/view_group.php?id=2850)"view\_group.php?id=2850

**NEW QUESTION 142**

A developer is determining the best way to improve security within the code being developed. The developer is focusing on input fields where customers enter their credit card details. Which of the following techniques, if implemented in the code, would be the MOST effective in protecting the fields from malformed input?

- A. Client side input validation
- B. Stored procedure
- C. Encrypting credit card details
- D. Regular expression matching

**Answer:** D

**Explanation:**

Regular expression matching is a technique for reading and validating input, particularly in web software. This question is asking about securing input fields where customers enter their credit card details. In this case, the expected input into the credit card number field would be a sequence of numbers of a certain length. We can use regular expression matching to verify that the input is indeed a sequence of numbers. Anything that is not a sequence of numbers could be malicious code. Incorrect Answers:

A: Client side input validation could be used to validate the input into input fields. Client side input validation is where the validation is performed by the web browser. However this question is asking for the BEST answer. A user with malicious intent could bypass the client side input validation whereas it would be much more difficult to bypass regular expression matching implemented in the application code.

B: A stored procedure is SQL code saved as a script. A SQL user can run the stored procedure rather than typing all the SQL code contained in the stored procedure. A stored procedure is not used for validating input.

C: Any stored credit card details should be encrypted for security purposes. Also a secure method of transmission such as SSL or TLS should be used to encrypt the data when transmitting the credit card number over a network such as the Internet. However, encrypting credit card details is not a way of securing the input fields in an application.

**NEW QUESTION 145**

At 9:00 am each morning, all of the virtual desktops in a VDI implementation become extremely slow and/or unresponsive. The outage lasts for around 10 minutes, after which everything runs properly again. The administrator has traced the problem to a lab of thin clients that are all booted at 9:00 am each morning. Which of the following is the MOST likely cause of the problem and the BEST solution? (Select TWO).

- A. Add guests with more memory to increase capacity of the infrastructure.
- B. A backup is running on the thin clients at 9am every morning.
- C. Install more memory in the thin clients to handle the increased load while booting.
- D. Booting all the lab desktops at the same time is creating excessive I/O.
- E. Install 10-Gb uplinks between the hosts and the lab to increase network capacity.
- F. Install faster SSD drives in the storage system used in the infrastructure.
- G. The lab desktops are saturating the network while booting.
- H. The lab desktops are using more memory than is available to the host system

**Answer:** DF

**Explanation:**

The problem lasts for 10 minutes at 9am every day and has been traced to the lab desktops. This question is asking for the MOST likely cause of the problem. The most likely cause of the problem is that the lab desktops being started at the same time at the beginning of the day is causing excessive disk I/O as the operating systems are being read and loaded from disk storage.

The solution is to install faster SSD drives in the storage system that contains the desktop operating systems.

Incorrect Answers:

A: If a lack of memory was the cause of the problem, the problem would occur throughout the day; not just for the 10 minutes it takes to boot the lab desktops. Therefore adding guests with more memory will not solve the problem so this answer is incorrect.

B: This question is asking for the MOST likely cause of the problem. A backup running on the thin clients at 9am every morning as soon as the lab desktops start up is an unlikely cause of the problem. It is much more likely that the lab desktops starting up at the same time is causing high disk I/O.

C: The lab desktops starting up would not cause memory issues on the thin clients so adding memory will not solve the issue.

E: The lab desktops starting up would not cause network bandwidth issues so increasing the bandwidth will not solve the issue.

G: The lab desktops starting up would not saturate the network.

H: If the lab desktops are using more memory than is available to the host systems, the problem would occur throughout the day; not just for the 10 minutes it takes to boot the lab desktops.

**NEW QUESTION 147**

The risk manager has requested a security solution that is centrally managed, can easily be updated, and protects end users' workstations from both known and unknown malicious attacks when connected to either the office or home network. Which of the following would BEST meet this requirement?

- A. HIPS
- B. UTM
- C. Antivirus
- D. NIPS
- E. DLP

**Answer:** A

**Explanation:**

In this question, we need to protect the workstations when connected to either the office or home network. Therefore, we need a solution that stays with the workstation when the user takes the computer home.

A HIPS (Host Intrusion Prevention System) is software installed on a host which monitors the host for suspicious activity by analyzing events occurring within that host with the aim of detecting and preventing intrusion.

Intrusion prevention systems (IPS), also known as intrusion detection and prevention systems (IDPS), are network security appliances that monitor network and/or system activities for malicious activity. The main functions of intrusion prevention systems are to identify malicious activity, log information about this activity, attempt to block/stop it, and report it.

Intrusion prevention systems are considered extensions of intrusion detection systems because they both monitor network traffic and/or system activities for malicious activity. The main differences are, unlike intrusion detection systems, intrusion prevention systems are placed in-line and are able to actively prevent/block intrusions that are detected. More specifically, IPS can take such actions as sending an alarm, dropping the malicious packets, resetting the connection and/or blocking the traffic from the offending IP address.

Incorrect Answers:

B: Unified threat management (UTM) is a primary network gateway defense solution for organizations. In theory, UTM is the evolution of the traditional firewall into an all-inclusive security product able to perform multiple security functions within one single system: network firewalling, network intrusion prevention and gateway antivirus (AV), gateway anti-spam, VPN, content filtering, load balancing, data loss prevention and on-appliance reporting. However, UTM is designed to protect a network; it will not protect the user's workstations when connected to their home networks as required in this question.

C: Antivirus software will protect against attacks aided by known viruses. However, it will not protect against unknown attacks as required in this question.

D: NIPS stands for Network Intrusion Prevention Systems. A NIPS is designed to protect a network; it will not protect the user's workstations when connected to their home networks as required in this question.

E: Data loss prevention (DLP) is a strategy for making sure that end users do not send sensitive or critical information outside the corporate network. DLP does not protect against malicious attacks. References:

<http://en.wikipedia.org/w/HYPERLINK> "http://en.wikipedia.org/wiki/Intrusion\_prevention\_system"iki/Intrusion\_prevention\_system

**NEW QUESTION 152**

Which of the following technologies prevents an unauthorized HBA from viewing iSCSI target information?

- A. Deduplication
- B. Data snapshots
- C. LUN masking
- D. Storage multipaths

**Answer:** C

**Explanation:**

A logical unit number (LUN) is a unique identifier that designates individual hard disk devices or grouped devices for address by a protocol associated with a SCSI, iSCSI, Fibre Channel (FC) or similar interface. LUNs are central to the management of block storage arrays shared over a storage area network (SAN).

LUN masking subdivides access to a given port. Then, even if several LUNs are accessed through the same port, the server masks can be set to limit each server's access to the appropriate LUNs. LUN masking is typically conducted at the host bus adapter (HBA) or switch level.

Incorrect Answers:

A: Deduplication is the process of eliminating multiple copies of the same data to save storage space. It does not prevent an unauthorized HBA from viewing iSCSI target information.

B: Data snapshots are point in time copies of data often used by data backup applications. They do not prevent an unauthorized HBA from viewing iSCSI target information.

D: Storage multipaths are when you have multiple connections to a storage device. This provides path redundancy in the event of a path failure and can also (in active/active configurations) provide extra capacity by aggregating the bandwidth of the multiple storage paths. However, they do not prevent an unauthorized HBA from viewing iSCSI target information.

References:

<http://searchvirtualstorage.techtarget.com/definition/LUNmasking> rtualstorage.techtarget.com/definition/LUN-masking

**NEW QUESTION 155**

Company ABC is hiring customer service representatives from Company XYZ. The representatives reside at Company XYZ's headquarters. Which of the following BEST prevents Company XYZ representatives from gaining access to unauthorized Company ABC systems?

- A. Require each Company XYZ employee to use an IPSec connection to the required systems
- B. Require Company XYZ employees to establish an encrypted VDI session to the required systems
- C. Require Company ABC employees to use two-factor authentication on the required systems
- D. Require a site-to-site VPN for intercompany communications

**Answer:** B

**Explanation:**

VDI stands for Virtual Desktop Infrastructure. Virtual desktop infrastructure is the practice of hosting a desktop operating system within a virtual machine (VM) running on a centralized server.

Company ABC can configure virtual desktops with the required restrictions and required access to systems that the users in company XYZ require. The users in company XYZ can then log in to the virtual desktops over a secure encrypted connection and then access authorized systems only. Incorrect Answers:

A: Requiring IPSec connections to the required systems would secure the connections to the required systems. However, it does not prevent access to unauthorized systems.

C: The question states that the representatives reside at Company XYZ's headquarters. Therefore, they will be access Company ABC's systems remotely. Two factor authentication requires that the user be present at the location of the system to present a smart card or for biometric authentication; two factor authentication cannot be performed remotely.

D: A site-to-site VPN will just create a secure connection between the two sites. It does not restrict access to unauthorized systems.

References:

[http://searchvHYPERLINK \"http://searchvirtualdesktop.techtarget.com/definition/virtualdesktop\" irtualdesktop.techtarget.com/definition/virtual-desktop](http://searchvHYPERLINK \)

#### NEW QUESTION 156

An enterprise must ensure that all devices that connect to its networks have been previously approved. The solution must support dual factor mutual authentication with strong identity assurance. In order to reduce costs and administrative overhead, the security architect wants to outsource identity proofing and second factor digital delivery to the third party. Which of the following solutions will address the enterprise requirements?

- A. Implementing federated network access with the third party.
- B. Using a HSM at the network perimeter to handle network device access.
- C. Using a VPN concentrator which supports dual factor via hardware tokens.
- D. Implementing 802.1x with EAP-TTLS across the infrastrucur

**Answer: D**

#### Explanation:

IEEE 802.1X (also known as Dot1x) is an IEEE Standard for Port-based Network Access Control (PNAC). It is part of the IEEE 802.1 group of networking protocols. It provides an authentication mechanism to devices wishing to attach to a LAN or WLAN.

802.1X authentication involves three parties: a supplicant, an authenticator, and an authentication server. The supplicant is a client device (such as a laptop) that wishes to attach to the LAN/WLAN - though the term 'supplicant' is also used interchangeably to refer to the software running on the client that provides credentials to the authenticator. The authenticator is a network device, such as an Ethernet switch or wireless access point; and the authentication server is typically a host running software supporting the RADIUS and EAP protocols.

The authenticator acts like a security guard to a protected network. The supplicant (i.e., client device) is not allowed access through the authenticator to the protected side of the network until the supplicant's identity has been validated and authorized. An analogy to this is providing a valid visa at the airport's arrival immigration before being allowed to enter the country. With 802.1X port-based authentication, the supplicant provides credentials, such as user name/password or digital

certificate, to the authenticator, and the authenticator forwards the credentials to the authentication server for verification. If the authentication server determines the credentials are valid, the supplicant (client device) is allowed to access resources located on the protected side of the network.

EAP-TTLS (Tunneled Transport Layer Security) is designed to provide authentication that is as strong as EAP-TLS, but it does not require that each user be issued a certificate. Instead, only the authentication servers are issued certificates. User authentication is performed by password, but the password credentials are transported in a securely encrypted tunnel established based upon the server certificates. Incorrect Answers:

A: Federated network access provides user access to networks by using a single logon. The logon is authenticated by a party that is trusted to all the networks. It does not ensure that all devices that connect to its networks have been previously approved.

B: A hardware security module (HSM) is a physical computing device that safeguards and manages digital keys for strong authentication and provides cryptoprocessing. It does not ensure that all devices that connect to its networks have been previously approved.

C: A VPN concentrator provides VPN connections and is typically used for creating site-to-site VPN architectures. It does not ensure that all devices that connect to its networks have been previously approved.

References: [http://en.wikipedia.org/wiki/IEEE\\_802.1X](http://en.wikipedia.org/wiki/IEEE_802.1X)

[https://www.juniper.net/techpubs/software/aHYPERLINK \"https://www.juniper.net/techpubs/software/aaa\\_802/sbr/sbr70/sw-sbr-admin/html/EAP-024.html\"aa\\_802/HYPERLINK \"https://www.juniper.net/techpubs/software/aaa\\_802/sbr/sbr70/sw-sbr-admin/html/EAP-024.html\"sbr/sbr70/sw-sbr-admin/html/EAP-024.html](https://www.juniper.net/techpubs/software/aHYPERLINK \)

#### NEW QUESTION 158

A security administrator is performing VDI traffic data collection on a virtual server which migrates from one host to another. While reviewing the data collected by the protocol analyzer, the security administrator notices that sensitive data is present in the packet capture. Which of the following should the security administrator recommend to ensure the confidentiality of sensitive information during live VM migration, while minimizing latency issues?

- A. A separate physical interface placed on a private VLAN should be configured for live host operations.
- B. Database record encryption should be used when storing sensitive information on virtual servers.
- C. Full disk encryption should be enabled across the enterprise to ensure the confidentiality of sensitive data.
- D. Sensitive data should be stored on a backend SAN which uses an isolated fiber channel network

**Answer: A**

#### Explanation:

VDI virtual machines can be migrated across physical hosts while the virtual machines are still powered on. In VMware, this is called vMotion. In Microsoft Hyper-V, this is called Live Migration. When a virtual machine is migrated between hosts, the data is unencrypted as it travels across the network. To prevent access to the data as it travels across the network, a dedicated network should be created for virtual machine migrations. The dedicated migration network should only be accessible by the virtual machine hosts to maximize security.

Incorrect Answers:

B: Database record encryption is used for encrypting database records only. This question does not state that the only sensitive data is database records. The data is at risk as it travels across the network when virtual machines are migrated between hosts. Data is unencrypted when it is transmitted over the network.

C: Full disk encryption is a good idea to secure data stored on disk. However, the data is unencrypted when it is transmitted over the network.

D: The sensitive data is on the VDI virtual machines. Storing the sensitive information on an isolated fiber channel network would make the information inaccessible from the virtual machines.

#### NEW QUESTION 162

Ann is testing the robustness of a marketing website through an intercepting proxy. She has intercepted the following HTTP request:

POST /login.aspx HTTP/1.1 Host: comptia.org

Content-type: text/html txtUsername=ann&txtPassword=ann&alreadyLoggedIn=false&submit=true

Which of the following should Ann perform to test whether the website is susceptible to a simple authentication bypass?

- A. Remove all of the post data and change the request to /login.aspx from POST to GET
- B. Attempt to brute force all usernames and passwords using a password cracker
- C. Remove the txtPassword post data and change alreadyLoggedIn from false to true
- D. Remove the txtUsername and txtPassword post data and toggle submit from true to false

**Answer: C**

**Explanation:**

The text “txtUsername=ann&txtPassword=ann” is an attempted login using a username of ‘ann’ and also a password of ‘ann’.

The text “alreadyLoggedIn=false” is saying that Ann is not already logged in.

To test whether we can bypass the authentication, we can attempt the login without the password

and we can see if we can bypass the ‘alreadyloggedin’ check by changing alreadyLoggedIn from false to true. If we are able to log in, then we have bypassed the authentication check.

Incorrect Answers:

A: GET /login.aspx would just return the login form. This does not test whether the website is susceptible to a simple authentication bypass.

B: We do not want to guess the usernames and passwords. We want to see if we can get into the site without authentication.

D: We need to submit the data so we cannot toggle submit from true to false.

**NEW QUESTION 163**

A security administrator has been asked to select a cryptographic algorithm to meet the criteria of a new application. The application utilizes streaming video that can be viewed both on computers and mobile devices. The application designers have asked that the algorithm support the transport encryption with the lowest possible performance overhead. Which of the following recommendations would BEST meet the needs of the application designers? (Select TWO).

- A. Use AES in Electronic Codebook mode
- B. Use RC4 in Cipher Block Chaining mode
- C. Use RC4 with Fixed IV generation
- D. Use AES with cipher text padding
- E. Use RC4 with a nonce generated IV
- F. Use AES in Counter mode

**Answer: EF**

**Explanation:**

In cryptography, an initialization vector (IV) is a fixed-size input to a cryptographic primitive that is typically required to be random or pseudorandom.

Randomization is crucial for encryption schemes to achieve semantic security, a property whereby repeated usage of the scheme under the same key does not allow an attacker to infer relationships between segments of the encrypted message.

Some cryptographic primitives require the IV only to be non-repeating, and the required randomness is derived internally. In this case, the IV is commonly called a nonce (number used once), and the primitives are described as stateful as opposed to randomized. This is because the IV need not be explicitly forwarded to a recipient but may be derived from a common state updated at both sender and receiver side. An example of stateful encryption schemes is the counter mode of operation, which uses a sequence number as a nonce.

AES is a block cipher. Counter mode turns a block cipher into a stream cipher. It generates the next keystream block by encrypting successive values of a "counter". The counter can be any function which produces a sequence which is guaranteed not to repeat for a long time, although an actual increment-by-one counter is the simplest and most popular.

Incorrect Answers:

A: AES in Electronic Codebook mode cannot be used to encrypt streaming video. You would need a stream cipher such as RC4 or AES in Counter Mode.

B: RC4 in Cipher Block Chaining mode cannot be used to encrypt streaming video. You would need a stream cipher such as RC4 (not in Cipher Block Chaining mode) or AES in Counter Mode.

C: You cannot use fixed IV generation for RC4 when encrypting streaming video.

D: AES with cipher text padding cannot be used to encrypt streaming video. You would need a stream cipher such as RC4 or AES in Counter Mode.

References: [https://en.wikipedia.org/wiki/Initialization\\_vector](https://en.wikipedia.org/wiki/Initialization_vector)

**NEW QUESTION 167**

ABC Corporation has introduced token-based authentication to system administrators due to the risk of password compromise. The tokens have a set of HMAC counter-based codes and are valid until they are used. Which of the following types of authentication mechanisms does this statement describe?

- A. TOTP
- B. PAP
- C. CHAP
- D. HOTP

**Answer: D**

**Explanation:**

The question states that the HMAC counter-based codes and are valid until they are used. These are “one-time” use codes.

HOTP is an HMAC-based one-time password (OTP) algorithm.

HOTP can be used to authenticate a user in a system via an authentication server. Also, if some more steps are carried out (the server calculates subsequent OTP value and sends/displays it to the user who checks it against subsequent OTP value calculated by his token), the user can also authenticate the validation server. Both hardware and software tokens are available from various vendors. Hardware tokens implementing OATH HOTP tend to be significantly cheaper than their competitors based on proprietary algorithms. Some products can be used for strong passwords as well as OATH HOTP. Software tokens are available for (nearly) all major mobile/smartphone platforms.

Incorrect Answers:

A: TOTP is Time-based One-time Password. This is similar to the one-time password system used in this question. However, TOTPs expire after a period of time.

In this question, the passwords (codes) expire after first use regardless of the timing of the first use.

B: PAP (Password Authentication Protocol) is a simple authentication protocol in which the user name and password is sent to a remote access server in a plaintext (unencrypted) form. PAP is not what is described in this question.

C: CHAP (Challenge-Handshake Authentication Protocol) is an authentication protocol that provides protection against replay attacks by the peer through the use of an incrementally changing identifier and of a variable challenge-value. CHAP requires that both the client and server know the plaintext of the secret, although it is never sent over the network. CHAP is not what is described in this question.

## References:

[https://en.wikipedia.org/wiki/HMAC-based\\_One-time\\_Password\\_Algorithm](https://en.wikipedia.org/wiki/HMAC-based_One-time_Password_Algorithm) "https://en.wikipedia.org/wiki/HMAC-based\_One-time\_Password\_Algorithm"Password\_Algorithm

**NEW QUESTION 172**

A small company is developing a new Internet-facing web application. The security requirements are: Users of the web application must be uniquely identified and authenticated.

Users of the web application will not be added to the company's directory services. Passwords must not be stored in the code.

Which of the following meets these requirements?

- A. Use OpenID and allow a third party to authenticate users.
- B. Use TLS with a shared client certificate for all users.
- C. Use SAML with federated directory services.
- D. Use Kerberos and browsers that support SAM

**Answer:** A

**Explanation:**

Users create accounts by selecting an OpenID identity provider, and then use those accounts to sign onto any website which accepts OpenID authentication.

OpenID is an open standard and decentralized protocol by the non-profit OpenID Foundation that allows users to be authenticated by certain co-operating sites (known as Relying Parties or RP) using a third party service. This eliminates the need for webmasters to provide their own ad hoc systems and allowing users to consolidate their digital identities. In other words, users can log into multiple unrelated websites without having to register with their information over and over again.

Several large organizations either issue or accept OpenIDs on their websites according to the OpenID Foundation: AOL, Blogger, Flickr, France Telecom, Google, Hyves, LiveJournal, Microsoft (provider name Microsoft account), Mixi, Myspace, Novell, Orange, Sears, Sun, Telecom Italia, Universal Music Group, VeriSign, WordPress, and Yahoo!. Other providers include BBC, IBM, PayPal, and Steam. Incorrect Answers:

B: The question states that users of the web application must be uniquely identified and authenticated. A shared client certificate for all users does not meet this requirement.

C: The question states that users of the web application will not be added to the company's directory services. SAML with federated directory services would require that the users are added to the directory services.

D: The question states that users of the web application must be uniquely identified and authenticated. Kerberos and browsers that support SAML provides no authentication mechanism. References:

<https://en.wikipedia.org/wiki/OpenID>

**NEW QUESTION 174**

The Chief Executive Officer (CEO) of a large prestigious enterprise has decided to reduce business costs by outsourcing to a third party company in another country. Functions to be outsourced include: business analysts, testing, software development and back office functions that deal with the processing of customer data

- A. The Chief Risk Officer (CRO) is concerned about the outsourcing plan
- B. Which of the following risks are MOST likely to occur if adequate controls are not implemented?
- C. Geographical regulation issues, loss of intellectual property and interoperability agreement issues
- D. Improper handling of client data, interoperability agreement issues and regulatory issues
- E. Cultural differences, increased cost of doing business and divestiture issues
- F. Improper handling of customer data, loss of intellectual property and reputation damage

**Answer:** D

**Explanation:**

The risk of security violations or compromised intellectual property (IP) rights is inherently elevated when working internationally. A key concern with outsourcing arrangements is making sure that there is sufficient protection and security in place for personal information being transferred and/or accessed under an outsourcing agreement.

Incorrect Answers:

A: Interoperability agreement issues are not a major risk when outsourcing to a third party company in another country.

B: Interoperability agreement issues are not a major risk when outsourcing to a third party company in another country.

C: Divestiture is the disposition or sale of an asset that is not performing well, and which is not vital to the company's core business, or which is worth more to a potential buyer or as a separate entity than as part of the company.

References: <http://www.lexology.com/library> HYPERLINK

"<http://www.lexology.com/library/detail.aspx?g=e698d613-af77-4e34-b84e-940e14e94ce4>" /detail.aspx?g=e698d613-af77-4e34-b84e-940e14e94ce4

<http://www.investorwords.com/1508/divestiture.html#ixzz3knAHr58A>

**NEW QUESTION 176**

A security analyst has been asked to develop a quantitative risk analysis and risk assessment for the company's online shopping application. Based on heuristic information from the Security Operations Center (SOC), a Denial of Service Attack (DoS) has been successfully executed 5 times a year. The Business Operations department has determined the loss associated to each attack is \$40,000. After implementing application caching, the number of DoS attacks was reduced to one time a year. The cost of the countermeasures was \$100,000. Which of the following is the monetary value earned during the first year of operation?

- A. \$60,000
- B. \$100,000
- C. \$140,000
- D. \$200,000

**Answer:** A

**Explanation:**

ALE before implementing application caching:  $ALE = ARO \times SLE$

$ALE = 5 \times \$40,000$   $ALE = \$200,000$

ALE after implementing application caching:  $ALE = ARO \times SLE$

$ALE = 1 \times \$40,000$   $ALE = \$40,000$

The monetary value earned would be the sum of subtracting the ALE calculated after implementing application caching and the cost of the countermeasures, from

the ALE calculated before implementing application caching.

Monetary value earned = \$200,000 - \$40,000 - \$100,000 Monetary value earned = \$60,000

Incorrect Answers:

B: \$100,000 would be the answer if the ARO after implementing application caching was 0.

C: \$140,000 is the expected loss in the first year. The ALE after implementing application caching + the cost of the countermeasures.

D: The answer cannot be \$200,000 because in the first year of operation the ALE after implementing application caching is \$40,000 and the cost of the countermeasures is \$100,000.

References: <http://www.pearsonitcertification.com/articles/article.aspx?p=418007>[HYPERLINK](#)

"<http://www.pearsonitcertification.com/articles/article.aspx?p=418007&seqNum=4>"[HYPERLINK](#)

"<http://www.pearsonitcertification.com/articles/article.aspx?p=418007&seqNum=4>"seqNum=4

#### NEW QUESTION 177

An organization is selecting a SaaS provider to replace its legacy, in house Customer Resource Management (CRM) application. Which of the following ensures the organization mitigates the risk of managing separate user credentials?

- A. Ensure the SaaS provider supports dual factor authentication.
- B. Ensure the SaaS provider supports encrypted password transmission and storage.
- C. Ensure the SaaS provider supports secure hash file exchange.
- D. Ensure the SaaS provider supports role-based access control.
- E. Ensure the SaaS provider supports directory services federatio

**Answer: E**

#### Explanation:

A SaaS application that has a federation server within the customer's network that interfaces with the customer's own enterprise user-directory service can provide single sign-on authentication. This federation server has a trust relationship with a corresponding federation server located within the SaaS provider's network.

Single sign-on will mitigate the risk of managing separate user credentials. Incorrect Answers:

A: Dual factor authentication will provide identification of users via a combination of two different components. It will not, however, mitigate the risk of managing separate user credentials.

B: The transmission and storage of encrypted passwords will not mitigate the risk of managing separate user credentials.

C: A hash file is a file that has been converted into a numerical string by a mathematical algorithm, and has to be unencrypted with a hash key to be understood. It will not, however, mitigate the risk of managing separate user credentials.

D: Role-based access control (RBAC) refers to the restriction of system access to authorized users. It will not, however, mitigate the risk of managing separate user credentials.

References:

<https://msdn.microsoft.com/en-us/library/aa905332.aspx> [https://en.wikipedia.org/wiki/Two-factor\\_authentication](https://en.wikipedia.org/wiki/Two-factor_authentication) <https://en.wikipedia.org/wiki/Encryption>

<http://www.wisegeek.com/what-are-hash-files.htm> [https://en.wikipedia.org/wiki/Role-based\\_access\\_control](https://en.wikipedia.org/wiki/Role-based_access_control)

#### NEW QUESTION 181

Which of the following provides the BEST risk calculation methodology?

- A. Annual Loss Expectancy (ALE) x Value of Asset
- B. Potential Loss x Event Probability x Control Failure Probability
- C. Impact x Threat x Vulnerability
- D. Risk Likelihood x Annual Loss Expectancy (ALE)

**Answer: B**

#### Explanation:

Of the options given, the BEST risk calculation methodology would be Potential Loss x Event Probability x Control Failure Probability. This exam is about computer and data security so 'loss' caused by risk is not necessarily a monetary value.

For example:

Potential Loss could refer to the data lost in the event of a data storage failure. Event probability could be the risk a disk drive or drives failing.

Control Failure Probability could be the risk of the storage RAID not being able to handle the number of failed hard drives without losing data.

Incorrect Answers:

A: Annual Loss Expectancy (ALE) is a monetary value used to calculate how much is expected to be lost in one year. For example, if the cost of a failure (Single Loss Expectancy (SLE)) is \$1000 and the failure is expected to happen 5 times in a year (Annualized Rate of Occurrence (ARO)), then the Annual Loss Expectancy is \$5000. ALE is not the best calculation for I.T. risk calculation.

C: Impact x Threat x Vulnerability looks like a good calculation at first glance. However, for a risk calculation there needs to be a definition of the likelihood (probability) of the risk.

D: Annual Loss Expectancy (ALE) is a monetary value used to calculate how much is expected to be lost in one year. ALE is not the best calculation for I.T. risk calculation.

References:

<https://iaonline.theiia.org/understanding-the-risk-management-process>

#### NEW QUESTION 182

A security policy states that all applications on the network must have a password length of eight characters. There are three legacy applications on the network that cannot meet this policy. One system will be upgraded in six months, and two are not expected to be upgraded or removed from the network. Which of the following processes should be followed?

- A. Establish a risk matrix
- B. Inherit the risk for six months
- C. Provide a business justification to avoid the risk
- D. Provide a business justification for a risk exception

**Answer: D**

#### Explanation:

The Exception Request must include: A description of the non-compliance.

The anticipated length of non-compliance (2-year maximum). The proposed assessment of risk associated with non-compliance.

The proposed plan for managing the risk associated with non-compliance.

The proposed metrics for evaluating the success of risk management (if risk is significant). The proposed review date to evaluate progress toward compliance.

An endorsement of the request by the appropriate Information Trustee (VP or Dean). Incorrect Answers:

A: A risk matrix can be used to determine an overall risk ranking before determining how the risk will be dealt with.

B: Inheriting the risk for six months means that it has been decided the benefits of moving forward outweighs the risk.

C: Avoiding the risk is not recommended as the applications are still being used. References:

<http://www.rit.edu/security/sHYPERLINK> "http://www.rit.edu/security/sites/rit.edu.security/files/exception

process.pdf"ites/rit.edu.security/files/exceptionHYPERLINK "http://www.rit.edu/security/sites/rit.edu.security/files/exception process.pdf"%20process.pdf

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, p. 218

#### NEW QUESTION 186

A large hospital has implemented BYOD to allow doctors and specialists the ability to access patient medical records on their tablets. The doctors and specialists access patient records over the hospital's guest WiFi network which is isolated from the internal network with appropriate security controls. The patient records management system can be accessed from the guest network and require two factor authentication. Using a remote desktop type interface, the doctors and specialists can interact with the hospital's system. Cut and paste and printing functions are disabled to prevent the copying of data to BYOD devices. Which of the following are of MOST concern? (Select TWO).

A. Privacy could be compromised as patient records can be viewed in uncontrolled areas.

B. Device encryption has not been enabled and will result in a greater likelihood of data loss.

C. The guest WiFi may be exploited allowing non-authorized individuals access to confidential patient data.

D. Malware may be on BYOD devices which can extract data via key logging and screen scrapes.

E. Remote wiping of devices should be enabled to ensure any lost device is rendered inoperable.

**Answer:** AD

#### Explanation:

Privacy could be compromised because patient records can be from a doctor's personal device. This can then be shown to persons not authorized to view this information. Similarly, the doctor's personal device could have malware on it.

Incorrect Answers:

B: Device encryption is a BYOD concern, but the question asks "Which of the following are of MOST concern?" Patient privacy and Malware threats would be of more concern.

C: The guest WiFi network is isolated from the internal network with appropriate security controls and the doctors and specialists can interact with the hospital's system via a remote desktop type interface.

E: Remote wiping is a BYOD concern, but the question asks "Which of the following are of MOST concern?" Patient privacy and Malware threats would be of more concern.

References:

<http://www.gwava.com/blog/top-10-byod-business-concerns>

#### NEW QUESTION 191

A forensic analyst receives a hard drive containing malware quarantined by the antivirus application. After creating an image and determining the directory location of the malware file, which of the following helps to determine when the system became infected?

A. The malware file's modify, access, change time properties.

B. The timeline analysis of the file system.

C. The time stamp of the malware in the swap file.

D. The date/time stamp of the malware detection in the antivirus log

**Answer:** B

#### Explanation:

Timelines can be used in digital forensics to identify when activity occurred on a computer. Timelines are mainly used for data reduction or identifying specific state changes that have occurred on a computer.

Incorrect Answers:

A: This option will not help to determine when the system became infected.

C: A swap file is a space on a hard disk used as the virtual memory extension of a computer's real memory, which allows your computer's operating system to pretend that you have more RAM than you actually do.

D: This will tell you when the antivirus detected the malware, not when the system became infected. References:

<http://www.basistech.com/autopsy-feature-graphical-timeline-analysis-for-cyber-forensics/> <http://searchwindowsserver.techtarget.cHYPERLINK>

"http://searchwindowsserver.techtarget.com/definition/swap-file-swap-space-orpagefile" om/definition/swap-file-swap-space-or-pagefile

#### NEW QUESTION 193

The source workstation image for new accounting PCs has begun blue-screening. A technician notices that the date/time stamp of the image source appears to have changed. The desktop support director has asked the Information Security department to determine if any changes were made to the source image. Which of the following methods would BEST help with this process? (Select TWO).

A. Retrieve source system image from backup and run file comparison analysis on the two images.

B. Parse all images to determine if extra data is hidden using steganography.

C. Calculate a new hash and compare it with the previously captured image hash.

D. Ask desktop support if any changes to the images were made.

E. Check key system files to see if date/time stamp is in the past six month

**Answer:** AC

#### Explanation:

Running a file comparison analysis on the two images will determine whether files have been changed, as well as what files were changed.

Hashing can be used to meet the goals of integrity and non-repudiation. One of its advantages of hashing is its ability to verify that information has remained unchanged. If the hash values are the same, then the images are the same. If the hash values differ, there is a difference between the two images.

Incorrect Answers:

B: Steganography is a type of data exfiltration. Data exfiltration is the unauthorized transfer of data from a computer.

D: According to the scenario, the desktop support director has asked the Information Security department to determine if any changes were made to the source image. Asking the desktop support if any changes to the images were made would therefore be redundant.

E: The question requires the Information Security department to determine if any changes were made to the source image, not when the date/time stamp manipulation occurred.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 18, 134

#### NEW QUESTION 195

A software project manager has been provided with a requirement from the customer to place limits on the types of transactions a given user can initiate without external interaction from another user with elevated privileges. This requirement is BEST described as an implementation of:

- A. an administrative control
- B. dual control
- C. separation of duties
- D. least privilege
- E. collusion

**Answer: C**

#### Explanation:

Separation of duties requires more than one person to complete a task. Incorrect Answers:

A: Administrative controls refer policies, procedures, guidelines, and other documents used by an organization.

B: Dual control forces employees who are planning anything illegal to work together to complete critical actions.

D: The principle of least privilege prevents employees from accessing levels not required to perform their everyday function.

E: Collusion is defined as an agreement which occurs between two or more persons to deceive, mislead, or defraud others of legal rights.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 245, 321

<https://en.wikipedia.org/wiki/Collusion>

#### NEW QUESTION 198

The technology steering committee is struggling with increased requirements stemming from an increase in telecommuting. The organization has not addressed telecommuting in the past. The implementation of a new SSL-VPN and a VOIP phone solution enables personnel to work from remote locations with corporate assets. Which of the following steps must the committee take FIRST to outline senior management's directives?

- A. Develop an information classification scheme that will properly secure data on corporate systems.
- B. Implement database views and constrained interfaces so remote users will be unable to access PII from personal equipment.
- C. Publish a policy that addresses the security requirements for working remotely with company equipment.
- D. Work with mid-level managers to identify and document the proper procedures for telecommuting.

**Answer: C**

#### Explanation:

The question states that "the organization has not addressed telecommuting in the past". It is therefore unlikely that a company policy exists for telecommuting workers.

There are many types of company policies including Working time, Equality and diversity, Change management, Employment policies, Security policies and Data Protection policies.

In this question, a new method of working has been employed: remote working or telecommuting. Policies should be created to establish company security requirements (and any other requirements) for users working remotely.

Incorrect Answers:

A: The data should already be secure on the corporate systems. If an information classification scheme is used as part of the security, it should already have been created. Remote working does not add the requirement for an information classification scheme.

B: The personnel work from remote locations with corporate assets; their personal computers are not used. Therefore, we do not require database views and constrained interfaces so remote users will be unable to access PII from personal equipment.

D: You should identify and document the proper procedures for telecommuting. However, the security requirements for working remotely with company equipment should be addressed first. Furthermore, you would not necessarily work with mid-level managers to identify and document the proper procedures for telecommuting if the company has a technology steering committee.

#### NEW QUESTION 203

A company is facing penalties for failing to effectively comply with e-discovery requests. Which of the following could reduce the overall risk to the company from this issue?

- A. Establish a policy that only allows filesystem encryption and disallows the use of individual file encryption.
- B. Require each user to log passwords used for file encryption to a decentralized repository.
- C. Permit users to only encrypt individual files using their domain password and archive all old user passwords.
- D. Allow encryption only by tools that use public keys from the existing escrowed corporate PK

**Answer: D**

#### Explanation:

Electronic discovery (also called e-discovery) refers to any process in which electronic data is sought, located, secured, and searched with the intent of using it as evidence in a civil or criminal legal case. E-discovery can be carried out offline on a particular computer or it can be done in a network.

An e-discovery policy would define how data is archived and encrypted. If the data is archived in an insecure manor, a user could be able to delete data that the user does not want to be searched. Therefore, we need to find a way of securing the data in a way that only authorized people can access the data.

A public key infrastructure (PKI) supports the distribution and identification of public encryption keys for the encryption of data.

A. The data can only be decrypted by the private key.

In this question, we have an escrowed corporate PKI. Escrow is an independent and licensed third party that holds something (money, sensitive data etc.) and releases it only when predefined conditions have been met. In this case, Escrow is holding the private key of the PKI.

By encrypting the e-discovery data by using the PKI public key, we can ensure that the data can only be decrypted by the private key held in Escrow and this will only happen when the predefined conditions are met.

Incorrect Answers:

A: File encryption should be enabled to enable the archiving of the data.

B: Requiring each user to log passwords used for file encryption is not a good solution. Apart from there being no mechanism to enforce this, you should not need to know users' passwords. You need a mechanism that ensures that the data can be decrypted by authorized personnel without the need to know user passwords.

C: You cannot and should not be able to archive old passwords. You need a mechanism that ensures that the data can be decrypted by authorized personnel without the need to know user passwords. References:

<http://searchfinancialsecurity.techtarget.com/definition/electronicdiscovery>" financialsecurity.techtarget.com/definithyperlink

"<http://searchfinancialsecurity.techtarget.com/definition/electronic-discovery>"ion/electronicdiscovery <https://en.wikipedia.org/wiki/Escrow>

#### NEW QUESTION 204

A user is suspected of engaging in potentially illegal activities. Law enforcement has requested that the user continue to operate on the network as normal. However, they would like to have a copy of any communications from the user involving certain key terms. Additionally, the law enforcement agency has requested that the user's ongoing communication be retained in the user's account for future investigations. Which of the following will BEST meet the goals of law enforcement?

- A. Begin a chain-of-custody on for the user's communicatio
- B. Next, place a legal hold on the user's email account.
- C. Perform an e-discover using the applicable search term
- D. Next, back up the user's email for a future investigation.
- E. Place a legal hold on the user's email accoun
- F. Next, perform e-discovery searches to collect applicable emails.
- G. Perform a back up of the user's email accoun
- H. Next, export the applicable emails that match the search terms.

**Answer: C**

#### Explanation:

A legal hold is a process that an organization uses to maintain all forms of pertinent information when legal action is reasonably expected. E-discovery refers to discovery in litigation or government investigations that manages the exchange of electronically stored information (ESI). ESI includes email and office documents, photos, video, databases, and other filetypes.

Incorrect Answers:

A: Chain of custody (CoC) refers to the chronological documentation showing the seizure, custody, control, transfer, analysis, and disposition of physical or electronic evidence.

B: Potentially relevant data has to be placed on hold before e-discovery takes place. D: This option could still allow the email to be tampered with.

References: [https://en.wikipedia.org/wiki/Electronic\\_discovery#Types\\_of\\_ESI](https://en.wikipedia.org/wiki/Electronic_discovery#Types_of_ESI) [https://en.wikipedia.org/wiki/Chain\\_of\\_custody](https://en.wikipedia.org/wiki/Chain_of_custody) [https://en.wikipedia.org/wiki/Legal\\_hold](https://en.wikipedia.org/wiki/Legal_hold)

#### NEW QUESTION 209

During a new desktop refresh, all hosts are hardened at the OS level before deployment to comply with policy. Six months later, the company is audited for compliance to regulations. The audit discovers that 40 percent of the desktops do not meet requirements. Which of the following is the MOST likely cause of the noncompliance?

- A. The devices are being modified and settings are being overridden in production.
- B. The patch management system is causing the devices to be noncompliant after issuing the latest patches.
- C. The desktop applications were configured with the default username and password.
- D. 40 percent of the devices use full disk encryptio

**Answer: A**

#### Explanation:

The question states that all hosts are hardened at the OS level before deployment. So we know the desktops are fully patched when the users receive them. Six months later, the desktops do not meet the compliance standards. The most likely explanation for this is that the users have changed the settings of the desktops during the six months that they've had them.

Incorrect Answers:

B: A patch management system would not cause the devices to be noncompliant after issuing the latest patches. Devices are non-compliant because their patches are out-of-date, not because the patches are too recent.

C: The desktop applications being configured with the default username and password would not be the cause of non-compliance. The hosts are hardened at the OS level so application configuration would not affect this.

D: Devices using full disk encryption would not be the cause of non-compliance. The hosts are hardened at the OS level. Disk encryption would have no effect on the patch level or configuration of the host.

#### NEW QUESTION 213

A firm's Chief Executive Officer (CEO) is concerned that IT staff lacks the knowledge to identify complex vulnerabilities that may exist in a payment system being internally developed. The payment system being developed will be sold to a number of organizations and is in direct competition with another leading product. The CEO highlighted that code base confidentiality is of critical importance to allow the company to exceed the competition in terms of the product's reliability, stability, and performance. Which of the following would provide the MOST thorough testing and satisfy the CEO's requirements?

- A. Sign a MOU with a marketing firm to preserve the company reputation and use in-house resources for random testing.
- B. Sign a BPA with a small software consulting firm and use the firm to perform Black box testing and address all findings.
- C. Sign a NDA with a large security consulting firm and use the firm to perform Grey box testing and address all findings.
- D. Use the most qualified and senior developers on the project to perform a variety of White box testing and code reviews.

**Answer: C**

#### Explanation:

Gray box testing has limited knowledge of the system as an attacker would. The base code would remain confidential. This would further be enhanced by a Non-disclosure agreement (NDA) which is designed to protect confidential information.

Incorrect Answers:

A: A memorandum of understanding (MOU) documents conditions and applied terms for outsourcing partner organizations that must share data and information resources. They do not typically cover vulnerabilities and penetration / vulnerability testing. Furthermore, the CEO is concerned that IT staff lacks the knowledge to identify complex vulnerabilities.

B: A business partnership security agreement (BPA) is a legally binding document that is designed to provide safeguards and compel certain actions among business partners in relation to specific security-related activities. Black box testing is integrity-based testing that uses random user inputs. Code confidentiality is maintained but testing is limited.

D: White box testing requires full access to the code base as it involves validating the program logic. This does not test against vulnerabilities. Furthermore, the CEO is concerned that IT staff lacks the knowledge to identify complex vulnerabilities.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 148, 167-168, 238-239

[https://en.wikipedia.org/wiki/Non-disclosure\\_agreement](https://en.wikipedia.org/wiki/Non-disclosure_agreement) [https://en.wikipedia.org/wiki/Nondisclosure\\_agreement](https://en.wikipedia.org/wiki/Nondisclosure_agreement)

[https://en.wikipedia.org/wiki/Gray\\_box\\_testing](https://en.wikipedia.org/wiki/Gray_box_testing)

[https://en.wikipedia.org/wiki/Gray\\_box\\_testing](https://en.wikipedia.org/wiki/Gray_box_testing)

#### NEW QUESTION 215

A security auditor suspects two employees of having devised a scheme to steal money from the company. While one employee submits purchase orders for personal items, the other employee approves these purchase orders. The auditor has contacted the human resources director with suggestions on how to detect such illegal activities. Which of the following should the human resource director implement to identify the employees involved in these activities and reduce the risk of this activity occurring in the future?

- A. Background checks
- B. Job rotation
- C. Least privilege
- D. Employee termination procedures

**Answer: B**

#### Explanation:

Job rotation can reduce fraud or misuse by preventing an individual from having too much control over an area.

Incorrect Answers:

A: To verify that a potential employee has a clean background and that any negative history is exposed prior to employment, a background check is used.

C: The principle of least privilege prevents employees from accessing levels not required to perform their everyday function.

D: The employee termination procedures will not identify the employees involved in these activities and reduce the risk of this activity occurring in the future.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 243, 245, 246

#### NEW QUESTION 216

During an incident involving the company main database, a team of forensics experts is hired to respond to the breach. The team is in charge of collecting forensics evidence from the company's database server. Which of the following is the correct order in which the forensics team should engage?

- A. Notify senior management, secure the scene, capture volatile storage, capture non-volatile storage, implement chain of custody, and analyze original media.
- B. Take inventory, secure the scene, capture RAM, capture hard drive, implement chain of custody, document, and analyze the data.
- C. Implement chain of custody, take inventory, secure the scene, capture volatile and non-volatile storage, and document the findings.
- D. Secure the scene, take inventory, capture volatile storage, capture non-volatile storage, document, and implement chain of custody.

**Answer: D**

#### Explanation:

The scene has to be secured first to prevent contamination. Once a forensic copy has been created, an analyst will begin the process of moving from most volatile to least volatile information. The chain of custody helps to protect the integrity and reliability of the evidence by keeping an evidence log that shows all access to evidence, from collection to appearance in court.

Incorrect Answers:

A: To prevent contamination, the scene should be secured first. B: The scene should be secured before taking inventory.

C: Implementing a chain of custody can only occur once evidence has been accessed. References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 250-254

#### NEW QUESTION 219

A company has noticed recently that its corporate information has ended up on an online forum. An investigation has identified that internal employees are sharing confidential corporate information on a daily basis. Which of the following are the MOST effective security controls that can be implemented to stop the above problem? (Select TWO).

- A. Implement a URL filter to block the online forum
- B. Implement NIDS on the desktop and DMZ networks
- C. Security awareness compliance training for all employees
- D. Implement DLP on the desktop, email gateway, and web proxies
- E. Review of security policies and procedures

**Answer: CD**

#### Explanation:

Security awareness compliance training for all employees should be implemented to educate employees about corporate policies and procedures for working with information technology (IT). Data loss prevention (DLP) should be implemented to make sure that users do not send sensitive or critical information outside the corporate network.

Incorrect Answers:

A: A URL filter will prevent users from accessing the online forum, but it will not prevent them from sharing confidential corporate information.

B: NIDS will monitor traffic to and from all devices on the network, perform an analysis of passing traffic on the entire subnet, and matches the traffic that is passed on the subnets to the library of known attacks. It will not prevent access to the online forum, or from sharing confidential corporate information.

E: The problem is that users are not adhering to the security policies and procedures, so reviewing them will not solve the problem.

References:

<http://searchsecurity.techtarget.com/definition/security-awarenesstraining> [searchsecurity.techtarget.com/definition/HYPERLINK](http://searchsecurity.techtarget.com/definition/HYPERLINK)

"<http://searchsecurity.techtarget.com/definition/security-awareness-training>"securityHYPERLINK "<http://searchsecurity.techtarget.com/definition/security-awareness-training>"-awareness-training <http://whatis.techtarget.com/definition/data-loss-prevention-DLP>HYPERLINK "<http://whatis.techtarget.com/definition/data-loss-prevention-DLP>"vention-DLP [https://en.wikipedia.org/wiki/Intrusion\\_detection\\_system](https://en.wikipedia.org/wiki/Intrusion_detection_system)

**NEW QUESTION 224**

A critical system audit shows that the payroll system is not meeting security policy due to missing OS security patches. Upon further review, it appears that the system is not being patched at all. The vendor states that the system is only supported on the current OS patch level. Which of the following compensating controls should be used to mitigate the vulnerability of missing OS patches on this system?

- A. Isolate the system on a secure network to limit its contact with other systems
- B. Implement an application layer firewall to protect the payroll system interface
- C. Monitor the system's security log for unauthorized access to the payroll application
- D. Perform reconciliation of all payroll transactions on a daily basis

**Answer: A**

**Explanation:**

The payroll system is not meeting security policy due to missing OS security patches. We cannot apply the patches to the system because the vendor states that the system is only supported on the current OS patch level. Therefore, we need another way of securing the system.

We can improve the security of the system and the other systems on the network by isolating the payroll system on a secure network to limit its contact with other systems. This will reduce the likelihood of a malicious user accessing the payroll system and limit any damage to other systems if the payroll system is attacked.

Incorrect Answers:

B: An application layer firewall may provide some protection to the application. However, the operating system is vulnerable due to being unpatched. It is unlikely that an application layer firewall will protect against the operating system vulnerabilities.

C: Monitoring the system's security log for unauthorized access to the payroll application will not actually provide any protection against unauthorized access. It would just enable you to see that unauthorized access has occurred.

D: Reconciling the payroll transactions on a daily basis would keep the accounts up to date but it would provide no protection for the system and so does not mitigate the vulnerability of missing OS patches as required in this question.

**NEW QUESTION 227**

The IT Security Analyst for a small organization is working on a customer's system and identifies a possible intrusion in a database that contains PII. Since PII is involved, the analyst wants to get the issue addressed as soon as possible. Which of the following is the FIRST step the analyst should take in mitigating the impact of the potential intrusion?

- A. Contact the local authorities so an investigation can be started as quickly as possible.
- B. Shut down the production network interfaces on the server and change all of the DBMS account passwords.
- C. Disable the front-end web server and notify the customer by email to determine how the customer would like to proceed.
- D. Refer the issue to management for handling according to the incident response process

**Answer: D**

**Explanation:**

The database contains PII (personally identifiable information) so the natural response is to want to get the issue addressed as soon as possible. However, in this question we have an IT Security Analyst working on a customer's system. Therefore, this IT Security Analyst does not know what the customer's incident response process is. In this case, the IT Security Analyst should refer the issue to company management so they can handle the issue (with your help if required) according to their incident response procedures.

Incorrect Answers:

A: Contacting the local authorities so an investigation can be started as quickly as possible would not be the first step. Apart from the fact an investigation could take any amount of time; this action does nothing to actually stop the unauthorized access.

B: Shutting down the production network interfaces on the server and changing all of the DBMS account passwords may be a step in the company's incident response procedure. However, as the IT Security Analyst does not know what the customer's incident response process is, he should notify management so they can make that decision.

C: Disabling the front-end web server may or may not stop the unauthorized access to the database server. However, taking a company web server offline may have a damaging impact on the company so the IT Security Analyst should not make that decision without consulting the management. Using email to determine how the customer would like to proceed is not appropriate method of communication. For something this urgent, a face-to-face meeting or at least a phone call would be more appropriate.

**NEW QUESTION 232**

A web services company is planning a one-time high-profile event to be hosted on the corporate website. An outage, due to an attack, would be publicly embarrassing, so Joe, the Chief Executive Officer (CEO), has requested that his security engineers put temporary preventive controls in place. Which of the following would MOST appropriately address Joe's concerns?

- A. Ensure web services hosting the event use TCP cookies and deny\_hosts.
- B. Configure an intrusion prevention system that blocks IPs after detecting too many incomplete sessions.
- C. Contract and configure scrubbing services with third-party DDoS mitigation providers.
- D. Purchase additional bandwidth from the company's Internet service provider

**Answer: C**

**Explanation:**

Scrubbing is an excellent way of dealing with this type of situation where the company wants to stay connected no matter what during the one-time high profile event. It involves deploying a multi-layered security approach backed by extensive threat research to defend against a variety of attacks with a guarantee of always-on.

Incorrect Answers:

A: Making use of TCP cookies will not be helpful in this event since cookies are used to maintain selections on previous pages and attackers can assess cookies in transit or in storage to carry out their attacks.

B: Using intrusion prevention systems blocking IPs is counterproductive for a one-time high profile event if you want to attract and reach many clients and the same time.

D: Purchasing additional bandwidth from the ISP not going to prevent attackers from hijacking your one-time event.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 159, 165, 168  
<http://www.level3.com/en/products/ddos-mitigation/>

**NEW QUESTION 236**

A security engineer is responsible for monitoring company applications for known vulnerabilities. Which of the following is a way to stay current on exploits and information security news?

- A. Update company policies and procedures
- B. Subscribe to security mailing lists
- C. Implement security awareness training
- D. Ensure that the organization vulnerability management plan is up-to-date

**Answer: B**

**Explanation:**

Subscribing to bug and vulnerability, security mailing lists is a good way of staying abreast and keeping up to date with the latest in those fields.

Incorrect Answers:

A: Updating company policies and procedures are not staying current on the topic since attacks are generated from outside sources and the best way to stay current on what is happening in that particular topic is to subscribe to a mailing list on the topic.

C: Security awareness training serves best as an operational control insofar as mitigating risk is concerned and not to stay current on the topic.

D: Making sure the company vulnerability plan is up to date is essential but will not keep you up to date on the topic as a subscription to a security mailing list.

References:

Conklin, Wm. Arthur, Gregory White and Dwayne Williams, CASP CompTIA Advanced Security Practitioner Certification Study Guide (Exam CAS-001), McGraw-Hill, Columbus, 2012, p. 139 Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, p. 219

**NEW QUESTION 237**

A new web based application has been developed and deployed in production. A security engineer decides to use an HTTP interceptor for testing the application. Which of the following problems would MOST likely be uncovered by this tool?

- A. The tool could show that input validation was only enabled on the client side
- B. The tool could enumerate backend SQL database table and column names
- C. The tool could force HTTP methods such as DELETE that the server has denied
- D. The tool could fuzz the application to determine where memory leaks occur

**Answer: A**

**Explanation:**

A HTTP Interceptor is a program that is used to assess and analyze web traffic thus it can be used to indicate that input validation was only enabled on the client side.

Incorrect Answers:

B: Assessing and analyzing web traffic is not used to enumerate backend SQL database tables and column names.

C: HTTP methods such as Delete that the server has denied are not performed by the HTTP interceptor.

D: Application fuzzing is not performed by the HTTP interceptor tool. References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, p. 181

**NEW QUESTION 242**

Which of the following would be used in forensic analysis of a compromised Linux system? (Select THREE).

- A. Check log files for logins from unauthorized IPs.
- B. Check /proc/kmem for fragmented memory segments.
- C. Check for unencrypted passwords in /etc/shadow.
- D. Check timestamps for files modified around time of compromise.
- E. Use Isuf to determine files with future timestamps.
- F. Use gpg to encrypt compromised data files.
- G. Verify the MD5 checksum of system binaries.
- H. Use vmstat to look for excessive disk I/

**Answer: ADG**

**Explanation:**

The MD5 checksum of the system binaries will allow you to carry out a forensic analysis of the compromised Linux system. Together with the log files of logins into the compromised system from unauthorized IPs and the timestamps for those files that were modified around the time that the compromise occurred will serve as useful forensic tools.

Incorrect Answers:

B: Checking for fragmented memory segments' is not a forensic analysis tool to be used in this case. C: The ``/etc/shadow'', contains encrypted password as well as other information such as account or password expiration values, etc. The /etc/shadow file is readable only by the root account. This is a useful tool for Linux passwords and shadow file formats and is in essence used to keep user account information.

E: Isuf is used on Linux as a future timestamp tool and not a forensic analysis tool. F: Gpg is an encryption tool that works on Mac OS X.

H: vmstat reports information about processes, memory, paging, block IO, traps, and cpu activity. The first report produced gives averages since the last reboot. Additional reports give information on a sampling period of length delay. The process and memory reports are instantaneous in either case. This is more of an administrator tool.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, p. 387

[https://en.wikipedia.org/wiki/List\\_of\\_digital\\_forensics\\_tools](https://en.wikipedia.org/wiki/List_of_digital_forensics_tools)

**NEW QUESTION 244**

A system worth \$100,000 has an exposure factor of eight percent and an ARO of four. Which of the following figures is the system's SLE?

- A. \$2,000
- B. \$8,000
- C. \$12,000
- D. \$32,000

**Answer:** B

**Explanation:**

Single Loss Expectancy (SLE) is mathematically expressed as: Asset value (AV) x Exposure Factor (EF) SLE = AV x EF = \$100 000 x 8% = \$ 8 000

References: [http://www.financeformulas.net/Return\\_on\\_Investment.html](http://www.financeformulas.net/Return_on_Investment.html) [https://en.wikipedia.org/wiki/Risk\\_assessment](https://en.wikipedia.org/wiki/Risk_assessment)

**NEW QUESTION 248**

A security manager looked at various logs while investigating a recent security breach in the data center from an external source. Each log below was collected from various security devices compiled from a report through the company's security information and event management server.

Logs: Log 1:

Feb 5 23:55:37.743: %SEC-6-IPACCESSLOGS: list 10 denied 10.2.5.81 3 packets

Log 2: HTTP://www.company.com/index.php?user=aaa

aaa

Log 3:

Security Error Alert

Event ID 50: The RDP protocol component X.224 detected an error in the protocol stream and has disconnected the client

Log 4:

Encoder oe = new OracleEncoder ();

String query = "Select user\_id FROM user\_data WHERE user\_name = ' "

+ oe.encode ( req.getParameter("userID") ) + " ' and user\_password = ' "

+ oe.encode ( req.getParameter("pwd") ) +" ' "; Vulnerabilities

Buffer overflow SQL injection ACL

XSS

Which of the following logs and vulnerabilities would MOST likely be related to the security breach? (Select TWO).

- A. Log 1
- B. Log 2
- C. Log 3
- D. Log 4
- E. Buffer overflow
- F. ACL
- G. XSS
- H. SQL injection

**Answer:** BE

**Explanation:**

Log 2 indicates that the security breach originated from an external source. And the vulnerability that can be associated with this security breach is a buffer overflow that happened when the amount of data written into the buffer exceeded the limit of that particular buffer.

Incorrect Answers:

A: Log 1 is not indicative of a security breach from an outside source

C: Log 3 will not be displayed if the breach in security came from an outside source. D: Log 4 does not indicate an outside source responsible for the security breach.

F: The access control lists are mainly used to configure firewall rules and is thus not related to the security breach.

G: XSS would be indicative of an application issue and not a security breach that originated from the outside.

H: A SQL Injection is a type of attack that makes use of a series of malicious SQL queries in an attempt to directly manipulates the SQL database. This is not necessarily a security breach that originated from the outside.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 110-112, 151. 153, 162

**NEW QUESTION 249**

An administrator believes that the web servers are being flooded with excessive traffic from time to time. The administrator suspects that these traffic floods correspond to when a competitor makes major announcements. Which of the following should the administrator do to prove this theory?

- A. Implement data analytics to try and correlate the occurrence times.
- B. Implement a honey pot to capture traffic during the next attack.
- C. Configure the servers for high availability to handle the additional bandwidth.
- D. Log all traffic coming from the competitor's public IP addresse

**Answer:** A

**Explanation:**

There is a time aspect to the traffic flood and if you correlate the data analytics with the times that the incidents happened, you will be able to prove the theory.

Incorrect Answers:

B: A honey pot is designed to attract traffic and this will not prove the theory.

C: Configuring any of your servers for high availability will only accommodate the competitor and not prove your theory.

D: Logging all incoming traffic will not prove the theory as you want to check whether the incidents occur when the competitor makes major announcement a not all of the incoming traffic, even it if is from the competitor.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 114-115

**NEW QUESTION 251**

A security engineer is a new member to a configuration board at the request of management. The company has two new major IT projects starting this year and wants to plan security into the application deployment. The board is primarily concerned with the applications' compliance with federal assessment and

authorization standards. The security engineer asks for a timeline to determine when a security assessment of both applications should occur and does not attend subsequent configuration board meetings. If the security engineer is only going to perform a security assessment, which of the following steps in system authorization has the security engineer omitted?

- A. Establish the security control baseline
- B. Build the application according to software development security standards
- C. Review the results of user acceptance testing
- D. Consult with the stakeholders to determine which standards can be omitted

**Answer:** A

**Explanation:**

A security baseline is the minimum level of security that a system, network, or device must adhere to. It is the initial point of reference for security and the document against which assessments would be done.

Incorrect Answers:

B: Building the application with secure coding is the programmers' duty. C: User acceptance testing is part of the development process

D: Standards are not security concerns. References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 272-273

**NEW QUESTION 252**

A security engineer on a large enterprise network needs to schedule maintenance within a fixed window of time. A total outage period of four hours is permitted for servers. Workstations can undergo maintenance from 8:00 pm to 6:00 am daily. Which of the following can specify parameters for the maintenance work? (Select TWO).

- A. Managed security service
- B. Memorandum of understanding
- C. Quality of service
- D. Network service provider
- E. Operating level agreement

**Answer:** BE

**Explanation:**

B: A memorandum of understanding (MOU) documents conditions and applied terms for outsourcing partner organizations that must share data and information resources. It must be signed by a representative from each organization that has the legal authority to sign and are typically secured, as they are considered confidential.

E: An operating level agreement (OLA) defines the responsibilities of each partner's internal support group and what group and resources are used to meet the specified goal. It is used in conjunction with service level agreements (SLAs).

Incorrect Answers:

A: A managed security service (MSS) is a network security service that has been outsourced to a service provider, such as an Internet Service Provider (ISP). In the earlier days of the Internet, ISPs would sell customers a firewall appliance, as customer premises equipment (CPE), and for an additional fee would manage the customer-owned firewall over a dial-up connection.

C: Quality of service (QoS) is a mechanism that is designed to give priority to different applications, users, or data to provide a specific level of performance. It is often used in networks to prioritize certain types of network traffic.

D: A network service provider (NSP) provides bandwidth or network access via direct Internet backbone access to the Internet and usually access to its network access points (NAPs). They are sometimes referred to as backbone providers or internet providers.

References:

Gregg, Michael, and Billy Haines, CASP CompTIA Advanced Security Practitioner Study Guide, John Wiley & Sons, Indianapolis, 2012, pp. 237, 362

[https://en.wikipedia.org/wiki/Managed\\_security\\_service](https://en.wikipedia.org/wiki/Managed_security_service)

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[https://en.wikipedia.org/wiki/Managed\\_security\\_service](https://en.wikipedia.org/wiki/Managed_security_service)

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**NEW QUESTION 257**

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