

# CompTIA

## Exam Questions SY0-701

CompTIA Security+ Exam



**NEW QUESTION 1**

- (Exam Topic 1)

A security analyst needs to implement an MDM solution for BYOD users that will allow the company to retain control over company emails residing on the devices and limit data exfiltration that might occur if the devices are lost or stolen. Which of the following would BEST meet these requirements? (Select TWO).

- A. Full-device encryption
- B. Network usage rules
- C. Geofencing
- D. Containerization
- E. Application whitelisting
- F. Remote control

**Answer:** DE

**Explanation:**

MDM solutions emerged to solve problems created by BYOD. With MDM, IT teams can remotely wipe devices clean if they are lost or stolen. MDM also makes the life of an IT administrator a lot easier as it allows them to enforce corporate policies, apply software updates, and even ensure that password protection is used on each device. Containerization and application whitelisting are two features of MDM that can help retain control over company emails residing on the devices and limit data exfiltration that might occur if the devices are lost or stolen.

Containerization is a technique that creates a separate and secure space on the device for work-related data and applications. This way, personal and corporate data are isolated from each other, and IT admins can manage only the work container without affecting the user's privacy. Containerization also allows IT admins to remotely wipe only the work container if needed, leaving the personal data intact.

Application whitelisting is a technique that allows only authorized applications to run on the device. This way, IT admins can prevent users from installing or using malicious or unapproved applications that might compromise the security of corporate data. Application whitelisting also allows IT admins to control which applications can access corporate resources, such as email servers or cloud storage.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>  
<https://www.office1.com/blog/byod-vs-mdm>

**NEW QUESTION 2**

- (Exam Topic 1)

An organization is moving away from the use of client-side and server-side certificates for EAP. The company would like for the new EAP solution to have the ability to detect rogue access points. Which of the following would accomplish these requirements?

- A. PEAP
- B. EAP-FAST
- C. EAP-TLS
- D. EAP-TTLS

**Answer:** B

**Explanation:**

EAP-FAST (Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling) supports mutual authentication and is designed to simplify the deployment of strong, password-based authentication. EAP-FAST includes a mechanism for detecting rogue access points. References:

➤ [CompTIA Security+ Study Guide Exam SY0-601, Chapter 4](#)

**NEW QUESTION 3**

- (Exam Topic 1)

A store receives reports that shoppers' credit card information is being stolen. Upon further analysis, those same shoppers also withdrew money from an ATM in that store.

The attackers are using the targeted shoppers' credit card information to make online purchases. Which of the following attacks is the MOST probable cause?

- A. Identity theft
- B. RFID cloning
- C. Shoulder surfing
- D. Card skimming

**Answer:** D

**Explanation:**

The attackers are using card skimming to steal shoppers' credit card information, which they use to make online purchases. References:

➤ [CompTIA Security+ Study Guide Exam SY0-601, Chapter 5](#)

**NEW QUESTION 4**

- (Exam Topic 1)

A company wants to modify its current backup strategy to minimize the number of backups that would need to be restored in case of data loss. Which of the following would be the BEST backup strategy?

- A. Incremental backups followed by differential backups
- B. Full backups followed by incremental backups
- C. Delta backups followed by differential backups
- D. Incremental backups followed by delta backups
- E. Full backup followed by different backups

**Answer:** B

**Explanation:**

The best backup strategy for minimizing the number of backups that need to be restored in case of data loss is full backups followed by incremental backups. This

strategy allows for a complete restoration of data by restoring the most recent full backup followed by the most recent incremental backup. Reference: CompTIA Security+ Certification Guide, Third Edition (Exam SY0-601) page 126

**NEW QUESTION 5**

- (Exam Topic 1)

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

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

**Answer: B**

**Explanation:**

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

**NEW QUESTION 6**

- (Exam Topic 1)

Developers are writing code and merging it into shared repositories several times a day, where it is tested automatically. Which of the following concepts does this BEST represent?

- A. Functional testing
- B. Stored procedures
- C. Elasticity
- D. Continuous integration

**Answer: D**

**Explanation:**

Continuous integration is a software development practice where developers merge their code into a shared repository several times a day, and the code is tested automatically. This ensures that code changes are tested and integrated continuously, reducing the risk of errors and conflicts.

**NEW QUESTION 7**

- (Exam Topic 1)

A Chief Information Officer is concerned about employees using company-issued laptops to steal data when accessing network shares. Which of the following should the company implement?

- A. DLP
- B. CASB
- C. HIDS
- D. EDR
- E. UEFI

**Answer: A**

**Explanation:**

The company should implement Data Loss Prevention (DLP) to prevent employees from stealing data. References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 8

**NEW QUESTION 8**

- (Exam Topic 1)

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

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

**Answer: C**

**Explanation:**

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

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

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

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

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

The other options are not correct because:

- A. Enable the remote-wiping option in the MDM software in case the phone is stolen. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. Remote wiping can erase both work and personal data on the device, which may not be desirable for employees.
- B. Configure the MDM software to enforce the use of PINs to access the phone. This option may enhance the security of the device, but it may not address the company's concern about data loss. PINs can be guessed or bypassed by attackers, and they do not protect data if the device is physically accessed.
- D. Perform a factory reset on the phone before installing the company's applications. This option may address the company's concern about data loss, but it may not address the employees' concern about personal data loss. A factory reset will erase all data on the device, including personal data, which may not be acceptable to employees.

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

"MDM software is a type of remote asset-management software that runs from a central server<sup>1</sup>. It is used by businesses to optimize the functionality and security of their mobile devices, including smartphones and tablets<sup>2</sup>."

"FDE stands for full disk encryption, which is a method of encrypting all data on a device's storage<sup>3</sup>." References:

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

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

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

### NEW QUESTION 9

- (Exam Topic 1)

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

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

**Answer:** A

#### Explanation:

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

- CompTIA Security+ Certification Exam Objectives 1.3: Explain authentication and access controls.
- CompTIA Security+ Study Guide, Sixth Edition, pages 41-42

### NEW QUESTION 10

- (Exam Topic 1)

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

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

**Answer:** A

#### Explanation:

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

### NEW QUESTION 10

- (Exam Topic 1)

The following are the logs of a successful attack.

```
[DATA] attacking service ftp on port 21
[ATTEMPT] 09:00:01UTC target 192.168.50.1 - login "admin" -pass "p@55w0rd"
[ATTEMPT] 09:00:01UTC target 192.168.50.1 - login "admin" -pass "AcCe55"
[ATTEMPT] 09:00:01UTC target 192.168.50.1 - login "admin" -pass "A110w!"
[ATTEMPT] 09:00:01UTC target 192.168.50.1 - login "admin" -pass "FTPL0gin!"
[ATTEMPT] 09:00:01UTC target 192.168.50.1 - login "admin" -pass "L3tM31N!"
[21][ftp] host: 192.168.50.1 login: admin password: L3tM31N!
1 of 1 target successfully completed, 1 valid password found in <1 second
```

Which of the following controls would be BEST to use to prevent such a breach in the future?

- A. Password history
- B. Account expiration
- C. Password complexity
- D. Account lockout

**Answer:** C

#### Explanation:

To prevent such a breach in the future, the BEST control to use would be Password complexity.

Password complexity is a security measure that requires users to create strong passwords that are difficult to guess or crack. It can help prevent unauthorized access to systems and data by making it more difficult for attackers to guess or crack passwords.

The best control to use to prevent a breach like the one shown in the logs is password complexity. Password complexity requires users to create passwords that are harder to guess, by including a mix of upper and lowercase letters, numbers, and special characters. In the logs, the attacker was able to guess the user's password using a dictionary attack, which means that the password was not complex enough. References:

- CompTIA Security+ Certification Exam Objectives - Exam SY0-601

**NEW QUESTION 15**

- (Exam Topic 1)

Which of the following BEST describes a technique that compensates researchers for finding vulnerabilities?

- A. Penetration testing
- B. Code review
- C. Wardriving
- D. Bug bounty

**Answer:** D

**Explanation:**

A bug bounty is a technique that compensates researchers for finding vulnerabilities in software or systems. A bug bounty program is an initiative that offers rewards, usually monetary, to ethical hackers who report security flaws to the owners or developers of the software or system. Bug bounty programs are often used by companies such as Meta (formerly Facebook), Google, Microsoft, and others to improve the security of their products and services. Bug bounty programs compensate researchers, often financially, for finding vulnerabilities in software, websites, or other technology. These programs provide an additional layer of security testing and incentivize researchers to report vulnerabilities instead of exploiting them.

**NEW QUESTION 19**

- (Exam Topic 1)

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

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

**Answer:** B

**Explanation:**

Network segmentation is the BEST course of action for the analyst to take to prevent further spread of the worm. Network segmentation helps to divide a network into smaller segments, isolating the infected attachment from the rest of the network. This helps to prevent the worm from spreading to other devices within the network. Implementing email content filtering or DLP solution might help in preventing the email from reaching the target or identifying the worm, respectively, but will not stop the spread of the worm. References: CompTIA Security+ Study Guide, Chapter 5: Securing Network Infrastructure, 5.2 Implement Network Segmentation, pp. 286-289

**NEW QUESTION 21**

- (Exam Topic 1)

A systems analyst determines the source of a high number of connections to a web server that were initiated by ten different IP addresses that belong to a network block in a specific country. Which of the following techniques will the systems analyst MOST likely implement to address this issue?

- A. Content filter
- B. SIEM
- C. Firewall rules
- D. DLP

**Answer:** C

**Explanation:**

A firewall is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules. The systems analyst can use firewall rules to block connections from the ten IP addresses in question, or from the entire network block in the specific country. This would be a quick and effective way to address the issue of high connections to the web server initiated by these IP addresses. Reference: CompTIA Security+ SY0-601 Official Text Book, Chapter 5: "Network Security".

**NEW QUESTION 23**

- (Exam Topic 1)

Which of the following is the MOST secure but LEAST expensive data destruction method for data that is stored on hard drives?

- A. Pulverizing
- B. Shredding
- C. Incinerating
- D. Degaussing

**Answer:** B

**Explanation:**

Shredding may be the most secure and cost-effective way to destroy electronic data in any media that contain hard drives or solid-state drives and have reached their end-of-life<sup>1</sup>. Shredding reduces electronic devices to pieces no larger than 2 millimeters<sup>2</sup>. Therefore, shredding is the most secure but least expensive data destruction method for data that is stored on hard drives.

**NEW QUESTION 28**

- (Exam Topic 1)

As part of the building process for a web application, the compliance team requires that all PKI certificates are rotated annually and can only contain wildcards at the secondary subdomain level. Which of the following certificate properties will meet these requirements?

- A. HTTPS://.comptia.org, Valid from April 10 00:00:00 2021 - April 8 12:00:00 2022
- B. HTTPS://app1.comptia.org, Valid from April 10 00:00:00 2021-April 8 12:00:00 2022
- C. HTTPS:// app1.comptia.org, Valid from April 10 00:00:00 2021-April 8 12:00:00 2022



D. [HTTPS://.comptia.org](https://.comptia.org), Valid from April 10 00:00:00 2021 - April 8 12:00:00

**Answer:** A

**Explanation:**

PKI certificates are digital certificates that use public key infrastructure (PKI) to verify the identity and authenticity of a sender and a receiver of data<sup>1</sup>. PKI certificates can be used to secure web applications with HTTPS, which is a protocol that encrypts and protects the data transmitted over the internet<sup>1</sup>. One of the properties of PKI certificates is the domain name, which is the name of the website or web application that the certificate is issued for<sup>2</sup>. The domain name can be either a specific name, such as app1.comptia.org, or a wildcard name, such as \*.comptia.org<sup>2</sup>. A wildcard name means that the certificate can be used with multiple subdomains of a domain, such as payment.comptia.org or contact.comptia.org<sup>2</sup>. Another property of PKI certificates is the validity period, which is the time span during which the certificate is valid and can be used<sup>3</sup>. The validity period is determined by the certificate authority (CA) that issues the certificate, and it usually ranges from one to three years<sup>3</sup>. The validity period can be checked by looking at the valid from and valid to dates on the certificate<sup>3</sup>. Based on these properties, the certificate that will meet the requirements of rotating annually and only containing wildcards at the secondary subdomain level is A. [HTTPS://\\*.comptia.org](https://*.comptia.org), Valid from April 10 00:00:00 2021 - April 8 12:00:00 2022. This certificate has a wildcard character (\*) at the secondary subdomain level, which means it can be used with any subdomain of comptia.org<sup>2</sup>. It also has a validity period of one year, which means it needs to be rotated annually<sup>3</sup>.

**NEW QUESTION 29**

- (Exam Topic 1)

Which of the following should a technician consider when selecting an encryption method for data that needs to remain confidential for a specific length of time?

- A. The key length of the encryption algorithm
- B. The encryption algorithm's longevity
- C. A method of introducing entropy into key calculations
- D. The computational overhead of calculating the encryption key

**Answer:** B

**Explanation:**

When selecting an encryption method for data that needs to remain confidential for a specific length of time, the longevity of the encryption algorithm should be considered to ensure that the data remains secure for the required period. References: CompTIA Security+ Certification Exam Objectives - 3.2 Given a scenario, use appropriate cryptographic methods. Study Guide: Chapter 4, page 131.

**NEW QUESTION 30**

- (Exam Topic 1)

A new plug-and-play storage device was installed on a PC in the corporate environment. Which of the following safeguards will BEST help to protect the PC from malicious files on the storage device?

- A. Change the default settings on the PC.
- B. Define the PC firewall rules to limit access.
- C. Encrypt the disk on the storage device.
- D. Plug the storage device in to the UPS

**Answer:** A

**Explanation:**

The best option that will help to protect the PC from malicious files on the storage device would be A. Change the default settings on the PC. Changing the default settings on the PC can include disabling the autorun or autoplay feature, which can prevent malicious files from executing automatically when the storage device is plugged in. Changing the default settings can also include enabling antivirus software, updating the operating system and applications, and configuring user account control and permissions.

**NEW QUESTION 32**

- (Exam Topic 1)

Which of the following authentication methods is considered to be the LEAST secure?

- A. TOTP
- B. SMS
- C. HOTP
- D. Token key

**Answer:** B

**Explanation:**

SMS-based authentication is considered to be the least secure among the given options. This is because SMS messages can be intercepted or redirected by attackers through techniques such as SIM swapping, man-in-the-middle attacks, or exploiting weaknesses in the SS7 protocol used by mobile networks. Additionally, SMS messages can be compromised if a user's phone is lost, stolen, or infected with malware. In contrast, TOTP (Time-based One-Time Password), HOTP (HMAC-based One-Time Password), and token keys are more secure as they rely on cryptographic algorithms or physical devices to generate one-time use codes, which are less susceptible to interception or unauthorized access. Reference: 1. National Institute of Standards and Technology (NIST). (2017). Digital Identity Guidelines: Authentication and Lifecycle Management (NIST SP 800-63B). <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63b.pdf>

**NEW QUESTION 36**

- (Exam Topic 1)

A bad actor tries to persuade someone to provide financial information over the phone in order to gain access to funds. Which of the following types of attacks does this scenario describe?

- A. Vishing
- B. Phishing
- C. Spear phishing

D. Whaling

**Answer:** A

**Explanation:**

Vishing is a social engineering attack that uses phone calls or voicemail messages to trick people into divulging sensitive information, such as financial information or login credentials.

**NEW QUESTION 41**

- (Exam Topic 1)

A company installed several crosscut shredders as part of increased information security practices targeting data leakage risks. Which of the following will this practice reduce?

- A. Dumpster diving
- B. Shoulder surfing
- C. Information elicitation
- D. Credential harvesting

**Answer:** A

**Explanation:**

Crosscut shredders are used to destroy paper documents and reduce the risk of data leakage through dumpster diving. Dumpster diving is a method of retrieving sensitive information from paper waste by searching through discarded documents.

References:

➤ CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 2

**NEW QUESTION 44**

- (Exam Topic 1)

An organization wants to integrate its incident response processes into a workflow with automated decision points and actions based on predefined playbooks. Which of the following should the organization implement?

- A. SIEM
- B. SOAR
- C. EDR
- D. CASB

**Answer:** B

**Explanation:**

Security Orchestration, Automation, and Response (SOAR) should be implemented to integrate incident response processes into a workflow with automated decision points and actions based on predefined playbooks. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 9

**NEW QUESTION 49**

- (Exam Topic 1)

An enterprise needs to keep cryptographic keys in a safe manner. Which of the following network appliances can achieve this goal?

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

**Answer:** A

**Explanation:**

Hardware Security Module (HSM) is a network appliance designed to securely store cryptographic keys and perform cryptographic operations. HSMs provide a secure environment for key management and can be used to keep cryptographic keys safe from theft, loss, or unauthorized access. Therefore, an enterprise can achieve the goal of keeping cryptographic keys in a safe manner by using an HSM appliance. References: CompTIA Security+ Certification Exam Objectives, Exam Domain 2.0: Technologies and Tools, 2.4 Given a scenario, use appropriate tools and techniques to troubleshoot security issues, p. 21

**NEW QUESTION 52**

- (Exam Topic 1)

Which of the following environments typically hosts the current version configurations and code, compares user-story responses and workflow, and uses a modified version of actual data for testing?

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

**Answer:** B

**Explanation:**

Staging is an environment in the software development lifecycle that is used to test a modified version of the actual data, current version configurations, and code. This environment compares user-story responses and workflow before the software is released to the production environment. References: CompTIA Security+ Study Guide, Sixth Edition, Sybex, pg. 496

**NEW QUESTION 56**

- (Exam Topic 1)

During a forensic investigation, a security analyst discovered that the following command was run on a compromised host:

```
crackmapexec smb 192.168.10.232 -u localadmin -H 0A3CE8D07A46E5C51070F03593E0A5E6
```

Which of the following attacks occurred?

- A. Buffer overflow
- B. Pass the hash
- C. SQL injection
- D. Replay attack

**Answer: B**

**Explanation:**

Pass the hash is an attack technique that allows an attacker to authenticate to a remote server or service by using the hashed version of a user's password, rather than requiring the plaintext password

**NEW QUESTION 60**

- (Exam Topic 1)

A security engineer needs to build @ solution to satisfy regulatory requirements that stale certain critical servers must be accessed using MFA However, the critical servers are older and are unable to support the addition of MFA, Which of te following will the engineer MOST likely use to achieve this objective?

- A. A forward proxy
- B. A stateful firewall
- C. A jump server
- D. A port tap

**Answer: C**

**Explanation:**

A jump server is a secure host that allows users to access other servers within a network. The jump server acts as an intermediary, and users can access other servers via the jump server after authenticating with MFA.

**NEW QUESTION 63**

- (Exam Topic 1)

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

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

**Answer: B**

**Explanation:**

A Web Application Firewall (WAF) is a security solution that protects web applications from various types of attacks such as SQL injection, cross-site scripting (XSS), and others. It is typically deployed in front of web servers to inspect incoming traffic and filter out malicious requests. To protect the company's website from malicious web requests over SSL, a decryption certificate is needed to decrypt the SSL traffic before it reaches the WAF. This allows the WAF to inspect the traffic and filter out malicious requests.

**NEW QUESTION 66**

- (Exam Topic 1)

A client sent several inquiries to a project manager about the delinquent delivery status of some critical reports. The project manager claimed the reports were previously sent via email, but then quickly generated and backdated the reports before submitting them as plain text within the body of a new email message thread. Which of the following actions MOST likely supports an investigation for fraudulent submission?

- A. Establish chain of custody.
- B. Inspect the file metadata.
- C. Reference the data retention policy.
- D. Review the email event logs

**Answer: D**

**Explanation:**

Reviewing the email event logs can support an investigation for fraudulent submission, as these logs can provide details about the history of emails, including the message content, timestamps, and sender/receiver information. Reference: CompTIA Security+ Certification Exam Objectives, Exam SY0-601, 3.2 Given a scenario, implement appropriate data security and privacy controls.

**NEW QUESTION 70**

- (Exam Topic 1)

Which of the following isa risk that is specifically associated with hesting applications iin the public cloud?

- A. Unsecured root accounts
- B. Zero day
- C. Shared tenancy
- D. Insider threat

**Answer: C**



**Explanation:**

When hosting applications in the public cloud, there is a risk of shared tenancy, meaning that multiple organizations are sharing the same infrastructure. This can potentially allow one tenant to access another tenant's data, creating a security risk. References: CompTIA Security+ Certification Exam Objectives (SY0-601)

**NEW QUESTION 73**

- (Exam Topic 1)

A financial institution would like to store its customer data in a cloud but still allow the data to be accessed and manipulated while encrypted. Doing so would prevent the cloud service provider from being able to decipher the data due to its sensitivity. The financial institution is not concerned about computational overheads and slow speeds. Which of the following cryptographic techniques would BEST meet the requirement?

- A. Asymmetric
- B. Symmetric
- C. Homomorphic
- D. Ephemeral

**Answer:** B

**Explanation:**

Symmetric encryption allows data to be encrypted and decrypted using the same key. This is useful when the data needs to be accessed and manipulated while still encrypted. References: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 6

**NEW QUESTION 76**

- (Exam Topic 1)

Which of the technologies is used to actively monitor for specific file types being transmitted on the network?

- A. File integrity monitoring
- B. Honeynets
- C. Tcpreplay
- D. Data loss prevention

**Answer:** D

**Explanation:**

Data loss prevention (DLP) is a technology used to actively monitor for specific file types being transmitted on the network. DLP solutions can prevent the unauthorized transfer of sensitive information, such as credit card numbers and social security numbers, by monitoring data in motion. References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 2: Technologies and Tools, pp. 99-102.

**NEW QUESTION 81**

- (Exam Topic 1)

Which of the following uses six initial steps that provide basic control over system security by including hardware and software inventory, vulnerability management, and continuous monitoring to minimize risk in all network environments?

- A. ISO 27701
- B. The Center for Internet Security
- C. SSAE SOC 2
- D. NIST Risk Management Framework

**Answer:** B

**Explanation:**

The Center for Internet Security (CIS) uses six initial steps that provide basic control over system security, including hardware and software inventory, vulnerability management, and continuous monitoring to minimize risk in all network environments. References:

- > CompTIA Security+ Certification Exam Objectives 1.1: Compare and contrast different types of security concepts.
- > CompTIA Security+ Study Guide, Sixth Edition, pages 15-16

**NEW QUESTION 83**

- (Exam Topic 1)

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

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

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

**Answer:** D

**Explanation:**

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

**NEW QUESTION 86**

- (Exam Topic 1)

A security analyst must enforce policies to harden an MDM infrastructure. The requirements are as follows:

- \* Ensure mobile devices can be tracked and wiped.

- \* Confirm mobile devices are encrypted.

Which of the following should the analyst enable on all the devices to meet these requirements?

- A. A Geofencing
- B. Biometric authentication
- C. Geolocation
- D. Geotagging

**Answer:** A

**Explanation:**

Geofencing is a technology used in mobile device management (MDM) to allow administrators to define geographical boundaries within which mobile devices can operate. This can be used to enforce location-based policies, such as ensuring that devices can be tracked and wiped if lost or stolen. Additionally, encryption can be enforced on the devices to ensure the protection of sensitive data in the event of theft or loss. References:

➤ CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 7

**NEW QUESTION 89**

- (Exam Topic 1)

An organization wants to enable built-in FDE on all laptops Which of the following should the organization ensure is Installed on all laptops?

- A. TPM
- B. CA
- C. SAML
- D. CRL

**Answer:** A

**Explanation:**

The organization should ensure that a Trusted Platform Module (TPM) is installed on all laptops in order to enable built-in Full Disk Encryption (FDE). TPM is a hardware-based security chip that stores encryption keys and helps to protect data from malicious attacks. It is important to ensure that the TPM is properly configured and enabled in order to get the most out of FDE.

**NEW QUESTION 91**

- (Exam Topic 1)

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

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

**Answer:** B

**Explanation:**

SSH stands for Secure Shell Protocol, which is a cryptographic network protocol that allows secure remote login and command execution on a network device<sup>12</sup>. SSH can encrypt both the authentication information and the data being exchanged between the client and the server<sup>2</sup>. SSH can be used to access and manage a NAS device remotely<sup>3</sup>.

**NEW QUESTION 96**

- (Exam Topic 1)

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

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

**Answer:** B

**Explanation:**

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

**NEW QUESTION 97**

- (Exam Topic 1)

Which of the following environments can be stood up in a short period of time, utilizes either dummy data or actual data, and is used to demonstrate and model system capabilities and functionality for a fixed, agreed-upon duration of time?

- A. PoC
- B. Production

- C. Test
- D. Development

**Answer:** A

**Explanation:**

A proof of concept (PoC) environment can be stood up quickly and is used to demonstrate and model system capabilities and functionality for a fixed, agreed-upon duration of time. This environment can utilize either dummy data or actual data. References: CompTIA Security+ Certification Guide, Exam SY0-501

**NEW QUESTION 100**

- (Exam Topic 1)

Certain users are reporting their accounts are being used to send unauthorized emails and conduct suspicious activities. After further investigation, a security analyst notices the following:

- All users share workstations throughout the day.
- Endpoint protection was disabled on several workstations throughout the network.
- Travel times on logins from the affected users are impossible.
- Sensitive data is being uploaded to external sites.
- All user account passwords were forced to be reset and the issue continued. Which of the following attacks is being used to compromise the user accounts?

- A. Brute-force
- B. Keylogger
- C. Dictionary
- D. Rainbow

**Answer:** B

**Explanation:**

The symptoms suggest a keylogger is being used to compromise the user accounts, allowing the attackers to obtain the users' passwords and other sensitive information. References:

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

**NEW QUESTION 102**

- (Exam Topic 1)

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

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

**Answer:** A

**Explanation:**

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

➤ CompTIA Security+ Certification Exam Objectives - Exam SY0-601

**NEW QUESTION 107**

- (Exam Topic 1)

A company was compromised, and a security analyst discovered the attacker was able to get access to a service account. The following logs were discovered during the investigation:

```
User account 'JHDoe' does not exist...
User account 'VMAdmin' does not exist...
User account 'tomcat' wrong password...
User account 'Admin' does not exist...
```

Which of the following MOST likely would have prevented the attacker from learning the service account name?

- A. Race condition testing
- B. Proper error handling
- C. Forward web server logs to a SIEM
- D. Input sanitization

**Answer:** D

**Explanation:**

Input sanitization can help prevent attackers from learning the service account name by removing potentially harmful characters from user input, reducing the likelihood of successful injection attacks. References:

- CompTIA Security+ Certification Exam Objectives 2.2: Given a scenario, implement secure coding techniques.
- CompTIA Security+ Study Guide, Sixth Edition, pages 72-73

**NEW QUESTION 110**

- (Exam Topic 1)

A company would like to provide flexibility for employees on device preference. However, the company is concerned about supporting too many different types of hardware. Which of the following deployment models will provide the needed flexibility with the GREATEST amount of control and security over company data and infrastructure?

- A. BYOD
- B. VDI
- C. COPE
- D. CYOD

**Answer: D**

**Explanation:**

Choose Your Own Device (CYOD) is a deployment model that allows employees to select from a predefined list of devices. It provides employees with flexibility in device preference while allowing the company to maintain control and security over company data and infrastructure. CYOD deployment model provides a compromise between the strict control provided by Corporate-Owned, Personally Enabled (COPE) deployment model and the flexibility provided by Bring Your Own Device (BYOD) deployment model. References: CompTIA Security+ Study Guide, Chapter 6: Securing Application, Data, and Host Security, 6.5 Implement Mobile Device Management, pp. 334-335

**NEW QUESTION 111**

- (Exam Topic 1)

A junior security analyst is reviewing web server logs and identifies the following pattern in the log file:

`http://comptia.org/../../../../etc/passwd`

Which of the following types of attacks is being attempted and how can it be mitigated?

- A. XS
- B. mplement a SIEM
- C. CSR
- D. implement an IPS
- E. Directory traversal implement a WAF
- F. SQL infection, mplement an IDS

**Answer: C**

**Explanation:**

Detailed

The attack being attempted is directory traversal, which is a web application attack that allows an attacker to access files and directories outside of the web root directory. A WAF can help mitigate this attack by detecting and blocking attempts to access files outside of the web root directory.

References: CompTIA Security+ Study Guide: Exam SY0-601, Chapter 4: Securing Application Development and Deployment, p. 191

**NEW QUESTION 116**

- (Exam Topic 1)

A security administrator is setting up a SIEM to help monitor for notable events across the enterprise. Which of the following control types does this BEST represent?

- A. Preventive
- B. Compensating
- C. Corrective
- D. Detective

**Answer: D**

**Explanation:**

A SIEM is a security solution that helps detect security incidents by monitoring for notable events across the enterprise. A detective control is a control that is designed to detect security incidents and respond to them. Therefore, a SIEM represents a detective control.

Reference: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 3: Architecture and Design

**NEW QUESTION 121**

- (Exam Topic 1)

A user reports trouble using a corporate laptop. The laptop freezes and responds slowly when writing documents and the mouse pointer occasional disappears. The task list shows the following results

Name	CPU %	Memory	Network %
Calculator	0%	4.1MB	0Mbps
Chrome	0.2%	207.1MB	0.1Mbps
Explorer	99.7%	2.15GB	0.1Mbps
Notepad	0%	3.9MB	0Mbps

Which of the following is MOST likely the issue?

- A. RAT
- B. PUP
- C. Spyware
- D. Keylogger

**Answer: C**

**Explanation:**

Spyware is malicious software that can cause a computer to slow down or freeze. It can also cause the mouse pointer to disappear. The task list shows an application named "spyware.exe" running, indicating that spyware is likely the issue. References:

- CompTIA Security+ Certification Exam Objectives 6.0: Given a scenario, analyze indicators of compromise and determine the type of malware.
- CompTIA Security+ Study Guide, Sixth Edition, pages 125-126

**NEW QUESTION 124**

- (Exam Topic 1)

During a Chief Information Security Officer (CISO) convention to discuss security awareness, the attendees are provided with a network connection to use as a resource. As the convention progresses, one of the attendees starts to notice delays in the connection, and the HIIPS site requests are reverting to HTTP Which of the following BEST describes what is happening?

- A. Birthday collision on the certificate key
- B. DNS hijacking to reroute traffic
- C. Brute force to the access point
- D. ASSLLLS downgrade

**Answer:** B

**Explanation:**

The attendee is experiencing delays in the connection, and the HIIPS site requests are reverting to HTTP, indicating that the DNS resolution is redirecting the connection to another server. DNS hijacking is a technique that involves redirecting a user's requests for a domain name to a different IP address. Attackers use DNS hijacking to redirect users to malicious websites and steal sensitive information, such as login credentials and credit card details.

Reference: <https://www.cloudflare.com/learning/dns/dns-hijacking/>

**NEW QUESTION 128**

- (Exam Topic 1)

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

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

**Answer:** C

**Explanation:**

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

**NEW QUESTION 133**

- (Exam Topic 1)

A security architect is implementing a new email architecture for a company. Due to security concerns, the Chief Information Security Officer would like the new architecture to support email encryption, as well as provide for digital signatures. Which of the following should the architect implement?

- A. TOP
- B. IMAP
- C. HTTPS
- D. S/MIME

**Answer:** D

**Explanation:**

S/MIME (Secure/Multipurpose Internet Mail Extensions) is a protocol that enables secure email messages to be sent and received. It provides email encryption, as well as digital signatures, which can be used to verify the authenticity of the sender. S/MIME can be used with a variety of email protocols, including POP and IMAP.

References:

- <https://www.comptia.org/content/guides/what-is-smime>
- CompTIA Security+ Study Guide, Sixth Edition (SY0-601), page 139

**NEW QUESTION 134**

- (Exam Topic 1)

A third party asked a user to share a public key for secure communication. Which of the following file formats should the user choose to share the key?

- A. .pfx
- B. .csr
- C. .pvk
- D. .cer

**Answer:** D

**Explanation:**

A user should choose the .cer file format to share a public key for secure communication. A .cer file is a public key certificate that can be shared with third parties to enable secure communication.

References: CompTIA Security+ Study Guide, Exam SY0-601, 4th Edition, Chapter 6: Cryptography, pp. 301-302.

A public key is a cryptographic key that can be used to encrypt or verify data. A public key file is a file that contains one or more public keys in a specific format. There are different formats for public key files, depending on the application and the algorithm used. Some of the common formats are:

- .pfx: This is a file format that stores a certificate and its private and public keys. It is also known as PKCS#12 or Personal Information Exchange. It is used by



some applications such as Microsoft Internet Explorer and Outlook to import and export certificates and keys.1

- > .csr: This is a file format that stores a Certificate Signing Request, which is a message sent to a Certificate Authority (CA) to request a digital certificate. It contains the public key and some information about the identity of the requester. It is also known as PKCS#10 or Certification Request Syntax.2
- > .pvk: This is a file format that stores a private key for Microsoft Authenticode code signing. It is used with a .spc file that contains the certificate and public key.3
- > .cer: This is a file format that stores a certificate, which is a document that binds a public key to an identity. It is also known as DER or Distinguished Encoding Rules. It is used by some applications such as OpenSSL and Java to read and write certificates.4

#### NEW QUESTION 138

- (Exam Topic 1)

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

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

**Answer: D**

#### Explanation:

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

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

References:

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

#### NEW QUESTION 140

- (Exam Topic 1)

Which of the following would MOST likely be identified by a credentialed scan but would be missed by an uncredentialed scan?

- A. Vulnerabilities with a CVSS score greater than 6.9.
- B. Critical infrastructure vulnerabilities on non-IP protocols.
- C. CVEs related to non-Microsoft systems such as printers and switches.
- D. Missing patches for third-party software on Windows workstations and servers.

**Answer: D**

#### Explanation:

An uncredentialed scan would miss missing patches for third-party software on Windows workstations and servers. A credentialed scan, however, can scan the registry and file system to determine the patch level of third-party applications. References: CompTIA Security+ Study Guide by Emmett Dulaney, Chapter 4: Identity and Access Management, The Importance of Credentialing Scans

#### NEW QUESTION 142

- (Exam Topic 1)

During an incident, a company's CIRT determines it is necessary to observe the continued network-based transactions between a callback domain and the malware running on an enterprise PC. Which of the following techniques would be BEST to enable this activity while reducing the risk of lateral spread and the risk that the adversary would notice any changes?

- A. Physically move the PC to a separate Internet point of presence.
- B. Create and apply microsegmentation rules,
- C. Emulate the malware in a heavily monitored DMZ segment
- D. Apply network blacklisting rules for the adversary domain

**Answer: C**

#### Explanation:

Emulating the malware in a heavily monitored DMZ segment is the best option for observing network-based transactions between a callback domain and the malware running on an enterprise PC. This approach provides an isolated environment for the malware to run, reducing the risk of lateral spread and detection by the adversary. Additionally, the DMZ can be monitored closely to gather intelligence on the adversary's tactics and techniques. References: CompTIA Security+ Study Guide, page 129

#### NEW QUESTION 146

- (Exam Topic 1)

An employee received multiple messages on a mobile device. The messages instructing the employee to pair the device to an unknown device. Which of the following BEST describes What a malicious person might be doing to cause this issue to occur?

- A. Jamming
- B. Bluesnarfing
- C. Evil twin
- D. Rogue access point

**Answer: B**

#### Explanation:

Bluesnarfing is a hacking technique that exploits Bluetooth connections to snatch data from a wireless device. An attacker can perform bluesnarfing when the

Bluetooth function is on and your device is discoverable by other devices within range. In some cases, attackers can even make calls from their victim's phone.

**NEW QUESTION 149**

- (Exam Topic 1)

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

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

**Answer: C**

**Explanation:**

Using legacy software to support a critical service poses a risk due to lack of vendor support. Legacy software is often outdated and unsupported, which means that security patches and upgrades are no longer available. This can leave the system vulnerable to exploitation by attackers who may exploit known vulnerabilities in the software to gain unauthorized access to the system.

Reference: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 1: Attacks, Threats, and Vulnerabilities

**NEW QUESTION 152**

- (Exam Topic 1)

A security team suspects that the cause of recent power consumption overloads is the unauthorized use of empty power outlets in the network rack. Which of the following options will mitigate this issue without compromising the number of outlets available?

- A. Adding a new UPS dedicated to the rack
- B. Installing a managed PDU
- C. Using only a dual power supplies unit
- D. Increasing power generator capacity

**Answer: B**

**Explanation:**

A managed Power Distribution Unit (PDU) allows you to monitor and control power outlets on the rack. This will allow the security team to identify which devices are drawing power and from which outlets, which can help to identify any unauthorized devices. Moreover, with a managed PDU, you can also control the power to outlets, turn off outlets that are not in use, and set up alerts if an outlet is overloaded. This will help to mitigate the issue of power consumption overloads without compromising the number of outlets available.

Reference: CompTIA Security+ Study Guide (SY0-601) 7th Edition by Emmett Dulaney, Chuck Easttom

**NEW QUESTION 155**

- (Exam Topic 1)

The help desk has received calls from users in multiple locations who are unable to access core network services. The network team has identified and turned off the network switches using remote commands. Which of the following actions should the network team take NEXT?

- A. Disconnect all external network connections from the firewall
- B. Send response teams to the network switch locations to perform updates
- C. Turn on all the network switches by using the centralized management software
- D. Initiate the organization's incident response plan.

**Answer: D**

**Explanation:**

An incident response plan is a set of procedures and guidelines that defines how an organization should respond to a security incident. An incident response plan typically includes the following phases: preparation, identification, containment, eradication, recovery, and lessons learned.

If the help desk has received calls from users in multiple locations who are unable to access core network services, it could indicate that a network outage or a denial-of-service attack has occurred. The network team has identified and turned off the network switches using remote commands, which could be a containment measure to isolate the affected devices and prevent further damage.

The next action that the network team should take is to initiate the organization's incident response plan, which would involve notifying the appropriate stakeholders, such as management, security team, legal team, etc., and following the predefined steps to investigate, analyze, document, and resolve the incident. The other options are not correct because:

- > A. Disconnect all external network connections from the firewall. This could be another containment measure to prevent external attackers from accessing the network, but it would also disrupt legitimate network traffic and services. This action should be taken only if it is part of the incident response plan and after notifying the relevant parties.
- > B. Send response teams to the network switch locations to perform updates. This could be a recovery measure to restore normal network operations and apply patches or updates to prevent future incidents, but it should be done only after the incident has been properly identified, contained, and eradicated.
- > C. Turn on all the network switches by using the centralized management software. This could be a recovery measure to restore normal network operations, but it should be done only after the incident has been properly identified, contained, and eradicated.

According to CompTIA Security+ SY0-601 Exam Objectives 1.5 Given a scenario, analyze indicators of compromise and determine the type of malware:

"An incident response plan is a set of procedures and guidelines that defines how an organization should respond to a security incident. An incident response plan typically includes the following phases: preparation, identification, containment, eradication, recovery, and lessons learned."

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

**NEW QUESTION 157**

- (Exam Topic 1)

Which of the following BEST describes a social-engineering attack that relies on an executive at a small business visiting a fake banking website where credit card and account details are harvested?

- A. Whaling
- B. Spam

- C. Invoice scam
- D. Pharming

**Answer:** A

**Explanation:**

A social engineering attack that relies on an executive at a small business visiting a fake banking website where credit card and account details are harvested is known as whaling. Whaling is a type of phishing attack that targets high-profile individuals, such as executives, to steal sensitive information or gain access to their accounts.

**NEW QUESTION 161**

- (Exam Topic 1)

An organization wants seamless authentication to its applications. Which of the following should the organization employ to meet this requirement?

- A. SOAP
- B. SAML
- C. SSO
- D. Kerberos

**Answer:** C

**Explanation:**

Single Sign-On (SSO) is a mechanism that allows users to access multiple applications with a single set of login credentials. References: CompTIA Security+ Study Guide 601, Chapter 6

**NEW QUESTION 165**

- (Exam Topic 1)

A new vulnerability in the SMB protocol on the Windows systems was recently discovered, but no patches are currently available to resolve the issue. The security administrator is concerned if servers in the company's DMZ will be vulnerable to external attack; however, the administrator cannot disable the service on the servers, as SMB is used by a number of internal systems and applications on the LAN. Which of the following TCP ports should be blocked for all external inbound connections to the DMZ as a workaround to protect the servers? (Select TWO).

- A. 135
- B. 139
- C. 143
- D. 161
- E. 443
- F. 445

**Answer:** BF

**Explanation:**

To protect the servers in the company's DMZ from external attack due to the new vulnerability in the SMB protocol on the Windows systems, the security administrator should block TCP ports 139 and 445 for all external inbound connections to the DMZ. SMB uses TCP port 139 and 445. Blocking these ports will prevent external attackers from exploiting the vulnerability in SMB protocol on Windows systems. Blocking TCP ports 139 and 445 for all external inbound connections to the DMZ can help protect the servers, as these ports are used by SMB protocol. Port 135 is also associated with SMB, but it is not commonly used. Ports 143 and 161 are associated with other protocols and services. Reference: CompTIA Security+ Certification Exam Objectives, Exam SY0-601, 1.4 Compare and contrast network architecture and technologies.

**NEW QUESTION 166**

- (Exam Topic 1)

A large enterprise has moved all its data to the cloud behind strong authentication and encryption. A sales director recently had a laptop stolen, and later, enterprise data was found to have been compromised from a local database. Which of the following was the MOST likely cause?

- A. Shadow IT
- B. Credential stuffing
- C. SQL injection
- D. Man in the browser
- E. Bluejacking

**Answer:** A

**Explanation:**

The most likely cause of the enterprise data being compromised from a local database is Shadow IT. Shadow IT is the use of unauthorized applications or devices by employees to access company resources. In this case, the sales director's laptop was stolen, and the attacker was able to use it to access the local database, which was not secured properly, allowing unauthorized access to sensitive data. References:

➤ CompTIA Security+ Certification Exam Objectives - Exam SY0-601

**NEW QUESTION 170**

- (Exam Topic 1)

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

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

**Answer:** D

**Explanation:**

Detailed

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

**NEW QUESTION 172**

- (Exam Topic 1)

Which of the following conditions impacts data sovereignty?

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

**Answer:** D

**Explanation:**

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

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

**NEW QUESTION 176**

- (Exam Topic 1)

Which of the following roles would MOST likely have direct access to the senior management team?

- A. Data custodian
- B. Data owner
- C. Data protection officer
- D. Data controller

**Answer:** C

**Explanation:**

A data protection officer (DPO) is a role that oversees the data protection strategy and compliance of an organization. A DPO is responsible for ensuring that the organization follows data protection laws and regulations, such as the General Data Protection Regulation (GDPR), and protects the privacy rights of data subjects. A DPO also acts as a liaison between the organization and data protection authorities, as well as data subjects and other stakeholders.

A DPO would most likely have direct access to the senior management team, as they need to report on data protection issues, risks, and incidents, and advise on data protection policies and practices.

The other options are not correct because:

➤ A. Data custodian is a role that implements and maintains the technical controls and procedures for data security and integrity. A data custodian does not have direct access to the senior management team, as they are more involved in operational tasks than strategic decisions.

➤ B. Data owner is a role that determines the classification and usage of data within an organization. A data owner does not have direct access to the senior management team, as they are more involved in business functions than data protection compliance.

➤ D. Data controller is a role that determines the purposes and means of processing personal data within an organization. A data controller does not have direct access to the senior management team, as they are more involved in data processing activities than data protection oversight.

According to CompTIA Security+ SY0-601 Exam Objectives 2.3 Given a scenario, implement secure protocols:

“A data protection officer (DPO) is a role that oversees the data protection strategy and compliance of an organization.”

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

<https://gdpr-info.eu/issues/data-protection-officer/>

**NEW QUESTION 179**

- (Exam Topic 1)

Which of the following would be BEST for a technician to review to determine the total risk an organization can bear when assessing a "cloud-first" adoption strategy?

- A. Risk matrix
- B. Risk tolerance
- C. Risk register
- D. Risk appetite

**Answer:** B

**Explanation:**

To determine the total risk an organization can bear, a technician should review the organization's risk tolerance, which is the amount of risk the organization is willing to accept. This information will help determine the organization's "cloud-first" adoption strategy. References: CompTIA Security+ Certification Exam Objectives (SY0-601)

**NEW QUESTION 180**

- (Exam Topic 1)

A security researcher has alerted an organization that its sensitive user data was found for sale on a website. Which of the following should the organization use to inform the affected parties?

- A. An incident response plan
- B. A communications plan
- C. A business continuity plan
- D. A disaster recovery plan



**Answer:** B

**Explanation:**

A communications plan should be used to inform the affected parties about the sale of sensitive user data on a website. The communications plan should detail how the organization will handle media inquiries, how to communicate with customers, and how to respond to other interested parties.

**NEW QUESTION 182**

- (Exam Topic 1)

A company is concerned about individuals driving a car into the building to gain access. Which of the following security controls would work BEST to prevent this from happening?

- A. Bollard
- B. Camera
- C. Alarms
- D. Signage
- E. Access control vestibule

**Answer:** A

**Explanation:**

A bollard would work best to prevent individuals from driving a car into the building. A bollard is a short, vertical post that can be used to block vehicles from entering a designated area. It is specifically designed to stop cars from crashing into buildings or other structures.

**NEW QUESTION 185**

- (Exam Topic 1)

The Chief Information Security Officer (CISO) has decided to reorganize security staff to concentrate on incident response and to outsource outbound Internet URL categorization and filtering to an outside company. Additionally, the CISO would like this solution to provide the same protections even when a company laptop or mobile device is away from a home office. Which of the following should the CISO choose?

- A. CASB
- B. Next-generation SWG
- C. NGFW
- D. Web-application firewall

**Answer:** B

**Explanation:**

The solution that the CISO should choose is Next-generation Secure Web Gateway (SWG), which provides URL filtering and categorization to prevent users from accessing malicious sites, even when they are away from the office. NGFWs are typically cloud-based and offer multiple security layers, including malware detection, intrusion prevention, and data loss prevention. References:

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

**NEW QUESTION 187**

- (Exam Topic 1)

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

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

**Answer:** C

**Explanation:**

WAP stands for wireless access point, which is a device that allows wireless devices to connect to a wired network using Wi-Fi or Bluetooth. WAP placement refers to where and how WAPs are installed in a building or area.

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

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

**NEW QUESTION 192**

- (Exam Topic 1)

Per company security policy, IT staff members are required to have separate credentials to perform administrative functions using just-in-time permissions. Which of the following solutions is the company implementing?

- A. Privileged access management
- B. SSO
- C. RADIUS
- D. Attribute-based access control

**Answer:** A



**Explanation:**

The company is implementing privileged access management, which provides just-in-time permissions for administrative functions.

**NEW QUESTION 195**

- (Exam Topic 1)

A company recently experienced an attack during which 5 main website was directed to the attack-er's web server, allowing the attacker to harvest credentials from unsuspecting customers. Which of the following should the company Implement to prevent this type of attack from occurring in the future?

- A. IPSec
- B. SSL/TLS
- C. DNSSEC
- D. S/MIME

**Answer:** C

**Explanation:**

The attack described in the question is known as a DNS hijacking attack. In this type of attack, an attacker modifies the DNS records of a domain name to redirect traffic to their own server. This allows them to intercept traffic and steal sensitive information such as user credentials.

To prevent this type of attack from occurring in the future, the company should implement C. DNSSEC.

DNSSEC (Domain Name System Security Extensions) is a security protocol that adds digital signatures to DNS records. This ensures that DNS records are not modified during transit and prevents DNS hijacking attacks.

**NEW QUESTION 197**

- (Exam Topic 1)

An organization would like to remediate the risk associated with its cloud service provider not meeting its advertised 99.999% availability metrics. Which of the following should the organization consult for the exact requirements for the cloud provider?

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

**Answer:** A

**Explanation:**

The Service Level Agreement (SLA) is a contract between the cloud service provider and the organization that stipulates the exact requirements for the cloud provider. It outlines the level of service that the provider must deliver, including the minimum uptime percentage, support response times, and the remedies and penalties for failing to meet the agreed-upon service levels.

**NEW QUESTION 198**

- (Exam Topic 1)

A security engineer needs to create a network segment that can be used for servers that require connections from untrusted networks. Which of the following should the engineer implement?

- A. An air gap
- B. A hot site
- C. A VUAN
- D. A screened subnet

**Answer:** D

**Explanation:**

A screened subnet is a network segment that can be used for servers that require connections from untrusted networks. It is placed between two firewalls, with one firewall facing the untrusted network and the other facing the trusted network. This setup provides an additional layer of security by screening the traffic that flows between the two networks. References: CompTIA Security+ Certification Guide, Exam SY0-501

**NEW QUESTION 200**

- (Exam Topic 1)

An analyst Is generating a security report for the management team. Security guidelines recommend disabling all listening unencrypted services. Given this output from Nmap:

```
PORT      STATE
21/tcp    filtered
22/tcp    open
23/tcp    open
443/tcp   open
```

Which of the following should the analyst recommend to disable?

- A. 21/tcp
- B. 22/tcp
- C. 23/tcp
- D. 443/tcp

**Answer:** A

**NEW QUESTION 205**

- (Exam Topic 1)

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

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

**Answer: C**

**Explanation:**

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

**NEW QUESTION 208**

- (Exam Topic 1)

A security administrator is working on a solution to protect passwords stored in a database against rainbow table attacks Which of the following should the administrator consider?

- A. Hashing
- B. Salting
- C. Lightweight cryptography
- D. Steganography

**Answer: B**

**Explanation:**

Salting is a technique that adds random data to a password before hashing it. This makes the hash output more unique and unpredictable, and prevents attackers from using precomputed tables (such as rainbow tables) to crack the password hash. Salting also reduces the risk of collisions, which occur when different passwords produce the same hash.

References: <https://www.comptia.org/certifications/security#examdetails> <https://www.comptia.org/content/guides/comptia-security-sy0-601-exam-objectives>  
<https://auth0.com/blog/adding-salt-to-hashing-a-better-way-to-store-passwords/>

**NEW QUESTION 212**

- (Exam Topic 1)

Remote workers in an organization use company-provided laptops with locally installed applications and locally stored data Users can store data on a remote server using an encrypted connection. The organization discovered data stored on a laptop had been made available to the public Which of the following security solutions would mitigate the risk of future data disclosures?

- A. FDE
- B. TPM
- C. HIDS
- D. VPN

**Answer: A**

**Explanation:**

Based on these definitions, the best security solution to mitigate the risk of future data disclosures from a laptop would be FDE123. FDE would prevent unauthorized access to the data stored on the laptop even if it is stolen or lost. FDE can also use TPM to store the encryption key and ensure that only trusted software can decrypt the data3. HIDS and VPN are not directly related to data encryption, but they can provide additional security benefits by detecting intrusions and protecting network traffic respectively.

**NEW QUESTION 213**

- (Exam Topic 1)

An attacker replaces a digitally signed document with another version that goes unnoticed Upon reviewing the document's contents the author notices some additional verbiage that was not originally in the document but cannot validate an integrity issue. Which of the following attacks was used?

- A. Cryptomalware
- B. Hash substitution
- C. Collision
- D. Phishing

**Answer: B**

**Explanation:**

This type of attack occurs when an attacker replaces a digitally signed document with another version that has a different hash value. The author would be able to notice the additional verbiage, however, since the hash value would have changed, they would not be able to validate an integrity issue.

**NEW QUESTION 216**

- (Exam Topic 1)

During an incident a company CIRT determine it is necessary to observe the continued network-based transaction between a callback domain and the malware running on an enterprise PC. Which of the following techniques would be BEST to enable this activity while reducing the risk of lateral spread and the risk that the adversary would notice any changes?

- A. Physical move the PC to a separate internet pint of presence
- B. Create and apply micro segmentation rules.
- C. Emulate the malware in a heavily monitored DM Z segment.

D. Apply network blacklisting rules for the adversary domain

**Answer:** C

**Explanation:**

To observe the continued network-based transaction between a callback domain and the malware running on an enterprise PC while reducing the risk of lateral spread and the risk that the adversary would notice any changes, the best technique to use is to emulate the malware in a heavily monitored DMZ segment. This is a secure environment that is isolated from the rest of the network and can be heavily monitored to detect any suspicious activity. By emulating the malware in this environment, the activity can be observed without the risk of lateral spread or detection by the adversary. References:  
<https://www.sans.org/blog/incident-response-fundamentals-why-is-the-dmz-so-important/>

**NEW QUESTION 217**

- (Exam Topic 1)

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

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

**Answer:** D

**Explanation:**

A development environment is the environment that is used to develop and test software. It is typically installed locally on a system that allows code to be assessed directly and modified easily with each build. In this environment, dummy data is often utilized to test the software's functionality.  
Reference: CompTIA Security+ Study Guide, Exam SY0-601, Chapter 3: Architecture and Design

**NEW QUESTION 221**

- (Exam Topic 1)

An enterprise has hired an outside security firm to facilitate penetration testing on its network and applications. The firm has agreed to pay for each vulnerability that is discovered. Which of the following BEST represents the type of testing that is being used?

- A. White-box
- B. Red-team
- C. Bug bounty
- D. Gray-box
- E. Black-box

**Answer:** C

**Explanation:**

Bug bounty is a type of testing in which an organization offers a reward or compensation to anyone who can identify vulnerabilities or security flaws in their network or applications. The outside security firm has agreed to pay for each vulnerability found, which is an example of a bug bounty program.

**NEW QUESTION 225**

- (Exam Topic 2)

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

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

**Answer:** B

**Explanation:**

Salting is a technique that adds random data to user credentials before hashing them. This makes the hashed credentials more secure and resistant to brute-force attacks or rainbow table attacks. Salting also ensures that two users with the same password will have different hashed credentials.  
A company that has more computing power can consider using salting to ensure user credentials are being transmitted and stored more securely. Salting can increase the complexity and entropy of the hashed credentials, making them harder to crack or reverse.

**NEW QUESTION 229**

- (Exam Topic 2)

Which of the following procedures would be performed after the root cause of a security incident has been identified to help avoid future incidents from occurring?

- A. Walk-throughs
- B. Lessons learned
- C. Attack framework alignment
- D. Containment

**Answer:** B

**Explanation:**

After the root cause of a security incident has been identified, it is important to take the time to analyze what went wrong and how it could have been prevented. This process is known as "lessons learned" and allows organizations to identify potential improvements to their security processes and protocols. Lessons learned

typically involve a review of the incident and the steps taken to address it, a review of the security systems and procedures in place, and an analysis of any potential changes that can be made to prevent similar incidents from occurring in the future.

**NEW QUESTION 230**

- (Exam Topic 2)

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

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

**Answer:** A

**Explanation:**

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

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

**NEW QUESTION 235**

- (Exam Topic 2)

A company wants to deploy decoy systems alongside production systems in order to entice threat actors and to learn more about attackers. Which of the following best describes these systems?

- A. DNS sinkholes
- B. Honey pots
- C. Virtual machines
- D. Neural networks

**Answer:** B

**Explanation:**

Honey pots are decoy systems or resources that are designed to attract and deceive threat actors and to learn more about their motives, techniques, etc. They can be deployed alongside production systems to create an illusion of a vulnerable target and divert attacks away from the real systems. They can also collect valuable information and evidence about the attackers and their activities for further analysis or prosecution.

**NEW QUESTION 240**

- (Exam Topic 2)

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

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

**Answer:** A

**Explanation:**

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

**NEW QUESTION 245**

- (Exam Topic 2)

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

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

**Answer:** C

**Explanation:**

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

**NEW QUESTION 249**

- (Exam Topic 2)

Which of the following would satisfy three-factor authentication requirements?

- A. Password, PIN, and physical token
- B. PIN, fingerprint scan, and ins scan
- C. Password, fingerprint scan, and physical token
- D. PIN, physical token, and ID card

**Answer:** C

**Explanation:**

Three-factor authentication combines three types of authentication methods: something you know (password), something you have (physical token), and something you are (fingerprint scan). Option C satisfies these requirements, as it uses a password (something you know), a physical token (something you have), and a fingerprint scan (something you are) for authentication.

Reference: CompTIA Security+ Study Guide (SY0-601) 7th Edition by Emmett Dulaney, Chuck Easttom Note: There could be other options as well that could satisfy the three-factor authentication requirements as per the organization's security policies.

**NEW QUESTION 252**

- (Exam Topic 2)

Which Of the following is a primary security concern for a setting up a BYOD program?

- A. End of life
- B. Buffer overflow
- C. VM escape
- D. Jailbreaking

**Answer:** D

**Explanation:**

Jailbreaking is a process of bypassing or removing the manufacturer-imposed restrictions on a mobile device's operating system, allowing users to install unauthorized applications, modify settings, etc. It is a primary security concern for setting up a BYOD program because it can expose the device and its data to malware, vulnerabilities, unauthorized access, etc

**NEW QUESTION 253**

- (Exam Topic 2)

An organization has hired a security analyst to perform a penetration test The analyst captures 1Gb worth of inbound network traffic to the server and transfers the pcap back to the machine for analysis. Which of the following tools should the analyst use to further review the pcap?

- A. Nmap
- B. CURL
- C. Neat
- D. Wireshark

**Answer:** D

**Explanation:**

Wireshark is a tool that can analyze pcap files, which are files that capture network traffic. Wireshark can display the packets, protocols, and other details of the network traffic in a graphical user interface. Nmap is a tool that can scan networks and hosts for open ports and services. CURL is a tool that can transfer data from or to a server using various protocols. Neat is a tool that can test network performance and quality.

**NEW QUESTION 258**

- (Exam Topic 2)

Recent changes to a company's BYOD policy require all personal mobile devices to use a two-factor authentication method that is not something you know or have. Which of the following will meet this requirement?

- A. Facial recognition
- B. Six-digit PIN
- C. PKI certificate
- D. Smart card

**Answer:** A

**Explanation:**

Facial recognition is a type of biometric authentication that uses the unique features of a person's face to verify their identity. Facial recognition is not something you know or have, but something you are, which is one of the three factors of authentication. Facial recognition can use various methods and technologies, such as 2D or 3D images, infrared sensors, machine learning and more, to capture, analyze and compare facial data. Facial recognition can provide a convenient and secure way to authenticate users on personal mobile devices, as it does not require any additional hardware or input from the user. Facial recognition can also be used in conjunction with other factors, such as passwords or tokens, to provide multi-factor authentication. Verified References:

➤ Biometrics - SY0-601 CompTIA Security+ : 2.4 - Professor Messer IT Certification Training Courses <https://www.professormesser.com/security-plus/sy0-601/sy0-601-video/biometrics/> (See Facial Recognition)

➤ Security+ (Plus) Certification | CompTIA IT Certifications <https://www.comptia.org/certifications/security> (See Domain 2: Architecture and Design, Objective 2.4: Given a scenario, implement identity and access management controls.)

➤ Biometric and Facial Recognition - CompTIA Security+ Certification (SY0-501) [https://www.oreilly.com/library/view/comptia-security-certification/9781789953091/video9\\_6.html](https://www.oreilly.com/library/view/comptia-security-certification/9781789953091/video9_6.html) (See Biometric and Facial Recognition)

**NEW QUESTION 259**

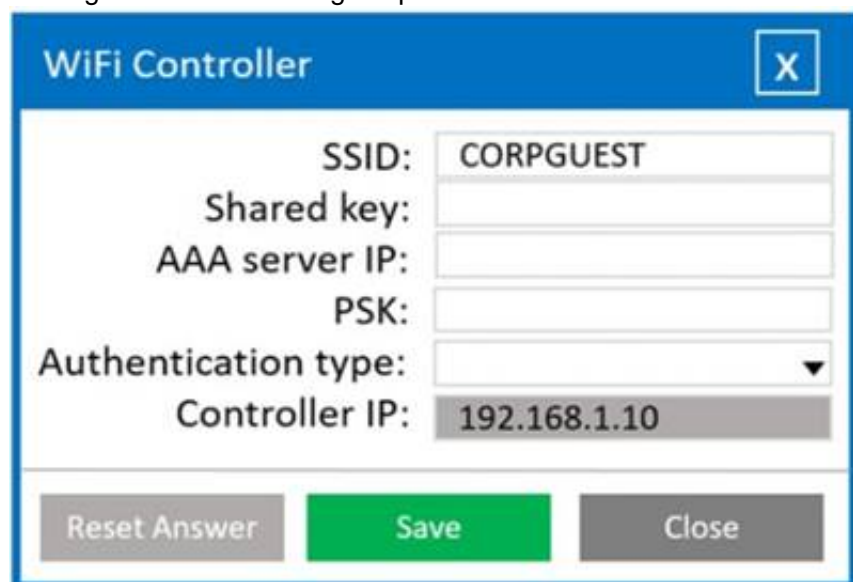
- (Exam Topic 2)

A systems administrator needs to install a new wireless network for authenticated guest access. The wireless network should support 802.1X using the most secure encryption and protocol available.

Perform the following steps:



- \* 1. Configure the RADIUS server.
- \* 2. Configure the WiFi controller.
- \* 3. Preconfigure the client for an incoming guest. The guest AD credentials are:  
User: guest01 Password: guestpass



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Wifi Controller SSID: CORPGUEST  
SHARED KEY: Secret  
AAA server IP: 192.168.1.20  
PSK: Blank  
Authentication type: WPA2-EAP-PEAP-MSCHAPv2 Controller IP: 192.168.1.10  
Radius Server Shared Key: Secret  
Client IP: 192.168.1.10  
Authentication Type: Active Directory Server IP: 192.168.1.20  
Wireless Client SSID: CORPGUEST  
Username: guest01 Userpassword: guestpass PSK: Blank  
Authentication type: WPA2-Enterprise

**NEW QUESTION 262**

- (Exam Topic 2)

A security analyst is hardening a network infrastructure The analyst is given the following requirements

- Preserve the use of public IP addresses assigned to equipment on the core router
- Enable "in transport" encryption protection to the web server with the strongest ciphers. Which of the following should the analyst implement to meet these requirements? (Select two).

- A. Configure VLANs on the core router
- B. Configure NAT on the core router.
- C. Configure BGP on the core router
- D. Enable AES encryption on the web server
- E. Enable 3DES encryption on the web server
- F. Enable TLSv2 encryption on the web server

**Answer:** BF

**Explanation:**

NAT (Network Address Translation) is a technique that allows a router to translate private IP addresses into public IP addresses and vice versa. It can preserve the use of public IP addresses assigned to equipment on the core router by allowing multiple devices to share a single public IP address. TLSv2 (Transport Layer Security version 2) is a cryptographic protocol that provides secure communication over the internet. It can enable "in transport" encryption protection to the web server with the strongest ciphers by encrypting the data transmitted between the web server and the clients using advanced algorithms and key exchange methods.

**NEW QUESTION 264**

- (Exam Topic 2)

An annual information security has revealed that several OS-level configurations are not in compliance due to Outdated hardening standards the company is using Which Of the following would be best to use to update and reconfigure the OS.level security configurations?

- A. CIS benchmarks
- B. GDPR guidance
- C. Regional regulations
- D. ISO 27001 standards

**Answer:** A

**Explanation:**

CIS benchmarks are best practices and standards for securing various operating systems, applications, cloud environments, etc. They are developed by a community of experts and updated regularly to reflect the latest threats and vulnerabilities. They can be used to update and reconfigure the OS-level security configurations to ensure compliance and reduce risks

**NEW QUESTION 265**

- (Exam Topic 2)

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

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

**Answer:** C

**Explanation:**

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

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

**NEW QUESTION 266**

- (Exam Topic 2)

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

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

**Answer:** A

**Explanation:**

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

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

**NEW QUESTION 271**

- (Exam Topic 2)

A security engineer is investigating a penetration test report that states the company website is vulnerable to a web application attack. While checking the web logs from the time of the test, the engineer notices several invalid web form submissions using an unusual address: "SELECT \* FROM customername". Which of the following is most likely being attempted?

- A. Directory traversal
- B. SQL injection
- C. Privilege escalation
- D. Cross-site scripting

**Answer:** B

**Explanation:**

SQL injection is a web application attack that involves inserting malicious SQL statements into an input field, such as a web form, to manipulate or access the database behind the application. SQL injection can be used to perform various actions, such as reading, modifying, or deleting data, executing commands on the database server, or bypassing authentication. In this scenario, the attacker is trying to use a SQL statement "SELECT \* FROM customername" to retrieve all data from the customername table in the database.

**NEW QUESTION 274**

- (Exam Topic 2)

An organization's corporate offices were destroyed due to a natural disaster, so the organization is now setting up offices in a temporary work space. Which of the following will the organization most likely consult?

- A. The business continuity plan
- B. The risk management plan
- C. The communication plan
- D. The incident response plan

**Answer:** A

**Explanation:**

A business continuity plan is a document or a process that outlines how an organization can continue its critical operations and functions in the event of a disruption or disaster. It can include strategies and procedures for recovering or relocating resources, personnel, data, etc., to ensure minimal downtime and impact. The organization will most likely consult the business continuity plan when setting up offices in a temporary work space after its corporate offices were destroyed due to a natural disaster.

**NEW QUESTION 275**

- (Exam Topic 2)

The alert indicates an attacker entered thousands of characters into the text box of a web form. The web form was intended for legitimate customers to enter their phone numbers. Which of the attacks has most likely occurred?

- A. Privilege escalation
- B. Buffer overflow
- C. Resource exhaustion
- D. Cross-site scripting

**Answer: B**

**Explanation:**

A buffer overflow attack occurs when an attacker inputs more data than the buffer can store, causing the excess data to overwrite adjacent memory locations and corrupt or execute code<sup>1</sup>. In this case, the attacker entered thousands of characters into a text box that was intended for phone numbers, which are much shorter. This could result in a buffer overflow attack that compromises the web application or server. The other options are not related to this scenario. Privilege escalation is when an attacker gains unauthorized access to higher-level privileges or resources<sup>2</sup>. Resource exhaustion is when an attacker consumes all the available resources of a system, such as CPU, memory, disk space, etc., to cause a denial of service<sup>3</sup>. Cross-site scripting is when an attacker injects malicious code into a web page that is executed by the browser of a victim who visits the page.

References: 1: <https://www.fortinet.com/resources/cyberglossary/buffer-overflow> 2:

<https://www.imperva.com/learn/application-security/privilege-escalation/> 3: <https://www.imperva.com/learn/application-security/resource-exhaustion/> :

<https://owasp.org/www-community/attacks/xss/>

**NEW QUESTION 277**

- (Exam Topic 2)

A security analyst receives alerts about an internal system sending a large amount of unusual DNS queries to systems on the internet over short periods of time during non-business hours. Which of the following is most likely occurring?

- A. A worm is propagating across the network.
- B. Data is being exfiltrated.
- C. A logic bomb is deleting data.
- D. Ransomware is encrypting files.

**Answer: B**

**Explanation:**

Data is being exfiltrated when an internal system is sending a large amount of unusual DNS queries to systems on the internet over short periods of time during non-business hours. Data exfiltration is the unauthorized transfer of data from a system or network to an external destination or actor. Data exfiltration can be performed by malicious insiders or external attackers who have compromised the system or network. DNS queries are requests for resolving domain names to IP addresses. DNS queries can be used as a covert channel for data exfiltration by encoding data in the domain names or subdomains and sending them to a malicious DNS server that can decode and collect the data. References:

<https://www.comptia.org/blog/what-is-data-exfiltration>

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

**NEW QUESTION 281**

- (Exam Topic 2)

Which of the following is required in order (or an IDS and a WAF to be effective on HTTPS traffic?

- A. Hashing
- B. DNS sinkhole
- C. TLS inspection
- D. Data masking

**Answer: C**

**Explanation:**

TLS (Transport Layer Security) is a protocol that is used to encrypt data sent over HTTPS (Hypertext Transfer Protocol Secure). In order for an intrusion detection system (IDS) and a web application firewall (WAF) to be effective on HTTPS traffic, they must be able to inspect the encrypted traffic. TLS inspection allows the IDS and WAF to decrypt and inspect the traffic, allowing them to detect any malicious activity. References: [1] CompTIA Security+ Study Guide Exam SY0-601 [1], Sixth Edition, Chapter 11, "Network Security Monitoring" [2] CompTIA Security+ Get Certified Get Ahead: SY0-501 Study Guide, Chapter 7, "Intrusion Detection and Prevention"

**NEW QUESTION 284**

- (Exam Topic 2)

A security team is providing input on the design of a secondary data center that has Which of the following should the security team recommend? (Select two).

- A. Configuring replication of the web servers at the primary site to offline storage
- B. Constructing the secondary site in a geographically disperse location
- C. Deploying load balancers at the primary site
- D. Installing generators
- E. Using differential backups at the secondary site
- F. Implementing hot and cold aisles at the secondary site

**Answer: BD**

**Explanation:**

\* B. Constructing the secondary site in a geographically disperse location would ensure that a natural disaster at the primary site would not affect the secondary site. It would also allow for failover during traffic surge situations by distributing the load across different regions. D. Installing generators would provide protection against power surges and outages by providing backup power sources in case of a failure. Generators are part of the physical security requirements for data centers as they ensure availability and resilience. References: 1

CompTIA Security+ Certification Exam Objectives, page 8, Domain 2.0: Architecture and Design, Objective 2.1 : Explain the importance of secure staging

deployment concepts 2

CompTIA Security+ Certification Exam

Objectives, page 9, Domain 2.0: Architecture and Design, Objective 2.3: Summarize secure application

development, deployment, and automation concepts 3

CompTIA Security+ Certification Exam Objectives, page 11, Domain 2.0: Architecture and Design, Objective 2.5: Explain the importance of physical security controls

#### NEW QUESTION 289

- (Exam Topic 2)

Which Of the following vulnerabilities is exploited an attacker Overwrite a reg-ister with a malicious address that changes the execution path?

- A. VM escape
- B. SQL injection
- C. Buffer overflow
- D. Race condition

**Answer: C**

#### Explanation:

A buffer overflow is a type of vulnerability that occurs when an attacker sends more data than a buffer can

hold, causing the excess data to overwrite adjacent memory locations such as registers. It can allow an attacker to overwrite a register with a malicious address that changes the execution path and executes arbitrary code on the target system

#### NEW QUESTION 294

- (Exam Topic 2)

A network architect wants a server to have the ability to retain network availability even if one of the network switches it is connected to goes down. Which of the following should the architect implement on the server to achieve this goal?

- A. RAID
- B. UPS
- C. NIC teaming
- D. Load balancing

**Answer: C**

#### Explanation:

NIC Teaming is a feature that allows a server to be connected to multiple network switches, providing redundancy and increased network availability. If one of the switches goes down, the server will still be able to send and receive data through one of the other switches. To configure NIC Teaming in Windows Server, see Microsoft's documentation:

<https://docs.microsoft.com/en-us/windows-server/networking/technologies/nic-teaming>. For more information on NIC Teaming and other network redundancy features, refer to the CompTIA Security+ SY0-601 Official Text Book and Resources.

#### NEW QUESTION 298

- (Exam Topic 2)

An analyst is working on an investigation with multiple alerts for multiple hosts. The hosts are showing signs of being compromised by a fast-spreading worm. Which of the following should be the next step in order to stop the spread?

- A. Disconnect every host from the network.
- B. Run an AV scan on the entire
- C. Scan the hosts that show signs of
- D. Place all known-infected hosts on an isolated network

**Answer: D**

#### Explanation:

Placing all known-infected hosts on an isolated network is the best way to stop the spread of a worm infection. This will prevent the worm from reaching other hosts on the network and allow the infected hosts to be cleaned and restored. Disconnecting every host from the network is not practical and may disrupt business operations. Running an AV scan on the entire network or scanning the hosts that show signs of infection may not be effective or fast enough to stop a fast-spreading worm.

#### NEW QUESTION 300

- (Exam Topic 2)

Which Of the following best ensures minimal downtime for organizations vÃh crit-ical computing equipment located in earthquake-prone areas?

- A. Generators and UPS
- B. Off-site replication
- C. Additional warm site
- D. Local

**Answer: B**

#### Explanation:

Off-site replication is a process of copying and storing data in a remote location that is geographically separate from the primary site. It can ensure minimal downtime for organizations with critical computing equipment located in earthquake-prone areas by providing a backup copy of data that can be accessed and restored in case of a disaster or disruption at the primary site.

#### NEW QUESTION 302

- (Exam Topic 2)



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

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

**Answer:** AB

**Explanation:**

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

**NEW QUESTION 303**

- (Exam Topic 2)

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

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

**Answer:** B

**Explanation:**

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

**NEW QUESTION 308**

- (Exam Topic 2)

A security analyst is creating baselines for the server team to follow when hardening new devices for deployment. Which of the following best describes what the analyst is creating?

- A. Change management procedure
- B. Information security policy
- C. Cybersecurity framework
- D. Secure configuration guide

**Answer:** D

**Explanation:**

A secure configuration guide is a document that provides an overview of the security features and best practices for a specific product, system, or application. A secure configuration guide helps to reduce unnecessary cyber vulnerabilities and enhance overall security by applying consistent and standardized settings and policies. A security analyst can create baselines for the server team to follow when hardening new devices for deployment based on a secure configuration guide.

\* A. Change management procedure. This is not the correct answer, because a change management procedure is a document that describes the steps and processes for implementing, reviewing, and approving changes to an IT system or environment. A change management procedure helps to minimize the risks and impacts of changes on the system performance, availability, and security.

\* B. Information security policy. This is not the correct answer, because an information security policy is a document that defines the rules and principles for protecting the confidentiality, integrity, and availability of information assets within an organization. An information security policy helps to establish the roles and responsibilities of employees, managers, and stakeholders regarding information security.

\* C. Cybersecurity framework. This is not the correct answer, because a cybersecurity framework is a document that provides a set of standards, guidelines, and best practices for managing cybersecurity risks and improving resilience. A cybersecurity framework helps to align the business objectives and priorities with the security requirements and capabilities.

\* D. Secure configuration guide. This is the correct answer, because a secure configuration guide is a document that provides an overview of the security features and best practices for a specific product, system, or application. A secure configuration guide helps to reduce unnecessary cyber vulnerabilities and enhance overall security by applying consistent and standardized settings and policies.

Reference: Secure Configuration Guide, Security Technical Implementation Guide - Wikipedia.

**NEW QUESTION 311**

- (Exam Topic 2)

Security engineers are working on digital certificate management with the top priority of making administration easier. Which of the following certificates is the best option?

- A. User
- B. Wildcard
- C. Self-signed
- D. Root



**Answer:** B

**Explanation:**

A wildcard certificate is a type of digital certificate that can be used to secure multiple subdomains under a single domain name. For example, a wildcard certificate for \*.example.com can be used to secure www.example.com, mail.example.com, blog.example.com, etc. A wildcard certificate can make administration easier by reducing the number of certificates that need to be issued, managed, and renewed. It can also save costs and simplify configuration.

**NEW QUESTION 312**

- (Exam Topic 2)

Which Of the following security controls can be used to prevent multiple from using a unique card swipe and being admitted to a entrance?

- A. Visitor logs
- B. Faraday cages
- C. Access control vestibules
- D. Motion detection sensors

**Answer:** C

**Explanation:**

Access control vestibules are physical security controls that consist of two sets of doors or gates that create a small enclosed space between them. Only one door or gate can be opened at a time, and only one person can enter or exit the vestibule at a time. Access control vestibules can prevent multiple people from using a unique card swipe and being admitted to a secure entrance, as they require each person to authenticate individually and prevent tailgating or piggybacking.

**NEW QUESTION 315**

- (Exam Topic 2)

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

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

**Answer:** B

**Explanation:**

SSH is used to securely transfer files to the remote server and is required for SCP to work. Disabling SSH will prevent users from being able to use SCP to transfer files to the server. To enable SSH, the security engineer should modify the SSH configuration file (sshd.conf) and make sure that SSH is enabled. For more information on hardening systems and the security techniques that can be used, refer to the CompTIA Security+ SY0-601 Official Text Book and Resources.

**NEW QUESTION 318**

- (Exam Topic 2)

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

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

**Answer:** B

**Explanation:**

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

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

**NEW QUESTION 323**

- (Exam Topic 2)

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

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

**Answer:** B

**Explanation:**

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

**NEW QUESTION 326**

- (Exam Topic 2)

Server administrators want to configure a cloud solution so that computing memory and processor usage are maximized most efficiently across a number of virtual servers. They also need to avoid potential denial-of-service situations caused by availability. Which of the following should administrators configure to maximize system availability while efficiently utilizing available computing power?

- A. Dynamic resource allocation
- B. High availability
- C. Segmentation
- D. Container security

**Answer:** A

**Explanation:**

Dynamic resource allocation is a technique that allows cloud providers to adjust the amount and distribution of computing resources according to the changing demand and capacity of the cloud environment<sup>1</sup>. Dynamic resource allocation can improve the efficiency and utilization of available computing power, as well as reduce the cost and energy consumption of the cloud infrastructure<sup>1</sup>. Dynamic resource allocation can also enhance the system availability and reliability by avoiding potential denial-of-service situations caused by overloading or under-provisioning of resources<sup>1</sup>.

**NEW QUESTION 329**

- (Exam Topic 2)

To reduce and limit software and infrastructure costs the Chief Information Officer has requested to move email services to the cloud. The cloud provider and the organization must have security controls to protect sensitive data Which of the following cloud services would best accommodate the request?

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

**Answer:** D

**Explanation:**

SaaS (Software as a Service) is a cloud model that provides clients with applications and software that are hosted and managed by a cloud provider over the internet. It can move email services to the cloud by allowing clients to access and use email applications without installing or maintaining them on their own devices or servers

**NEW QUESTION 330**

- (Exam Topic 2)

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

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

**Answer:** A

**Explanation:**

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

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

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

➤ Mail Encryption - CompTIA Security+ All-in-One Exam Guide (Exam SY0-301) [https://www.oreilly.com/library/view/comptia-security-all-in-one/9780071771474/sec5\\_chap14.html](https://www.oreilly.com/library/view/comptia-security-all-in-one/9780071771474/sec5_chap14.html) (See S/MIME)

➤ Symmetric and Asymmetric Encryption – CompTIA Security+ SY0-501 – 6.1 <https://www.professormesser.com/security-plus/sy0-501/symmetric-and-asymmetric-encryption/> (See S/MIME)

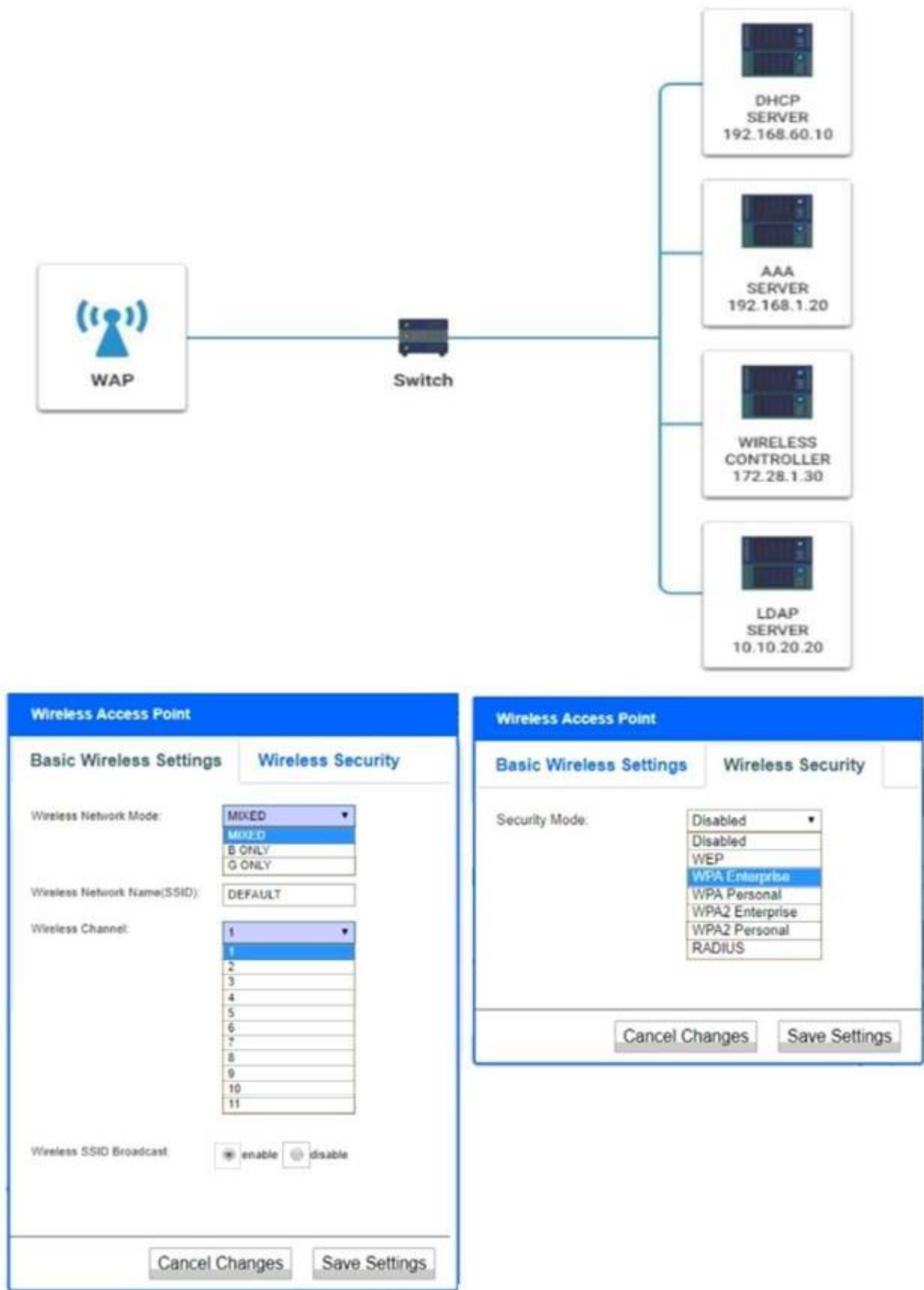
**NEW QUESTION 332**

- (Exam Topic 2)

A newly purchased corporate WAP needs to be configured in the MOST secure manner possible. INSTRUCTIONS Please click on the below items on the network diagram and configure them accordingly:

- WAP
- DHCP Server
- AAA Server
- Wireless Controller
- LDAP Server

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Wireless Access Point Network Mode – G only  
 Wireless Channel – 11  
 Wireless SSID Broadcast – disable  
 Security settings – WPA2 Professional

**NEW QUESTION 335**

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