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**Exam A****QUESTION 1**

An analyst is performing penetration testing and vulnerability assessment activities against a new vehicle automation platform. Which of the following is MOST likely an attack vector that is being utilized as part of the testing and assessment?

- A. FaaS
- B. RTOS
- C. SoC
- D. GPS
- E. CAN bus

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

IoT devices also often run real-time operating systems (RTOS). These are either special purpose operating systems or variants of standard operating systems designed to process data rapidly as it arrives from sensors or other IoT components.

**QUESTION 2**

An information security analyst observes anomalous behavior on the SCADA devices in a power plant. This behavior results in the industrial generators overheating and destabilizing the power supply. Which of the following would BEST identify potential indicators of compromise?

- A. Use Burp Suite to capture packets to the SCADA device's IP.
- B. Use tcpdump to capture packets from the SCADA device IP.
- C. Use Wireshark to capture packets between SCADA devices and the management system.
- D. Use Nmap to capture packets from the management system to the SCADA devices.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 3**

Which of the following would MOST likely be included in the incident response procedure after a security breach of customer PII?

- A. Human resources
- B. Public relations
- C. Marketing
- D. Internal network operations center

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 4**

An analyst is working with a network engineer to resolve a vulnerability that was found in a piece of legacy hardware, which is critical to the operation of the organization's production line. The legacy hardware does not have third-party support, and the OEM manufacturer of the controller is no longer in operation. The analyst documents the activities and verifies these actions prevent remote exploitation of the vulnerability. Which of the following would be the MOST appropriate to remediate the controller?

- A. Segment the network to constrain access to administrative interfaces.
- B. Replace the equipment that has third-party support.
- C. Remove the legacy hardware from the network.

D. Install an IDS on the network between the switch and the legacy equipment.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 5

A small electronics company decides to use a contractor to assist with the development of a new FPGA-based device. Several of the development phases will occur off-site at the contractor's labs. Which of the following is the main concern a security analyst should have with this arrangement?

- A. Making multiple trips between development sites increases the chance of physical damage to the FPGAs.
- B. Moving the FPGAs between development sites will lessen the time that is available for security testing.
- C. Development phases occurring at multiple sites may produce change management issues.
- D. FPGA applications are easily cloned, increasing the possibility of intellectual property theft.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.eetimes.com/how-to-protect-intellectual-property-in-fpgas-devices-part-1/#>

#### QUESTION 6

A security analyst is trying to determine if a host is active on a network. The analyst first attempts the following:

```
$ ping 192.168.1.4
PING 192.168.1.4 (192.168.1.4): 56 data bytes
--- 192.168.1.4 ping statistics ---
4 packets transmitted, 0 packets received, 100.0% packet loss
```

VCEup

The analyst runs the following command next:

```
$ sudo hping3 -c 4 -n -i 192.168.1.4
HPING 192.168.1.4 (en1 192.168.1.4): NO FLAGS are set, 40 headers + 0 data bytes
len=46 ip=192.168.1.4 ttl=64 id=32101 sport=0 flags=RA seq=0 win=0 rtt=0.4ms
len=46 ip=192.168.1.4 ttl=64 id=32102 sport=0 flags=RA seq=1 win=0 rtt=0.3ms
len=46 ip=192.168.1.4 ttl=64 id=22103 sport=0 flags=RA seq=2 win=0 rtt=0.4ms
len=46 ip=192.168.1.4 ttl=64 id=32104 sport=0 flags=RA seq=3 win=0 rtt=0.4ms
--- 10.0.1.33 hpaing statistic ---
4 packets transmitted, 4 packets received, 0% packet loss
```

Which of the following would explain the difference in results?

- A. ICMP is being blocked by a firewall.
- B. The routing tables for ping and hping3 were different.
- C. The original ping command needed root permission to execute.
- D. hping3 is returning a false positive.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

#### QUESTION 7

A cybersecurity analyst is contributing to a team hunt on an organization's endpoints.

Which of the following should the analyst do FIRST?

- A. Write detection logic.
- B. Establish a hypothesis.
- C. Profile the threat actors and activities.
- D. Perform a process analysis.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.cybereason.com/blog/blog-the-eight-steps-to-threat-hunting>

#### QUESTION 8

A security analyst received a SIEM alert regarding high levels of memory consumption for a critical system. After several attempts to remediate the issue, the system went down. A root cause analysis revealed a bad actor forced the application to not reclaim memory. This caused the system to be depleted of resources.

Which of the following BEST describes this attack?

- A. Injection attack
- B. Memory corruption
- C. Denial of service
- D. Array attack

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://economictimes.indiatimes.com/definition/memory-corruption>

#### QUESTION 9

Which of the following software security best practices would prevent an attacker from being able to run arbitrary SQL commands within a web application? (Choose two.)

- A. Parameterized queries
- B. Session management
- C. Input validation
- D. Output encoding
- E. Data protection
- F. Authentication

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.ptsecurity.com/ww-en/analytics/knowledge-base/how-to-prevent-sql-injection-attacks/>

#### QUESTION 10

A cyber-incident response analyst is investigating a suspected cryptocurrency miner on a company's server.

Which of the following is the FIRST step the analyst should take?

- A. Create a full disk image of the server's hard drive to look for the file containing the malware.
- B. Run a manual antivirus scan on the machine to look for known malicious software.
- C. Take a memory snapshot of the machine to capture volatile information stored in memory.
- D. Start packet capturing to look for traffic that could be indicative of command and control from the miner.

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 11**

An information security analyst is compiling data from a recent penetration test and reviews the following output:

```
Starting Nmap 7.70 ( https://nmap.org ) at 2019-01-01 16:06 UTC
Nmap scan report for 10.79.95.173.rdns.datacenters.com (10.79.95.173)
Host is up (0.026s latency).
Not shown: 994 filtered ports
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      Microsoft ftpd
22/tcp    open  ssh      SilverSHIELD sshd (protocol 2.0)
80/tcp    open  http     Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
443/tcp   open  https?
691/tcp   open  resvc?
5060/tcp  open  sip      Barracuda NG Firewall (Status: 200 OK)
Nmap done: 1 IP address (1 host up) scanned in 158.22 seconds
```

The analyst wants to obtain more information about the web-based services that are running on the target.

Which of the following commands would MOST likely provide the needed information?

- A. ping -t 10.79.95.173.rdns.datacenters.com
- B. telnet 10.79.95.173 443
- C. ftpd 10.79.95.173.rdns.datacenters.com 443
- D. traceroute 10.79.95.173

**Correct Answer: D**

**Section: (none)**

**Explanation****Explanation/Reference:****QUESTION 12**

A compliance officer of a large organization has reviewed the firm's vendor management program but has discovered there are no controls defined to evaluate third-party risk or hardware source authenticity. The compliance officer wants to gain some level of assurance on a recurring basis regarding the implementation of controls by third parties. Which of the following would BEST satisfy the objectives defined by the compliance officer? (Choose two.)

- A. Executing vendor compliance assessments against the organization's security controls
- B. Executing NDAs prior to sharing critical data with third parties
- C. Soliciting third-party audit reports on an annual basis
- D. Maintaining and reviewing the organizational risk assessment on a quarterly basis
- E. Completing a business impact assessment for all critical service providers
- F. Utilizing DLP capabilities at both the endpoint and perimeter levels

**Correct Answer: AE**

**Section: (none)**

**Explanation****Explanation/Reference:**

Section: (none)

**QUESTION 13**

An audit has revealed an organization is utilizing a large number of servers that are running unsupported operating systems.

As part of the management response phase of the audit, which of the following would BEST demonstrate senior management is appropriately aware of and addressing the issue?

- A. Copies of prior audits that did not identify the servers as an issue

- B. Project plans relating to the replacement of the servers that were approved by management
- C. Minutes from meetings in which risk assessment activities addressing the servers were discussed
- D. ACLs from perimeter firewalls showing blocked access to the servers
- E. Copies of change orders relating to the vulnerable servers

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 14

A security analyst is reviewing packet captures from a system that was compromised. The system was already isolated from the network, but it did have network access for a few hours after being compromised. When viewing the capture in a packet analyzer, the analyst sees the following:

```
11:03:09.095091 IP 10.1.1.10.47787 > 128.50.100.3.53:48202+ A? michael.smith.334-54-2343.985-334-5643.1123-kathman-dr.ajgidwle.com.
11:03:09.186945 IP 10.1.1.10.47788 > 128.50.100.3.53:49675+ A? ronald.young.437-96-6523.212-635-6528.2426-riverland-st.ajgidwle.com.
11:03:09.189567 IP 10.1.1.10.47789 > 128.50.100.3.53:50986+ A? mark.leblanc.485-63-5278.802-632-5841.68951-peachtree-st.ajgidwle.com.
11:03:09.296854 IP 10.1.1.10.47790 > 128.50.100.3.53:51567+ A? gina.buras.471-96-2354.313-654-9254.3698-mcghee-rd.ajgidwle.com.
```

Which of the following can the analyst conclude?

- A. Malware is attempting to beacon to 128.50.100.3.
- B. The system is running a DoS attack against ajgidwle.com.
- C. The system is scanning ajgidwle.com for PII.
- D. Data is being exfiltrated over DNS.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 15

It is important to parameterize queries to prevent \_\_\_\_\_.

- A. the execution of unauthorized actions against a database.
- B. a memory overflow that executes code with elevated privileges.
- C. the establishment of a web shell that would allow unauthorized access.
- D. the queries from using an outdated library with security vulnerabilities.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://stackoverflow.com/questions/4712037/what-is-parameterized-query>

#### QUESTION 16

A security analyst reviews the following aggregated output from an Nmap scan and the border firewall ACL:



Server1	Server2	PC1	PC2
22/tcp open	3389/tcp open	80/tcp open	80/tcp open
80/tcp open	53/udp open	443/tcp open	443/tcp open
443/tcp open			1433/tcp open

**Firewall ACL**

```
10 permit tcp from:any to:server1:www
15 permit udp from:lan-net to:any:dns
16 permit udp from:any to:server2:dns
20 permit tcp from:any to server1:ssl
25 permit tcp from:lan-net to:any:www
26 permit tcp from:lan-net to:any:ssl
27 permit tcp from:any to pc2:mssql
30 permit tcp from:any to server1:ssh
100 deny ip any any
```

Which of the following should the analyst reconfigure to BEST reduce organizational risk while maintaining current functionality?

- A. PC1
- B. PC2
- C. Server1
- D. Server2
- E. Firewall

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

VCEup

**QUESTION 17**

During an investigation, a security analyst determines suspicious activity occurred during the night shift over the weekend. Further investigation reveals the activity was initiated from an internal IP going to an external website. Which of the following would be the MOST appropriate recommendation to prevent the activity from happening in the future?

- A. An IPS signature modification for the specific IP addresses
- B. An IDS signature modification for the specific IP addresses
- C. A firewall rule that will block port 80 traffic
- D. A firewall rule that will block traffic from the specific IP addresses

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

A security analyst has received reports of very slow, intermittent access to a public-facing corporate server. Suspecting the system may be compromised, the analyst runs the following commands:

```
[root@www18 /tmp]# uptime
19:23:35 up 2:33, 1 user, load average: 87.22, 79.69, 72.17
[root@www18 /tmp]# crontab -l
* * * * * /tmp/.t/t
[root@www18 /tmp]# ps ax | grep tmp
1325 ? Ss 0:00          /tmp/.t/t
[root@www18 /tmp]# netstat -anlp
tcp 0 0 0.0.0.0:22      172.168.0.0:* ESTABLISHED 1204/sshd
tcp 0 0 127.0.0.1:631   0.0.0.0:*      LISTEN      1214/cupsd
tcp 0 0 0.0.0.0:443     0.0.0.0:*      LISTEN      1267/httpd
```

Based on the output from the above commands, which of the following should the analyst do NEXT to further the investigation?

- A. Run crontab -r; rm -rf /tmp/.t to remove and disable the malware on the system.
- B. Examine the server logs for further indicators of compromise of a web application.
- C. Run kill -9 1325 to bring the load average down so the server is usable again.
- D. Perform a binary analysis on the /tmp/.t/t file, as it is likely to be a rogue SSHD server.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 19

A Chief Information Security Officer (CISO) wants to upgrade an organization's security posture by improving proactive activities associated with attacks from internal and external threats. Which of the following is the MOST proactive tool or technique that feeds incident response capabilities?

- A. Development of a hypothesis as part of threat hunting
- B. Log correlation, monitoring, and automated reporting through a SIEM platform
- C. Continuous compliance monitoring using SCAP dashboards
- D. Quarterly vulnerability scanning using credentialed scans

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 20

While planning segmentation for an ICS environment, a security engineer determines IT resources will need access to devices within the ICS environment without compromising security. To provide the MOST secure access model in this scenario, the jumpbox should be \_\_\_\_\_.

- A. placed in an isolated network segment, authenticated on the IT side, and forwarded into the ICS network.
- B. placed on the ICS network with a static firewall rule that allows IT network resources to authenticate.
- C. bridged between the IT and operational technology networks to allow authenticated access.
- D. placed on the IT side of the network, authenticated, and tunneled into the ICS environment.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 21**

A development team uses open-source software and follows an Agile methodology with two-week sprints. Last month, the security team filed a bug for an insecure version of a common library. The DevOps team updated the library on the server, and then the security team rescanned the server to verify it was no longer vulnerable. This month, the security team found the same vulnerability on the server. Which of the following should be done to correct the cause of the vulnerability?

- A. Deploy a WAF in front of the application.
- B. Implement a software repository management tool.
- C. Install a HIPS on the server.
- D. Instruct the developers to use input validation in the code.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 22**

A security analyst is reviewing the logs from an internal chat server. The `chat.log` file is too large to review manually, so the analyst wants to create a shorter log file that only includes lines associated with a user demonstrating anomalous activity. Below is a snippet of the log:

Line	User	Time	Command	Result
36570	DEV12	02.01.13.151219	KICK DEV27	OK
36571	JAVASHARK	02.01.13.151255	JOIN #CHATOPS e32kk10	OK
36572	DEV12	02.01.13.151325	PART #CHATOPS	OK
36573	CHATTER14	02.01.13.151327	JOIN';CAT ../etc/config'	OK
36574	PYTHONFUN	02.01.13.151330	PRIVMSG DEV99 "?"	OK
36575	DEV99	02.01.13.151358	PRIVMSG PYTHONFUN "OK"	OK

Which of the following commands would work BEST to achieve the desired result?

- A. `grep -v chatter14 chat.log`
- B. `grep -i pythonfun chat.log`
- C. `grep -i javashark chat.log`
- D. `grep -v javashark chat.log`
- E. `grep -v pythonfun chat.log`
- F. `grep -i chatter14 chat.log`

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

An analyst is participating in the solution analysis process for a cloud-hosted SIEM platform to centralize log monitoring and alerting capabilities in the SOC. Which of the following is the BEST approach for supply chain assessment when selecting a vendor?

- A. Gather information from providers, including datacenter specifications and copies of audit reports.
- B. Identify SLA requirements for monitoring and logging.
- C. Consult with senior management for recommendations.
- D. Perform a proof of concept to identify possible solutions.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

**QUESTION 24**

A security technician is testing a solution that will prevent outside entities from spoofing the company's email domain, which is comptia.org. The testing is successful, and the security technician is prepared to fully implement the solution. Which of the following actions should the technician take to accomplish this task?

- A. Add TXT @ "v=spf1 mx include:\_spf.comptia.org ~all" to the DNS record.
- B. Add TXT @ "v=spf1 mx include:\_spf.comptia.org ~all" to the email server.
- C. Add TXT @ "v=spf1 mx include:\_spf.comptia.org +all" to the domain controller.
- D. Add TXT @ "v=spf1 mx include:\_spf.comptia.org +all" to the web server.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Reference: <https://blog.finjan.com/email-spoofing/>

**QUESTION 25**

A security analyst on the threat-hunting team has developed a list of unneeded, benign services that are currently running as part of the standard OS deployment for workstations. The analyst will provide this list to the operations team to create a policy that will automatically disable the services for all workstations in the organization.

Which of the following BEST describes the security analyst's goal?

- A. To create a system baseline
- B. To reduce the attack surface
- C. To optimize system performance
- D. To improve malware detection

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:****QUESTION 26**

Which of the following roles is ultimately responsible for determining the classification levels assigned to specific data sets?

- A. Data custodian
- B. Data owner
- C. Data processor
- D. Senior management

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Reference: <https://www.pearsonitcertification.com/articles/article.aspx?p=2731933&seqNum=3>

**QUESTION 27**

A security analyst suspects a malware infection was caused by a user who downloaded malware after clicking <http://<malwaresource>/a.php> in a phishing email. To prevent other computers from being infected by the same malware variation, the analyst should create a rule on the \_\_\_\_\_.

- A. email server that automatically deletes attached executables.
- B. IDS to match the malware sample.
- C. proxy to block all connections to <malwaresource>.
- D. firewall to block connection attempts to dynamic DNS hosts.

**Correct Answer:** B  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

#### QUESTION 28

An information security analyst is reviewing backup data sets as part of a project focused on eliminating archival data sets. Which of the following should be considered FIRST prior to disposing of the electronic data?

- A. Sanitization policy
- B. Data sovereignty
- C. Encryption policy
- D. Retention standards

**Correct Answer:** A  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

#### QUESTION 29

A security analyst is evaluating two vulnerability management tools for possible use in an organization. The analyst set up each of the tools according to the respective vendor's instructions and generated a report of vulnerabilities that ran against the same target server.

Tool A reported the following:

```
The target host (192.168.10.13) is missing the following patches:  
CRITICAL KB50227328: Windows Server 2016 June 2019 Cumulative Update  
CRITICAL KB50255293: Windows Server 2016 July 2019 Cumulative Update  
HIGH MS19-055: Cumulative Security Update for Edge (2863871)
```

Tool B reported the following:

```
Methods GET HEAD OPTIONS POST TRACE are allowed on 192.168.10.13:80  
192.168.10.13:443 uses a self-signed certificate  
Apache 4.2.x < 4.2.28 Contains Multiple Vulnerabilities
```

Which of the following BEST describes the method used by each tool? (Choose two.)

- A. Tool A is agent based.
- B. Tool A used fuzzing logic to test vulnerabilities.
- C. Tool A is unauthenticated.
- D. Tool B utilized machine learning technology.
- E. Tool B is agent based.
- F. Tool B is unauthenticated.

**Correct Answer:** AF  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**  
Section: (none)

#### QUESTION 30

A security analyst received an alert from the SIEM indicating numerous login attempts from users outside their usual geographic zones, all of which were initiated through the web-based mail server. The logs indicate all domain accounts

experienced two login attempts during the same time frame.  
Which of the following is the MOST likely cause of this issue?

- A. A password-spraying attack was performed against the organization.
- B. A DDoS attack was performed against the organization.
- C. This was normal shift work activity; the SIEM's AI is learning.
- D. A credentialed external vulnerability scan was performed.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://doubleoctopus.com/security-wiki/threats-and-tools/password-spraying/>

#### QUESTION 31

During an investigation, a security analyst identified machines that are infected with malware the antivirus was unable to detect.  
Which of the following is the BEST place to acquire evidence to perform data carving?

- A. The system memory
- B. The hard drive
- C. Network packets
- D. The Windows Registry

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://resources.infosecinstitute.com/memory-forensics/#gref> <https://www.computerhope.com/jargon/d/data-carving.htm>

#### QUESTION 32

A cybersecurity analyst has access to several threat feeds and wants to organize them while simultaneously comparing intelligence against network traffic.  
Which of the following would BEST accomplish this goal?

- A. Continuous integration and deployment
- B. Automation and orchestration
- C. Static and dynamic analysis
- D. Information sharing and analysis

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 33

A storage area network (SAN) was inadvertently powered off while power maintenance was being performed in a datacenter. None of the systems should have lost all power during the maintenance. Upon review, it is discovered that a SAN administrator moved a power plug when testing the SAN's fault notification features.  
Which of the following should be done to prevent this issue from reoccurring?

- A. Ensure both power supplies on the SAN are serviced by separate circuits, so that if one circuit goes down, the other remains powered.
- B. Install additional batteries in the SAN power supplies with enough capacity to keep the system powered on during maintenance operations.
- C. Ensure power configuration is covered in the datacenter change management policy and have the SAN administrator review this policy.
- D. Install a third power supply in the SAN so loss of any power intuit does not result in the SAN completely powering off.

**Correct Answer:** A

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 34**

A security analyst is providing a risk assessment for a medical device that will be installed on the corporate network. During the assessment, the analyst discovers the device has an embedded operating system that will be at the end of its life in two years. Due to the criticality of the device, the security committee makes a risk-based policy decision to review and enforce the vendor upgrade before the end of life is reached. Which of the following risk actions has the security committee taken?

- A. Risk exception
- B. Risk avoidance
- C. Risk tolerance
- D. Risk acceptance

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 35**

During a cyber incident, which of the following is the BEST course of action?

- A. Switch to using a pre-approved, secure, third-party communication system.
- B. Keep the entire company informed to ensure transparency and integrity during the incident.
- C. Restrict customer communication until the severity of the breach is confirmed.
- D. Limit communications to pre-authorized parties to ensure response efforts remain confidential.

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 36**

Which of the following BEST describes the process by which code is developed, tested, and deployed in small batches?

- A. Agile
- B. Waterfall
- C. SDLC
- D. Dynamic code analysis

**Correct Answer:** C

**Section:** (none)

**Explanation****Explanation/Reference:**

Section: (none)

Reference: <https://www.cleverism.com/software-development-life-cycle-sdlc-methodologies/>

**QUESTION 37**

Which of the following types of policies is used to regulate data storage on the network?

- A. Password
- B. Acceptable use

- C. Account management
- D. Retention

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <http://www.css.edu/administration/information-technologies/computing-policies/computer-and-network-policies.html>

#### QUESTION 38

A security team wants to make SaaS solutions accessible from only the corporate campus.  
Which of the following would BEST accomplish this goal?

- A. Geofencing
- B. IP restrictions
- C. Reverse proxy
- D. Single sign-on

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://bluedot.io/library/what-is-geofencing/>

#### QUESTION 39

Data spillage occurred when an employee accidentally emailed a sensitive file to an external recipient.  
Which of the following controls would have MOST likely prevented this incident?

- A. SSO
- B. DLP
- C. WAF
- D. VDI

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://greenlightcorp.com/blog/cyber-security-solutions-data-spillage-and-how-to-create-an-after-incident-to-do-list/>

#### QUESTION 40

A security analyst has received information from a third-party intelligence-sharing resource that indicates employee accounts were breached.  
Which of the following is the NEXT step the analyst should take to address the issue?

- A. Audit access permissions for all employees to ensure least privilege.
- B. Force a password reset for the impacted employees and revoke any tokens.
- C. Configure SSO to prevent passwords from going outside the local network.
- D. Set up privileged access management to ensure auditing is enabled.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 41



A security analyst is building a malware analysis lab. The analyst wants to ensure malicious applications are not capable of escaping the virtual machines and pivoting to other networks. To BEST mitigate this risk, the analyst should use \_\_\_\_\_.

- A. an 802.11ac wireless bridge to create an air gap.
- B. a managed switch to segment the lab into a separate VLAN.
- C. a firewall to isolate the lab network from all other networks.
- D. an unmanaged switch to segment the environments from one another.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 42

A security analyst for a large financial institution is creating a threat model for a specific threat actor that is likely targeting an organization's financial assets. Which of the following is the BEST example of the level of sophistication this threat actor is using?

- A. Social media accounts attributed to the threat actor
- B. Custom malware attributed to the threat actor from prior attacks
- C. Email addresses and phone numbers tied to the threat actor
- D. Network assets used in previous attacks attributed to the threat actor
- E. IP addresses used by the threat actor for command and control

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

VCEup

#### QUESTION 43

Bootloader malware was recently discovered on several company workstations. All the workstations run Windows and are current models with UEFI capability. Which of the following UEFI settings is the MOST likely cause of the infections?

- A. Compatibility mode
- B. Secure boot mode
- C. Native mode
- D. Fast boot mode

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

#### QUESTION 44

The security team at a large corporation is helping the payment-processing team to prepare for a regulatory compliance audit and meet the following objectives:

Reduce the number of potential findings by the auditors.

Limit the scope of the audit to only devices used by the payment-processing team for activities directly impacted by the regulations.

Prevent the external-facing web infrastructure used by other teams from coming into scope.

Limit the amount of exposure the company will face if the systems used by the payment-processing team are compromised.

Which of the following would be the MOST effective way for the security team to meet these objectives?

- A. Limit the permissions to prevent other employees from accessing data owned by the business unit.
- B. Segment the servers and systems used by the business unit from the rest of the network.
- C. Deploy patches to all servers and workstations across the entire organization.

D. Implement full-disk encryption on the laptops used by employees of the payment-processing team.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 45

During routine monitoring, a security analyst discovers several suspicious websites that are communicating with a local host. The analyst queries for IP 192.168.50.2 for a 24-hour period:

Time	SRC	DST	Domain	Bytes
6/26/19 10:01	192.168.50.2	138.10.2.5	www.wioapsfeje.co	50
6/26/19 11:05	192.168.50.2	138.10.2.5	www.wioapsfeje.co	1000
6/26/19 13:09	192.168.50.2	138.10.25.5	www.wfaojsjfjoe.co	1000
6/26/19 15:13	192.168.50.2	172.10.25.5	www.wfalksdjflse.co	1000
6/26/19 17:17	192.168.50.2	172.10.45.5	www.wsahlfsdjlfe.co	1000
6/26/19 23:45	192.168.50.2	172.10.3.5	ftp.walksdjgfl.co	50000
6/27/19 10:21	192.168.50.2	175.35.20.5	www.whatsmyip.com	25
6/27/19 11:25	192.168.50.2	175.35.20.5	www.whatsmyip.com	25

To further investigate, the analyst should request PCAP for SRC 192.168.50.2 and \_\_\_\_\_.

- A. DST 138.10.2.5.
- B. DST 138.10.25.5.
- C. DST 172.10.3.5.
- D. DST 172.10.45.5.
- E. DST 175.35.20.5.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 46

For machine learning to be applied effectively toward security analysis automation, it requires \_\_\_\_\_.

- A. relevant training data.
- B. a threat feed API.
- C. a multicore, multiprocessor system.
- D. anomalous traffic signatures.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 47**

A large amount of confidential data was leaked during a recent security breach. As part of a forensic investigation, the security team needs to identify the various types of traffic that were captured between two compromised devices. Which of the following should be used to identify the traffic?

- A. Carving
- B. Disk imaging
- C. Packet analysis
- D. Memory dump
- E. Hashing

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 48**

Which of the following sets of attributes BEST illustrates the characteristics of an insider threat from a security perspective?

- A. Unauthorized, unintentional, benign
- B. Unauthorized, intentional, malicious
- C. Authorized, intentional, malicious
- D. Authorized, unintentional, benign

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.sciencedirect.com/topics/computer-science/insider-attack>

**QUESTION 49**

A security analyst has observed several incidents within an organization that are affecting one specific piece of hardware on the network. Further investigation reveals the equipment vendor previously released a patch. Which of the following is the MOST appropriate threat classification for these incidents?

- A. Known threat
- B. Zero day
- C. Unknown threat
- D. Advanced persistent threat

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 50**

An incident responder successfully acquired application binaries off a mobile device for later forensic analysis. Which of the following should the analyst do NEXT?

- A. Decompile each binary to derive the source code.
- B. Perform a factory reset on the affected mobile device.
- C. Compute SHA-256 hashes for each binary.
- D. Encrypt the binaries using an authenticated AES-256 mode of operation.
- E. Inspect the permissions manifests within each application.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 51

A security analyst needs to reduce the overall attack surface.

Which of the following infrastructure changes should the analyst recommend?

- A. Implement a honeypot.
- B. Air gap sensitive systems.
- C. Increase the network segmentation.
- D. Implement a cloud-based architecture.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.securitymagazine.com/articles/89283-ways-to-reduce-your-attack-surface>

#### QUESTION 52

A security analyst is reviewing the following log from an email security service.

```
Rejection type:      Drop
Rejection description: IP found in RBL
Event time:         Today at 16:06
Rejection information: mail.comptia.org
                   https://www.spamfilter.org/query?P=192.167.28.243
From address:       user@comptex.org
To address:         tests@comptia.org
IP address:         192.167.28.243
Remote server name: 192.167.28.243
```

Which of the following BEST describes the reason why the email was blocked?

- A. The To address is invalid.
- B. The email originated from the [www.spamfilter.org](https://www.spamfilter.org) URL.
- C. The IP address and the remote server name are the same.
- D. The IP address was blacklisted.
- E. The From address is invalid.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.webopedia.com/TERM/R/RBL.html>

#### QUESTION 53

A user's computer has been running slowly when the user tries to access web pages. A security analyst runs the command `netstat -aon` from the command line and receives the following output:

LINE	PROTOCOL	LOCAL ADDRESS	FOREIGN ADDRESS	STATE
1	TCP	127.0.0.1:15453	127.0.0.1:16374	ESTABLISHED
2	TCP	127.0.0.1:8193	127.0.0.1:8192	ESTABLISHED
3	TCP	192.168.0.23:443	185.23.17.119:17207	ESTABLISHED
4	TCP	192.168.0.23:13985	172.217.0.14:443	ESTABLISHED
5	TCP	192.168.0.23:6023	185.23.17.120:443	ESTABLISHED
6	TCP	192.168.0.23:7264	10.23.63.217:445	ESTABLISHED

Which of the following lines indicates the computer may be compromised?

- A. Line 1
- B. Line 2
- C. Line 3
- D. Line 4
- E. Line 5
- F. Line 6

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 54

As part of an exercise set up by the information security officer, the IT staff must move some of the network systems to an off-site facility and redeploy them for testing. All staff members must ensure their respective systems can power back up and match their gold image. If they find any inconsistencies, they must formally document the information.

Which of the following BEST describes this test?

- A. Walk through
- B. Full interruption
- C. Simulation
- D. Parallel

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 55

A security analyst is reviewing a web application. If an unauthenticated user tries to access a page in the application, the user is redirected to the login page. After successful authentication, the user is then redirected back to the original page. Some users have reported receiving phishing emails with a link that takes them to the application login page but then redirects to a fake login page after successful authentication.

Which of the following will remediate this software vulnerability?

- A. Enforce unique session IDs for the application.
- B. Deploy a WAF in front of the web application.
- C. Check for and enforce the proper domain for the redirect.
- D. Use a parameterized query to check the credentials.
- E. Implement email filtering with anti-phishing protection.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 56**

A Chief Information Security Officer (CISO) is concerned the development team, which consists of contractors, has too much access to customer data. Developers use personal workstations, giving the company little to no visibility into the development activities.

Which of the following would be BEST to implement to alleviate the CISO's concern?

- A. DLP
- B. Encryption
- C. Test data
- D. NDA

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://quizlet.com/242556910/flashcards>

**QUESTION 57**

A company was recently awarded several large government contracts and wants to determine its current risk from one specific APT.

Which of the following threat modeling methodologies would be the MOST appropriate to use during this analysis?

- A. Attack vectors
- B. Adversary capability
- C. Diamond Model of Intrusion Analysis
- D. Kill chain
- E. Total attack surface

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://www.secureworks.com/blog/advanced-persistent-threats-apt-b>

**QUESTION 58**

A security analyst is reviewing vulnerability scan results and notices new workstations are being flagged as having outdated antivirus signatures. The analyst observes the following plugin output:

```
Antivirus is installed on the remote host:
Installation path: C:\Program Files\AVProduct\Win32\
Product Engine: 14.12.101
Engine Version: 3.5.71
Scanner does not currently have information about AVProduct version 3.5.71. It may no longer be supported.
The engine version is out of date. The oldest supported version from the vendor is 4.2.11.
```

The analyst uses the vendor's website to confirm the oldest supported version is correct.

Which of the following BEST describes the situation?

- A. This is a false positive, and the scanning plugin needs to be updated by the vendor.
- B. This is a true negative, and the new computers have the correct version of the software.
- C. This is a true positive, and the new computers were imaged with an old version of the software.
- D. This is a false negative, and the new computers need to be updated by the desktop team.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 59**

A SIEM solution alerts a security analyst of a high number of login attempts against the company's webmail portal. The analyst determines the login attempts used credentials from a past data breach. Which of the following is the BEST mitigation to prevent unauthorized access?

- A. Single sign-on
- B. Mandatory access control
- C. Multifactor authentication
- D. Federation
- E. Privileged access management

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 60**

A product manager is working with an analyst to design a new application that will perform as a data analytics platform and will be accessible via a web browser. The product manager suggests using a PaaS provider to host the application. Which of the following is a security concern when using a PaaS solution?

- A. The use of infrastructure-as-code capabilities leads to an increased attack surface.
- B. Patching the underlying application server becomes the responsibility of the client.
- C. The application is unable to use encryption at the database level.
- D. Insecure application programming interfaces can lead to data compromise.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 61**

Because some clients have reported unauthorized activity on their accounts, a security analyst is reviewing network packet captures from the company's API server. A portion of a capture file is shown below:

```
POST /services/v1_0/Public/Members.svc/soap <s:Envelope+xmlns:s="http://schemas.s/soap/envelope/"><s:Body><GetIPLocation+xmlns="http://tempuri.org/">
<request+xmlns:a="http://schemas.somesite.org"+xmlns:i="http://www.w3.org/2001/XMLSchema-instance"></s:Body></s:Envelope> 192.168.1.22 - - api.somesite.com 200 0 1006 1001 0
192.168.1.22

POST /services/v1_0/Public/Members.svc/soap <a:Password>Password123</a:Password><a:ResetPasswordToken+i:nil="true"/> <a:ShouldImpersonatedAuthenticationBePopulated
+i:nil="true"/><a:Username>somebody@companyname.com</a:Username></request></Login></s:Body></s:Envelope> 192.168.5.66 - - api.somesite.com 200 0 11558 1712 2024 192.168.4.89

POST /services/v1_0/Public/Members.svc/soap <s:Envelope+xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"><s:Body><GetIPLocation+xmlns="http://tempuri.org/">
<a:IPAddress>516.7.446.605</a:IPAddress><a:ZipCode+i:nil="true"/></request></GetIPLocation></s:Body></s:Envelope> 192.168.1.22 - - api.somesite.com 200 0 1003 1011 307
192.168.1.22

POST /services/v1_0/Public/Members.svc/soap <s:Envelope+xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"><s:Body><IsLoggedIn+xmlns="http://tempuri.org/"> <request
+xmlns:a="http://schemas.datacontract.org/2004/07/somesite.web+xmlns:i="http://www.w3.org/2001/XMLSchema-instance"><a:Authentication>
<a:ApiToken>kmL4krg2CwwWBan5BReGv5Djb7syxXTNKcWFuSjd</a:ApiToken><a:ImpersonateUserId>0</a:ImpersonateUserId><a:LocationId>161222</a:LocationId> <a:NetworkId>4</
a:NetworkId><a:ProviderId>' 'l=1</a:ProviderId><a:UserId>13026046</a:UserId></a:Authentication></request></IsLoggedIn></s:Body></s:Envelope> 192.168.5.66 - - api.somesite.com 200
0 1378 1209 48 192.168.4.89
```

Which of the following MOST likely explains how the clients' accounts were compromised?

- A. The clients' authentication tokens were impersonated and replayed.
- B. The clients' usernames and passwords were transmitted in cleartext.
- C. An XSS scripting attack was carried out on the server.
- D. A SQL injection attack was carried out on the server.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 62

A monthly job to install approved vendor software updates and hot fixes recently stopped working. The security team performed a vulnerability scan, which identified several hosts as having some critical OS vulnerabilities, as referenced in the common vulnerabilities and exposures (CVE) database.

Which of the following should the security team do NEXT to resolve the critical findings in the most effective manner? (Choose two.)

- A. Patch the required hosts with the correct updates and hot fixes, and rescan them for vulnerabilities.
- B. Remove the servers reported to have high and medium vulnerabilities.
- C. Tag the computers with critical findings as a business risk acceptance.
- D. Manually patch the computers on the network, as recommended on the CVE website.
- E. Harden the hosts on the network, as recommended by the NIST framework.
- F. Resolve the monthly job issues and test them before applying them to the production network.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 63

A development team is testing a new application release. The team needs to import existing client PHI data records from the production environment to the test environment to test accuracy and functionality.

Which of the following would BEST protect the sensitivity of this data while still allowing the team to perform the testing?

- A. Deidentification
- B. Encoding
- C. Encryption
- D. Watermarking

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

#### QUESTION 64

A network attack that is exploiting a vulnerability in the SNMP is detected.

Which of the following should the cybersecurity analyst do FIRST?

- A. Apply the required patches to remediate the vulnerability.
- B. Escalate the incident to senior management for guidance.
- C. Disable all privileged user accounts on the network.
- D. Temporarily block the attacking IP address.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <https://beyondsecurity.com/scan-pentest-network-vulnerabilities-snmp-protocol-version-detection.html>

#### QUESTION 65

An organization is moving its infrastructure to the cloud in an effort to meet the budget and reduce staffing requirements. The organization has three environments: development, testing, and production. These environments have interdependencies but must remain relatively segmented. Which of the following methods would BEST secure the company's infrastructure and be the simplest to manage and maintain?

- A. Create three separate cloud accounts for each environment. Configure account peering and security rules to allow access to and from each environment.
- B. Create one cloud account with one VPC for all environments. Purchase a virtual firewall and create granular security rules.
- C. Create one cloud account and three separate VPCs for each environment. Create security rules to allow access to and from each environment.
- D. Create three separate cloud accounts for each environment and a single core account for network services. Route all traffic through the core account.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 66

A pharmaceutical company's marketing team wants to send out notifications about new products to alert users of recalls and newly discovered adverse drug reactions. The team plans to use the names and mailing addresses that users have provided. Which of the following data privacy standards does this violate?

- A. Purpose limitation
- B. Sovereignty
- C. Data minimization
- D. Retention

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: <http://www.isitethical.eu/portfolio-item/purpose-limitation/>

#### QUESTION 67

A user receives a potentially malicious email that contains spelling errors and a PDF document. A security analyst reviews the email and decides to download the attachment to a Linux sandbox for review. Which of the following commands would MOST likely indicate if the email is malicious?

- A. `sha256sum ~/Desktop/file.pdf`
- B. `file ~/Desktop/file.pdf`
- C. `strings ~/Desktop/file.pdf | grep "<script"`
- D. `cat < ~/Desktop/file.pdf | grep -i .exe`

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 68

A development team signed a contract that requires access to an on-premises physical server. Access must be restricted to authorized users only and cannot be connected to the Internet. Which of the following solutions would meet this requirement?

- A. Establish a hosted SSO.
- B. Implement a CASB.
- C. Virtualize the server.
- D. Air gap the server.

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 69**

**SIMULATION**

You are a cybersecurity analyst tasked with interpreting scan data from Company A's servers. You must verify the requirements are being met for all of the servers and recommend changes if you find they are not.

The company's hardening guidelines indicate the following:

- TLS 1.2 is the only version of TLS running.
- Apache 2.4.18 or greater should be used.
- Only default ports should be used.

**INSTRUCTIONS**

Using the supplied data, record the status of compliance with the company's guidelines for each server.

The question contains two parts: make sure you complete Part 1 and Part 2. Make recommendations for issues based ONLY on the hardening guidelines provided.

## Part 1

## Scan Data

AppServ1 AppServ2 AppServ3 AppServ4

## Compliance Report

Fill out the following report based on your analysis of the scan data.

```
root@INFOSEC:~# curl --head appsrv1.fictionalorg.com:443
HTTP/1.1 200 OK
Date: Wed, 26 Jun 2019 21:15:15 GMT
Server: Apache/2.4.48 (CentOS)
Last-Modified: Wed, 26 Jun 2019 21:10:22 GMT
ETag: "13520-58c407930177d"
Accept-Ranges: bytes
Content-Length: 79136
Vary: Accept-Encoding
Cache-Control: max-age=3600
Expires: Wed, 26 Jun 2019 22:15:15 GMT
Content-Type: text/html

root@INFOSEC:~# nmap --script ssl-enum-ciphers
appsrv1.fictionalorg.com -p 443

Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-26 16:07 CDT

Nmap scan report for AppSrv1.fictionalorg.com (10.21.4.68)
Host is up (0.042s latency).
rDNS record for 10.21.4.68: inaddrArpa.fictionalorg.com
PORT      STATE SERVICE
443/tcp   open  https
| ssl-enum-ciphers:
|   TLSv1.2:
|     ciphers:
|       TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong
|       TLS_RSA_WITH_AES_128_CBC_SHA - strong
|       TLS_RSA_WITH_AES_128_GCM_SHA256 - strong
|       TLS_RSA_WITH_AES_256_CBC_SHA - strong
|       TLS_RSA_WITH_AES_256_GCM_SHA384 - strong
|     compressors:
|       NULL
|_  least strength: strong

Nmap done: 1 IP address (1 host up) scanned in 8.63 seconds

root@INFOSEC:~# nmap --top-ports 10 appsrv1.fictionalorg.com

Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-27 10:13 CDT

Nmap scan report for appsrv1.fictionalorg.com (10.21.4.68)
Host is up (0.15s latency).
rDNS record for 10.21.4.68: appsrv1.fictionalorg.com
PORT      STATE SERVICE
80/tcp    open  http
443/tcp    open  https

Nmap done: 1 IP address (1 host up) scanned in 0.42 seconds
```

- ☐ AppServ1 is only using TLS 1.2
- ☐ AppServ2 is only using TLS 1.2
- ☐ AppServ3 is only using TLS 1.2
- ☐ AppServ4 is only using TLS 1.2
- ☐ AppServ1 is using Apache 2.4.18 or greater
- ☐ AppServ2 is using Apache 2.4.18 or greater
- ☐ AppServ3 is using Apache 2.4.18 or greater
- ☐ AppServ4 is using Apache 2.4.18 or greater

## Part 1

Scan Data	Compliance Report
AppServ1 AppServ2 AppServ3 AppServ4	Fill out the following report based on your analysis of the scan data.
<pre>root@INFOSEC:~# curl --head appsrv2.fictionalorg.com:443  HTTP/1.1 200 OK Date: Wed, 26 Jun 2019 21:15:15 GMT Server: Apache/2.3.48 (CentOS) Last-Modified: Wed, 26 Jun 2019 21:10:22 GMT ETag: "13520-58c407930177d" Accept-Ranges: bytes Content-Length: 79136 Vary: Accept-Encoding Cache-Control: max-age=3600 Expires: Wed, 26 Jun 2019 22:15:15 GMT Content-Type: text/html  root@INFOSEC:~# nmap --script ssl-enum-ciphers appsrv2.fictionalorg.com -p 443  Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-26 16:07 CDT  Nmap scan report for AppSrv2.fictionalorg.com (10.21.4.69) Host is up (0.042s latency). rDNS record for 10.21.4.69: inaddrArpa.fictionalorg.com Not shown: 998 filtered ports PORT      STATE SERVICE 80/tcp    open  http 443/tcp    open  https   ssl-enum-ciphers:     TLSv1.0:       ciphers:         TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong         TLS_RSA_WITH_AES_128_CBC_SHA - strong         TLS_RSA_WITH_AES_256_CBC_SHA - strong       compressors:         NULL     TLSv1.1:       ciphers:         TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong         TLS_RSA_WITH_AES_128_CBC_SHA - strong         TLS_RSA_WITH_AES_256_CBC_SHA - strong       compressors:         NULL     TLSv1.2:       ciphers:         TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong         TLS_RSA_WITH_AES_128_CBC_SHA - strong         TLS_RSA_WITH_AES_128_GCM_SHA256 - strong         TLS_RSA_WITH_AES_256_CBC_SHA - strong         TLS_RSA_WITH_AES_256_GCM_SHA384 - strong       compressors:         NULL  _  least strength: strong  Nmap done: 1 IP address (1 host up) scanned in 8.63 seconds  root@INFOSEC:~# nmap --top-ports 10 appsrv2.fictionalorg.com  Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-27 10:13 CDT  Nmap scan report for appsrv2.fictionalorg.com (10.21.4.69) Host is up (0.15s latency). rDNS record for 10.21.4.69: appsrv2.fictionalorg.com PORT      STATE SERVICE 80/tcp    open  http 443/tcp    open  https  Nmap done: 1 IP address (1 host up) scanned in 0.42 seconds</pre>	<ul style="list-style-type: none"><li><input type="checkbox"/> AppServ1 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ2 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ3 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ4 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ1 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ2 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ3 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ4 is using Apache 2.4.18 or greater</li></ul>

VCEUp



## Part 1

## Scan Data

AppServ1 AppServ2 AppServ3 AppServ4

```
root@INFOSEC:~# curl --head appsrv3.fictionalorg.com:443

HTTP/1.1 200 OK
Date: Wed, 26 Jun 2019 21:15:15 GMT
Server: Apache/2.4.48 (CentOS)
Last-Modified: Wed, 26 Jun 2019 21:10:22 GMT
ETag: "13520-58c406780177e"
Accept-Ranges: bytes
Content-Length: 79136
Vary: Accept-Encoding
Cache-Control: max-age=3600
Expires: Wed, 26 Jun 2019 22:15:15 GMT
Content-Type: text/html

root@INFOSEC:~# nmap --script ssl-enum-ciphers
appsrv3.fictionalorg.com -p 443

Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-26 16:07 CDT

Nmap scan report for AppSrv3.fictionalorg.com (10.21.4.70)
Host is up (0.042s latency).
rDNS record for 10.21.4.70: inaddrArpa.fictionalorg.com
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https
| ssl-enum-ciphers:
|   TLSv1.0:
|   | ciphers:
|   |   TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_128_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_256_CBC_SHA - strong
|   | compressors:
|   |   NULL
|   TLSv1.1:
|   | ciphers:
|   |   TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_128_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_256_CBC_SHA - strong
|   | compressors:
|   |   NULL
|   TLSv1.2:
|   | ciphers:
|   |   TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_128_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_128_GCM_SHA256 - strong
|   |   TLS_RSA_WITH_AES_256_CBC_SHA - strong
|   |   TLS_RSA_WITH_AES_256_GCM_SHA384 - strong
|   | compressors:
|   |   NULL
|_ least strength: strong

Nmap done: 1 IP address (1 host up) scanned in 8.63 seconds

root@INFOSEC:~# nmap --top-ports 10 appsrv3.fictionalorg.com

Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-27 10:13 CDT

Nmap scan report for appsrv3.fictionalorg.com (10.21.4.70)
Host is up (0.15s latency).
rDNS record for 10.21.4.70: appsrv3.fictionalorg.com
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https

Nmap done: 1 IP address (1 host up) scanned in 0.42 seconds
```

## Compliance Report

Fill out the following report based on your analysis of the scan data.

- ☐ AppServ1 is only using TLS 1.2
- ☐ AppServ2 is only using TLS 1.2
- ☐ AppServ3 is only using TLS 1.2
- ☐ AppServ4 is only using TLS 1.2
- ☐ AppServ1 is using Apache 2.4.18 or greater
- ☐ AppServ2 is using Apache 2.4.18 or greater
- ☐ AppServ3 is using Apache 2.4.18 or greater
- ☐ AppServ4 is using Apache 2.4.18 or greater

## Part 1

Scan Data	Compliance Report
<p>AppServ1 AppServ2 AppServ3 AppServ4</p> <pre>root@INFOSEC:~# curl --head appsrv4.fictionalorg.com:443  HTTP/1.1 200 OK Date: Wed, 26 Jun 2019 21:15:15 GMT Server: Apache/2.4.48 (CentOS) Last-Modified: Wed, 26 Jun 2019 21:10:22 GMT ETag: "13520-58c406780177e" Accept-Ranges: bytes Content-Length: 79136 Vary: Accept-Encoding Cache-Control: max-age=3600 Expires: Wed, 26 Jun 2019 22:15:15 GMT Content-Type: text/html  root@INFOSEC:~# nmap --script ssl-enum-ciphers appsrv4.fictionalorg.com -p 443  Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-26 16:07 CDT  Nmap scan report for AppSrv4.fictionalorg.com (10.21.4.71) Host is up (0.042s latency). rDNS record for 10.21.4.71: inaddrArpa.fictionalorg.com PORT      STATE SERVICE 443/tcp   open  https  _ TLSv1.2:     ciphers:       TLS_RSA_WITH_3DES_EDE_CBC_SHA - strong       TLS_RSA_WITH_AES_128_CBC_SHA - strong       TLS_RSA_WITH_AES_128_GCM_SHA256 - strong       TLS_RSA_WITH_AES_256_CBC_SHA - strong       TLS_RSA_WITH_AES_256_GCM_SHA384 - strong     compressors:       NULL  _ least strength: strong  Nmap done: 1 IP address (1 host up) scanned in 8.63 seconds  root@INFOSEC:~# nmap --top-ports 10 appsrv4.fictionalorg.com  Starting Nmap 6.40 ( http://nmap.org ) at 2019-06-27 10:13 CDT Nmap scan report for appsrv4.fictionalorg.com (10.21.4.71) Host is up (0.15s latency). rDNS record for 10.21.4.71: appsrv4.fictionalorg.com PORT      STATE SERVICE 80/tcp    open  http 443/tcp    open  https 8675/tcp  open  ssh  Nmap done: 1 IP address (1 host up) scanned in 0.42 seconds</pre>	<p>Fill out the following report based on your analysis of the scan data.</p> <ul style="list-style-type: none"><li><input type="checkbox"/> AppServ1 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ2 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ3 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ4 is only using TLS 1.2</li><li><input type="checkbox"/> AppServ1 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ2 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ3 is using Apache 2.4.18 or greater</li><li><input type="checkbox"/> AppServ4 is using Apache 2.4.18 or greater</li></ul>

VCEup

## Part 2

Scan Data	Configuration Change Recommendations
<p>AppServ1 AppServ2 AppServ3 AppServ4</p> <div></div>	<p>+ Add recommendation for</p> <div><div>AppSrv1</div><div>AppSrv2</div><div>AppSrv3</div><div>AppSrv4</div></div>

A. See explanation below.

**Correct Answer:** A  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**  
Explanation:

Part 1 Answer:

Check on the following:

AppServ1 is only using TLS.1.2

AppServ4 is only using TLS.1.2

AppServ1 is using Apache 2.4.18 or greater

AppServ3 is using Apache 2.4.18 or greater

AppServ4 is using Apache 2.4.18 or greater

Part 2 answer:

Recommendation:

Recommendation is to disable TLS v1.1 on AppServ2 and AppServ3. Also upgrade AppServ2 Apache to version 2.4.48 from its current version of 2.3.48

#### QUESTION 70

When attempting to do a stealth scan against a system that does not respond to ping, which of the following Nmap commands BEST accomplishes that goal?

- A. nmap -sA -O <system> -noping
- B. nmap -sT -O <system> -P0
- C. nmap -sS -O <system> -P0
- D. nmap -sQ -O <system> -P0

**Correct Answer:** C  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

#### QUESTION 71

A team of security analysts has been alerted to potential malware activity. The initial examination indicates one of the affected workstations is beaconing on TCP port 80 to five IP addresses and attempting to spread across the network over port 445. Which of the following should be the team's NEXT step during the detection phase of this response process?

- A. Escalate the incident to management, who will then engage the network infrastructure team to keep them informed.
- B. Depending on system criticality, remove each affected device from the network by disabling wired and wireless connections.
- C. Engage the engineering team to block SMB traffic internally and outbound HTTP traffic to the five IP addresses.
- D. Identify potentially affected systems by creating a correlation search in the SIEM based on the network traffic.

**Correct Answer:** D  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

#### QUESTION 72

While analyzing logs from a WAF, a cybersecurity analyst finds the following:

"GET /form.php?id=463225%2b%2575%256e%2569%256f%256e%2b%2573%2574%2box3133333731,1223,1224&name=&state=IL"

Which of the following BEST describes what the analyst has found?

- A. This is an encrypted GET HTTP request
- B. A packet is being used to bypass the WAF
- C. This is an encrypted packet
- D. This is an encoded WAF bypass

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 73

A company's marketing emails are either being found in a spam folder or not being delivered at all. The security analyst investigates the issue and discovers the emails in question-are being sent on behalf of the company by a third party, mail.marketing.com. Below is the existing SPF record:

v=spf1 a mx -all

Which of the following updates to the SPF record will work BEST to prevent the emails from being marked as spam or blocked?

- A. v=spf1 a mx redirect:mail.marketing.com ?all
- B. v=spf1 a mx include:mail.marketing.com -all
- C. v=spf1 a mx +all
- D. v=spf1 a mx include:mail.marketing.com ~all

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 74

A security analyst is reviewing the following web server log:

GET %2f..%2f..%2f.. %2f.. %2f.. %2f.. %2f../etc/passwd

Which of the following BEST describes the issue?

- A. Directory traversal exploit
- B. Cross-site scripting
- C. SQL injection
- D. Cross-site request forgery

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 75

A hybrid control is one that:

- A. is implemented differently on individual systems
- B. is implemented at the enterprise and system levels
- C. has operational and technical components

D. authenticates using passwords and hardware tokens

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 76

After a breach involving the exfiltration of a large amount of sensitive data, a security analyst is reviewing the following firewall logs to determine how the breach occurred:

```
3-10-2019 10:23:22 FROM 192.168.1.10:3243 TO 10.10.10.5:53 PERMIT UDP 143 BYTES
3-10-2019 10:23:24 FROM 192.168.1.12:1076 TO 10.10.35.221:80 PERMIT TCP 100 BYTES
3-10-2019 10:23:25 FROM 192.168.1.1:1244 TO 10.10.1.1:22 DENY TCP 1 BYTES
3-10-2019 10:23:26 FROM 192.168.1.12:1034 TO 10.10.10.5:53 PERMIT UDP 5.3M BYTES
3-10-2019 10:23:29 FROM 192.168.1.10:4311 TO 10.10.200.50:3389 DENY TCP 1 BYTES
3-10-2019 10:23:30 FROM 192.168.1.193:2356 TO 10.10.50.199:25 PERMIT TCP 20K BYTES
```

Which of the following IP addresses does the analyst need to investigate further?

- A. 192.168.1.1
- B. 192.168.1.10
- C. 192.168.1.12
- D. 192.168.1.193

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 77

A cybersecurity analyst is supporting an incident response effort via threat intelligence. Which of the following is the analyst MOST likely executing?

- A. Requirements analysis and collection planning
- B. Containment and eradication
- C. Recovery and post-incident review
- D. Indicator enrichment and research pivoting

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 78

The inability to do remote updates of certificates, keys, software, and firmware is a security issue commonly associated with:

- A. web servers on private networks
- B. HVAC control systems
- C. smartphones
- D. firewalls and UTM devices

**Correct Answer:** D

**Section:** (none)

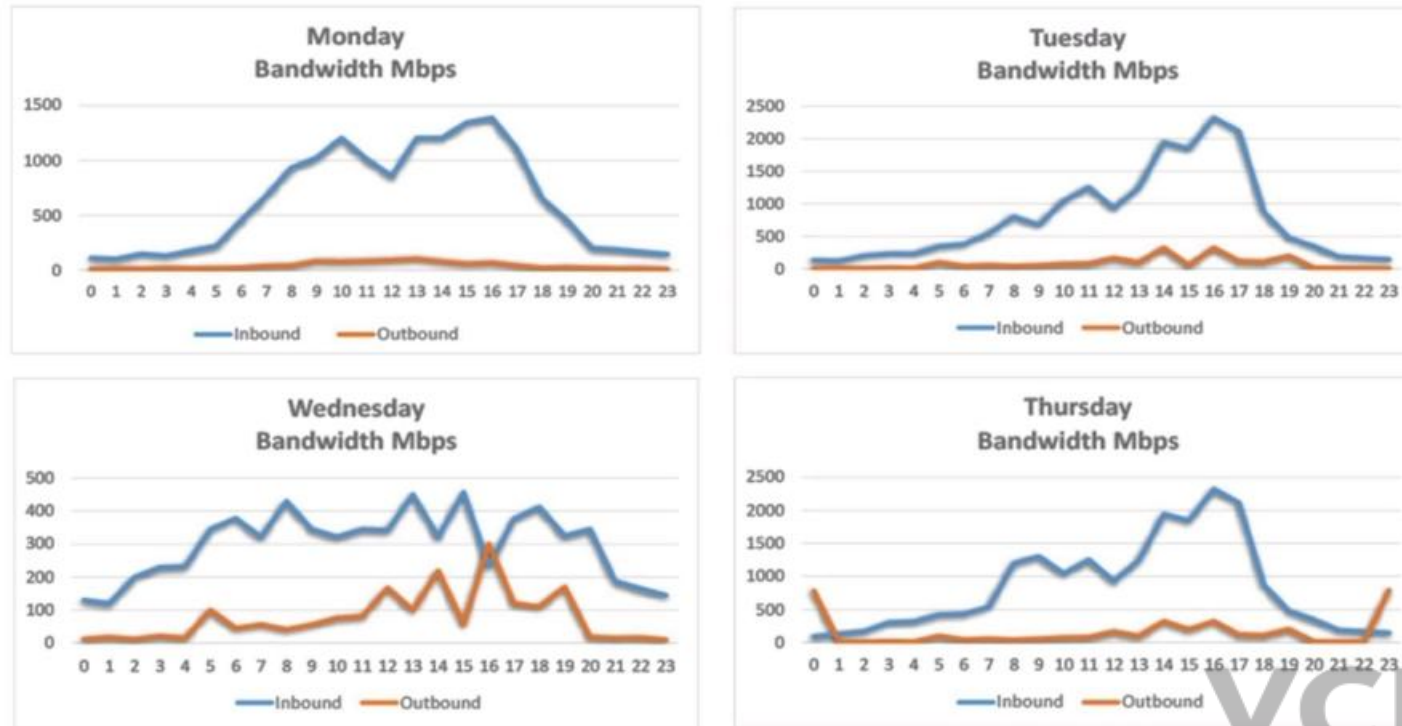
**Explanation**



**Explanation/Reference:**

#### QUESTION 79

A security analyst is conducting a post-incident log analysis to determine which indicators can be used to detect further occurrences of a data exfiltration incident. The analyst determines backups were not performed during this time and reviews the following:



Which of the following should the analyst review to find out how the data was exfiltrated?

- A. Monday's logs
- B. Tuesday's logs
- C. Wednesday's logs
- D. Thursday's logs

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 80

Which of the following BEST articulates the benefit of leveraging SCAP in an organization's cybersecurity analysis toolset?

- A. It automatically performs remedial configuration changes to enterprise security services
- B. It enables standard checklist and vulnerability analysis expressions for automation
- C. It establishes a continuous integration environment for software development operations
- D. It provides validation of suspected system vulnerabilities through workflow orchestration

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



Section: (none)

**QUESTION 81**

Which of the following software assessment methods would be BEST for gathering data related to an application's availability during peak times?

- A. Security regression testing
- B. Stress testing
- C. Static analysis testing
- D. Dynamic analysis testing
- E. User acceptance testing

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 82**

An information security analyst is working with a data owner to identify the appropriate controls to preserve the confidentiality of data within an enterprise environment. One of the primary concerns is exfiltration of data by malicious insiders. Which of the following controls is the MOST appropriate to mitigate risks?

- A. Data deduplication
- B. OS fingerprinting
- C. Digital watermarking
- D. Data loss prevention

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 83**

A security analyst has discovered that developers have installed browsers on all development servers in the company's cloud infrastructure and are using them to browse the Internet. Which of the following changes should the security analyst make to BEST protect the environment?

- A. Create a security rule that blocks Internet access in the development VPC
- B. Place a jumpbox in between the developers' workstations and the development VPC
- C. Remove the administrator's profile from the developer user group in identity and access management
- D. Create an alert that is triggered when a developer installs an application on a server

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 84**

An organization that handles sensitive financial information wants to perform tokenization of data to enable the execution of recurring transactions. The organization is most interested in a secure, built-in device to support its solution. Which of the following would MOST likely be required to perform the desired function?

- A. TPM
- B. eFuse
- C. FPGA
- D. HSM
- E. UEFI

**Correct Answer:** A  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

**QUESTION 85**

An organization has not had an incident for several months. The Chief Information Security Officer (CISO) wants to move to a more proactive stance for security investigations. Which of the following would BEST meet that goal?

- A. Root-cause analysis
- B. Active response
- C. Advanced antivirus
- D. Information-sharing community
- E. Threat hunting

**Correct Answer:** E  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

**QUESTION 86**

An analyst is investigating an anomalous event reported by the SOC. After reviewing the system logs, the analyst identifies an unexpected addition of a user with root-level privileges on the endpoint. Which of the following data sources will BEST help the analyst to determine whether this event constitutes an incident?

- A. Patching logs
- B. Threat feed
- C. Backup logs
- D. Change requests
- E. Data classification matrix

**Correct Answer:** E  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

**QUESTION 87**

A security analyst discovers a vulnerability on an unpatched web server that is used for testing machine learning on Big Data sets. Exploitation of the vulnerability could cost the organization \$1.5 million in lost productivity. The server is located on an isolated network segment that has a 5% chance of being compromised. Which of the following is the value of this risk?

- A. \$75,000
- B. \$300,000
- C. \$1.425 million
- D. \$1.5 million

**Correct Answer:** A  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

**QUESTION 88**

A security analyst is investigating a system compromise. The analyst verifies the system was up to date on OS patches at the time of the compromise. Which of the following describes the type of vulnerability that was MOST likely

exploited?

- A. Insider threat
- B. Buffer overflow
- C. Advanced persistent threat
- D. Zero day

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 89

An organization developed a comprehensive incident response policy. Executive management approved the policy and its associated procedures. Which of the following activities would be MOST beneficial to evaluate personnel's familiarity with incident response procedures?

- A. A simulated breach scenario involving the incident response team
- B. Completion of annual information security awareness training by all employees
- C. Tabletop activities involving business continuity team members
- D. Completion of lessons-learned documentation by the computer security incident response team
- E. External and internal penetration testing by a third party

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 90

A cybersecurity analyst is responding to an incident. The company's leadership team wants to attribute the incident to an attack group. Which of the following models would BEST apply to the situation?

- A. Intelligence cycle
- B. Diamond Model of Intrusion Analysis
- C. Kill chain
- D. MITRE ATT&CK

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 91

Which of the following would a security engineer recommend to BEST protect sensitive system data from being accessed on mobile devices?

- A. Use a UEFI boot password
- B. Implement a self-encrypted disk
- C. Configure filesystem encryption
- D. Enable Secure Boot using TPM

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

**QUESTION 92**

A security analyst implemented a solution that would analyze the attacks that the organization's firewalls failed to prevent. The analyst used the existing systems to enact the solution and executed the following command:

```
$ sudo nc -l -v -e maildaemon.py 25 > caplog.txt
```

Which of the following solutions did the analyst implement?

- A. Log collector
- B. Crontab mail script
- C. Sinkhole
- D. Honeypot

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 93**

Which of the following will allow different cloud instances to share various types of data with a minimal amount of complexity?

- A. Reverse engineering
- B. Application log collectors
- C. Workflow orchestration
- D. API integration
- E. Scripting

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 94**

A finance department employee has received a message that appears to have been sent from the Chief Financial Officer (CFO), asking the employee to perform a wire transfer. Analysis of the email shows the message came from an external source and is fraudulent. Which of the following would work BEST to improve the likelihood of employees quickly recognizing fraudulent emails?

- A. Implementing a sandboxing solution for viewing emails and attachments
- B. Limiting email from the finance department to recipients on a pre-approved whitelist
- C. Configuring email client settings to display all messages in plaintext when read
- D. Adding a banner to incoming messages that identifies the messages as external

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 95**

A security analyst wants to identify which vulnerabilities a potential attacker might initially exploit if the network is compromised. Which of the following would provide the BEST results?

- A. Baseline configuration assessment
- B. Uncredentialed scan
- C. Network ping sweep

D. External penetration test

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 96**

An analyst has been asked to provide feedback regarding the controls required by a revised regulatory framework. At this time, the analyst only needs to focus on the technical controls. Which of the following should the analyst provide an assessment of?

- A. Tokenization of sensitive data
- B. Establishment of data classifications
- C. Reporting on data retention and purging activities
- D. Formal identification of data ownership
- E. Execution of NDAs

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 97**

A cybersecurity analyst needs to rearchitect the network using a firewall and a VPN server to achieve the highest level of security. To BEST complete this task, the analyst should place the:

- A. firewall behind the VPN server
- B. VPN server parallel to the firewall
- C. VPN server behind the firewall
- D. VPN on the firewall

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 98**

Which of the following policies would state an employee should not disable security safeguards, such as host firewalls and antivirus, on company systems?

- A. Code of conduct policy
- B. Account management policy
- C. Password policy
- D. Acceptable use policy

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 99**

As part of a review of incident response plans, which of the following is MOST important for an organization to understand when establishing the breach notification period?

- A. Organizational policies
- B. Vendor requirements and contracts
- C. Service-level agreements
- D. Legal requirements

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 100

A security analyst discovers accounts in sensitive SaaS-based systems are not being removed in a timely manner when an employee leaves the organization. To BEST resolve the issue, the organization should implement:

- A. federated authentication
- B. role-based access control
- C. manual account reviews
- D. multifactor authentication

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 101

A large software company wants to move its source control and deployment pipelines into a cloud-computing environment. Due to the nature of the business, management determines the recovery time objective needs to be within one hour. Which of the following strategies would put the company in the BEST position to achieve the desired recovery time?

- A. Establish an alternate site with active replication to other regions
- B. Configure a duplicate environment in the same region and load balance between both instances
- C. Set up every cloud component with duplicated copies and auto-scaling turned on
- D. Create a duplicate copy on premises that can be used for failover in a disaster situation

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 102

A cybersecurity analyst is reading a daily intelligence digest of new vulnerabilities. The type of vulnerability that should be disseminated FIRST is one that:

- A. enables remote code execution that is being exploited in the wild
- B. enables data leakage but is not known to be in the environment
- C. enables lateral movement and was reported as a proof of concept
- D. affected the organization in the past but was probably contained and eradicated

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 103



A company's incident response team is handling a threat that was identified on the network. Security analysts have determined a web server is making multiple connections from TCP port 445 outbound to servers inside its subnet as well as at remote sites. Which of the following is the MOST appropriate next step in the incident response plan?

- A. Quarantine the web server
- B. Deploy virtual firewalls
- C. Capture a forensic image of the memory and disk
- D. Enable web server containerization

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 104

During an incident, a cybersecurity analyst found several entries in the web server logs that are related to an IP with a bad reputation. Which of the following would cause the analyst to further review the incident?

- A. BadReputationIp - - [2019-04-12 10:43Z] "GET /etc/passwd" 403 1023
- B. BadReputationIp - - [2019-04-12 10:43Z] "GET /index.html?src=../../ssh/id\_rsa" 401 17044
- C. BadReputationIp - - [2019-04-12 10:43Z] "GET /a.php?src=/etc/passwd" 403 11056
- D. BadReputationIp - - [2019-04-12 10:43Z] "GET /a.php?src=../../ssh/id\_rsa" 200 15036
- E. BadReputationIp - - [2019-04-12 10:43Z] "GET /favicon.ico?src=../../usr/share/icons" 200 19064

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 105

A developer wrote a script to make names and other PII data unidentifiable before loading a database export into the testing system. Which of the following describes the type of control that is being used?

- A. Data encoding
- B. Data masking
- C. Data loss prevention
- D. Data classification

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 106

Which of the following attacks can be prevented by using output encoding?

- A. Server-side request forgery
- B. Cross-site scripting
- C. SQL injection
- D. Command injection
- E. Cross-site request forgery
- F. Directory traversal

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 107**

The help desk provided a security analyst with a screenshot of a user's desktop:

```
$ aircrack-ng -e AHT4 -w dictionary.txt wpa2.pcapdump
Opening wpa2.pcapdump
Read 6396 packets.
Opening wpa2.pcapdump
Reading packets, please wait...
```

For which of the following is aircrack-ng being used?

- A. Wireless access point discovery
- B. Rainbow attack
- C. Brute-force attack
- D. PCAP data collection

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 108**

A security manager has asked an analyst to provide feedback on the results of a penetration test. After reviewing the results, the manager requests information regarding the possible exploitation of vulnerabilities. Which of the following information data points would be MOST useful for the analyst to provide to the security manager, who would then communicate the risk factors to senior management? (Choose two.)

- A. Probability
- B. Adversary capability
- C. Attack vector
- D. Impact
- E. Classification
- F. Indicators of compromise

**Correct Answer:** AD

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 109**

A security analyst has been alerted to several emails that show evidence an employee is planning malicious activities that involve employee PII on the network before leaving the organization. The security analyst's BEST response would be to coordinate with the legal department and:

- A. the public relations department
- B. senior leadership
- C. law enforcement
- D. the human resources department

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 110**

While preparing for an audit of information security controls in the environment, an analyst outlines a framework control that has the following requirements:

- All sensitive data must be classified.
- All sensitive data must be purged on a quarterly basis.
- Certificates of disposal must remain on file for at least three years.

This framework control is MOST likely classified as:

- A. prescriptive
- B. risk-based
- C. preventive
- D. corrective

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:****QUESTION 111**

An analyst performs a routine scan of a host using Nmap and receives the following output:

```
$ nmap -sS 10.0.3.1
Starting Nmap 8.9 (http://nmap.org) at 2019-01-19 12:03 PST
Nmap scan report for 10.0.3.1
Host is up (0.00098s latency).
Not shown: 979 closed ports

PORT      STATE      SERVICE
20/tcp    filtered  ftp-data
21/tcp    filtered  ftp
22/tcp    open      ssh
23/tcp    open      telnet
80/tcp    open      http

Nmap done: 1 IP address (1 host up) scanned in 0.840 seconds
```

Which of the following should the analyst investigate FIRST?

- A. Port 21
- B. Port 22
- C. Port 23
- D. Port 80

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:****QUESTION 112**

A security analyst at a technology solutions firm has uncovered the same vulnerabilities on a vulnerability scan for a long period of time. The vulnerabilities are on systems that are dedicated to the firm's largest client. Which of the following is MOST likely inhibiting the remediation efforts?

- A. The parties have an MOU between them that could prevent shutting down the systems

- B. There is a potential disruption of the vendor-client relationship
- C. Patches for the vulnerabilities have not been fully tested by the software vendor
- D. There is an SLA with the client that allows very little downtime

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 113

A security analyst gathered forensics from a recent intrusion in preparation for legal proceedings. The analyst used EnCase to gather the digital forensics, cloned the hard drive, and took the hard drive home for further analysis. Which of the following did the security analyst violate?

- A. Cloning procedures
- B. Chain of custody
- C. Hashing procedures
- D. Virtualization

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 114

A threat feed notes malicious actors have been infiltrating companies and exfiltrating data to a specific set of domains. Management at an organization wants to know if it is a victim. Which of the following should the security analyst recommend to identify this behavior without alerting any potential malicious actors?

- A. Create an IPS rule to block these domains and trigger an alert within the SIEM tool when these domains are requested.
- B. Add the domains to a DNS sinkhole and create an alert in the SIEM tool when the domains are queried
- C. Look up the IP addresses for these domains and search firewall logs for any traffic being sent to those IPs over port 443
- D. Query DNS logs with a SIEM tool for any hosts requesting the malicious domains and create alerts based on this information

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 115

A security analyst discovered a specific series of IP addresses that are targeting an organization. None of the attacks have been successful. Which of the following should the security analyst perform NEXT?

- A. Begin blocking all IP addresses within that subnet
- B. Determine the attack vector and total attack surface
- C. Begin a kill chain analysis to determine the impact
- D. Conduct threat research on the IP addresses

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

#### QUESTION 116

Which of the following is the MOST important objective of a post-incident review?

- A. Capture lessons learned and improve incident response processes
- B. Develop a process for containment and continue improvement efforts
- C. Identify new technologies and strategies to remediate
- D. Identify a new management strategy

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 117

An organization was alerted to a possible compromise after its proprietary data was found for sale on the Internet. An analyst is reviewing the logs from the next-generation UTM in an attempt to find evidence of this breach. Given the following output:

Src IP	Src DNS	Dst IP	Dst DNS	Port	Application
10.50.50.121	83hht23.org-int.org	8.8.8.8	google...dns-a.google.com	53	DNS
10.50.50.121	83hht23.org-int.org	77.88.55.66	yandex.ru	443	HTTPS
172.16.52.20	webserver.org-dmz.org	131.52.88.45	--	53	DNS
10.100.10.45	appserver.org-int.org	69.134.21.90	repo.its.utk.edu	21	FTP
172.16.52.20	webserver.org-dmz.org	131.52.88.45	--	10999	HTTPS
172.16.52.100	sftp.org-dmz.org	62.30.221.56	ftps.bluedmed.net	42991	SSH
172.16.52.20	webserver.org-dmz.org	131.52.88.45	--	10999	HTTPS

Which of the following should be the focus of the investigation?

- A. webserver.org-dmz.org
- B. sftp.org-dmz.org
- C. 83hht23.org-int.org
- D. ftps.bluedmed.net

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 118

A company wants to establish a threat-hunting team. Which of the following BEST describes the rationale for integrating intelligence into hunt operations?

- A. It enables the team to prioritize the focus areas and tactics within the company's environment
- B. It provides criticality analyses for key enterprise servers and services
- C. It allows analysts to receive routine updates on newly discovered software vulnerabilities
- D. It supports rapid response and recovery during and following an incident

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 119

A security analyst is investigating a compromised Linux server. The analyst issues the `ps` command and receives the following output:

```
1286 ? Ss 0:00 /usr/sbin/cupsd -f
1287 ? Ss 0:00 /usr/sbin/httpd
1297 ? Ssl 0:00 /usr/bin/libvirt
1301 ? Ss 0:00 ./usr/sbin/sshd -D
1308 ? Ss 0:00 /usr/sbin/atd -f
```

Which of the following commands should the administrator run NEXT to further analyze the compromised system?

- A. strace /proc/1301
- B. rpm -V openssh-server
- C. /bin/ls -l /proc/1301/exe
- D. kill -9 1301

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 120

A security analyst is reviewing the following log entries to identify anomalous activity:

```
GET https://comptia.org/admin/login.html&user&password\ HTTP/1.1
GET http://comptia.org/index.php\ HTTP/1.1
GET http://comptia.org/scripts/..%5c../Windows/System32/cmd.exe?/C+dir+c:\ HTTP/1.1
GET http://comptia.org/media/contactus.html\ HTTP/1.1
```

Which of the following attack types is occurring?

- A. Directory traversal
- B. SQL injection
- C. Buffer overflow
- D. Cross-site scripting

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 121

A web-based front end for a business intelligence application uses pass-through authentication to authenticate users. The application then uses a service account to perform queries and look up data in a database. A security analyst discovers employees are accessing data sets they have not been authorized to use. Which of the following will fix the cause of the issue?

- A. Change the security model to force the users to access the database as themselves
- B. Parameterize queries to prevent unauthorized SQL queries against the database
- C. Configure database security logging using syslog or a SIEM
- D. Enforce unique session IDs so users do not get a reused session ID

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 122**

A company's Chief Information Security Officer (CISO) is concerned about the integrity of some highly confidential files. Any changes to these files must be tied back to a specific authorized user's activity session. Which of the following is the BEST technique to address the CISO's concerns?

- A. Configure DLP to reject all changes to the files without pre-authorization. Monitor the files for unauthorized changes.
- B. Regularly use SHA-256 to hash the directory containing the sensitive information. Monitor the files for unauthorized changes.
- C. Place a legal hold on the files. Require authorized users to abide by a strict time context access policy. Monitor the files for unauthorized changes.
- D. Use Wireshark to scan all traffic to and from the directory. Monitor the files for unauthorized changes.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 123**

Which of the following secure coding techniques can be used to prevent cross-site request forgery attacks?

- A. Input validation
- B. Output encoding
- C. Parameterized queries
- D. Tokenization

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 124**

A security analyst scanned an internal company subnet and discovered a host with the following Nmap output.

```
Nmap -Pn 10.233.117.0/24
```

```
Host is up (0.0021s latency)
Not shown: 987 filtered ports
```

PORT	STATE	SERVICE
22/tcp	open	ssh
135/tcp	open	msrpc
445/tcp	open	microsoft-ds
137/udp	open	netbios-ns
3389/tcp	open	ms-term-serv

Based on the output of this Nmap scan, which of the following should the analyst investigate FIRST?

- A. Port 22
- B. Port 135
- C. Port 445
- D. Port 3389

**Correct Answer:** B

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 125**

Which of the following technologies can be used to store digital certificates and is typically used in high-security implementations where integrity is paramount?

- A. HSM
- B. eFuse
- C. UEFI
- D. Self-encrypting drive

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 126**

A security analyst is investigating a malware infection that occurred on a Windows system. The system was not connected to a network and had no wireless capability. Company policy prohibits using portable media or mobile storage. The security analyst is trying to determine which user caused the malware to get onto the system. Which of the following registry keys would MOST likely have this information?

- A. HKEY\_USERS\<user SID>\Software\Microsoft\Windows\CurrentVersion\Run
- B. HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Run
- C. HKEY\_USERS\<user SID>\Software\Microsoft\Windows\explorer\MountPoints2
- D. HKEY\_USERS\<user SID>\Software\Microsoft\Internet Explorer\Typed URLs
- E. HKEY\_LOCAL\_MACHINE\SYSTEM\ControlSet001\services\eventlog\System\iusb3hub

**Correct Answer: E**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 127**

Clients are unable to access a company's API to obtain pricing data. An analyst discovers sources other than clients are scraping the API for data, which is causing the servers to exceed available resources. Which of the following would be BEST to protect the availability of the APIs?

- A. IP whitelisting
- B. Certificate-based authentication
- C. Virtual private network
- D. Web application firewall

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 128**

A security analyst recently discovered two unauthorized hosts on the campus's wireless network segment from a man-in-the-middle attack. The security analyst also verified that privileges were not escalated, and the two devices did not gain access to other network devices. Which of the following would BEST mitigate and improve the security posture of the wireless network for this type of attack?

- A. Enable MAC filtering on the wireless router and suggest a stronger encryption for the wireless network

- B. Change the SSID, strengthen the passcode, and implement MAC filtering on the wireless router
- C. Enable MAC filtering on the wireless router and create a whitelist that allows devices on the network
- D. Conduct a wireless survey to determine if the wireless strength needs to be reduced

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 129

Given the Nmap request below:

```
Scanner# nmap -p 22,113,139,1433 www.scannable.org -d --packet-trace
Starting Nmap(http://nmap.org)
Nmap scan report for www.scannable.org
SENT(0.0149s) ICMP SCANNER > SCANNABLE
echo request (type=8/code=0) TTL=52 ID=1929
SENT(0.0112s) TCP SCANNER:63517 > SCANNABLE:80 iplen=40 seq=99850910
RCVC(0.0179s) ICMP SCANNABLE > SCANNER echo reply(type=0/code=0 iplen=28 seq=99850910
we got a ping back for SCANNABLE: ID=48822 seq=713 checksum=16000
massping done: num_host:1 num_response:1
Initiating SYN STEALTH Scan against www.scannable.org (SCANNABLE) 3 ports at 00:47
SENT(0.0134s) TCP SCANNER:63517 > SCANNABLE:113 iplen=40 seq=1048634
SENT(0.0148s) TCP SCANNER:63517 > SCANNABLE:139 iplen=40 seq=1048634
SENT(0.0092s) TCP SCANNER:63517 > SCANNABLE:22 iplen=40 seq=1048634
RCVD(0.0151s) TCP SCANNABLE:113 > SCANNER:63517 iplen=40 seq=1048634
RCVD(0.0151s) TCP SCANNABLE:22 > SCANNER:63517 iplen=40 seq=1048634
SENT(0.0097s) TCP SCANNER:63517 > SCANNABLE:139 iplen=40 seq=1048634
The SYN STEALTH Scan took 1.25s to scan 3 total ports
Nmap Report for www.scannable.org (SCANNABLE)

PORT      STATE      SERVICE
22/tcp    open       ssh
113/tcp    closed     auth
139/tcp    filtered   netbios-ssh
1433/tcp   closed     ms-sql

Nmap done:1 10.155.187.1 (1 host)
```

Which of the following actions will an attacker be able to initiate directly against this host?

- A. Password sniffing
- B. ARP spoofing
- C. A brute-force attack
- D. An SQL injection

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 130

As part of an organization's information security governance process, a Chief Information Security Officer (CISO) is working with the compliance officer to update policies to include statements related to new regulatory and legal requirements. Which of the following should be done to BEST ensure all employees are appropriately aware of changes to the policies?

- A. Conduct a risk assessment based on the controls defined in the newly revised policies
- B. Require all employees to attend updated security awareness training and sign an acknowledgement

- C. Post the policies on the organization's intranet and provide copies of any revised policies to all active vendors
- D. Distribute revised copies of policies to employees and obtain a signed acknowledgement from them

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 131

During an investigation, an analyst discovers the following rule in an executive's email client:

```
IF * TO <executive@anycompany.com> THEN mailto: <someaddress@domain.com>
SELECT FROM 'sent' THEN DELETE FROM <executive@anycompany.com>
```

The executive is not aware of this rule. Which of the following should the analyst do FIRST to evaluate the potential impact of this security incident?

- A. Check the server logs to evaluate which emails were sent to <someaddress@domain.com>
- B. Use the SIEM to correlate logging events from the email server and the domain server
- C. Remove the rule from the email client and change the password
- D. Recommend that management implement SPF and DKIM

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 132

A critical server was compromised by malware, and all functionality was lost. Backups of this server were taken; however, management believes a logic bomb may have been injected by a rootkit. Which of the following should a security analyst perform to restore functionality quickly?

- A. Work backward, restoring each backup until the server is clean
- B. Restore the previous backup and scan with a live boot anti-malware scanner
- C. Stand up a new server and restore critical data from backups
- D. Offload the critical data to a new server and continue operations

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 133

An analyst wants to identify hosts that are connecting to the external FTP servers and what, if any, passwords are being used. Which of the following commands should the analyst use?

- A. tcpdump -X dst port 21
- B. ftp ftp.server -p 21
- C. nmap -o ftp.server -p 21
- D. telnet ftp.server 21

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Section: (none)

**QUESTION 134**

An incident response team is responding to a breach of multiple systems that contain PII and PHI. Disclosing the incident to external entities should be based on:

- A. the responder's discretion
- B. the public relations policy
- C. the communication plan
- D. senior management's guidance

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

A security is responding to an incident on a web server on the company network that is making a large number of outbound requests over DNS. Which of the following is the FIRST step the analyst should take to evaluate this potential indicator of compromise?

- A. Run an anti-malware scan on the system to detect and eradicate the current threat
- B. Start a network capture on the system to look into the DNS requests to validate command and control traffic
- C. Shut down the system to prevent further degradation of the company network
- D. Reimage the machine to remove the threat completely and get back to a normal running state
- E. Isolate the system on the network to ensure it cannot access other systems while evaluation is underway

**Correct Answer: E**

**Section: (none)**

**Explanation**

**Explanation/Reference:**