Name: _____ Date: _____ Score: _____

Private Internet Access Review

Technical analysis of Private Internet Access VPN, open-source desktop and mobile client codebases, court-proven zero logs, port forwarding, and PIA MACE ad filtering.

PRIVATE INTERNET ACCESS REVIEW LEARNING OVERVIEW

LEARNER
STUDENT STATUS
Network Defender Track

SECURE
CONNECTION STATUS
Shielding data packets

ON
LEAK PROTECTION
DNS & IPv6 leak protection

Welcome! This activity packet guides you through the technical review of Private Internet Access. You will explore open-source desktop clients, court-proven zero logs, port forwarding, and PIA MACE ad blocking.

WORKSHEET CHECKPOINTS

- [ ] **Part 1-4: Master VPN and network security configurations.**
- [ ] **Part 5-7: Solve crossword & word search puzzles.**
- [ ] **Part 8-9: Solve case studies & cipher challenge.**
- [ ] **Part 10: Review basic & advanced FAQ pages.**
- [ ] **Part 11: Explore 10 interesting real-world facts.**
- [ ] **Bonus: Think Fast challenge.**

Open the VPN.com Best VPNs Guide

URL: https://www.vpn.com/vpn/pia/

Your Private Internet Access Learning Roadmap

- Analyze the technical architecture and encryption standards of Private Internet Access Review.
- Configure client settings to prevent IP, DNS, and WebRTC traffic leaks.
- Compare proprietary tunneling protocols against standard implementations.

PRIVATE INTERNET ACCESS REVIEW INSTRUCTIONS

Answer the multiple choice and true/false questions, complete the fill-in-the-blank sentences using the word bank, match definitions, and solve the crossword and word search puzzles. Apply your knowledge to court-proven logging and PIA MACE. Finish with the Bonus Activity: Think Fast.

COURT-PROVEN ZERO LOGS & OPEN-SOURCE DESKTOP CLIENTS (INTRODUCTION)

Private Internet Access (PIA) features a highly customizable, open-source client codebase. It has proven its zero-logs commitments in US courts and integrates advanced configurations like port forwarding and MACE ad blocking.

READ EACH CHECKPOINT CAREFULLY AND SELECT OR WRITE THE CORRECT RESPONSE.

Checkpoint 1: Multiple Choice Challenge

1. **1. What is the commercial name of Private Internet Access VPN?**
   - A) PIA VPN
   - B) Safe Connect
   - C) Threat Protection
   - D) Proton VPN

2. **2. In which country is Private Internet Access headquartered, subjecting it to US laws?**
   - A) United States
   - B) United Kingdom
   - C) Romania
   - D) Switzerland

3. **3. Which proprietary ad-blocking tool does PIA include in its desktop clients?**
   - A) PIA MACE
   - B) Threat Protection
   - C) Safe Shield
   - D) CleanWeb

4. **4. What is the concurrent device connection limit under a standard PIA account?**
   - A) Unlimited
   - B) Five Devices
   - C) Ten Devices
   - D) Seven Devices

5. **5. Which modern open-source protocol can PIA apps use besides OpenVPN?**
   - A) WireGuard
   - B) PPTP
   - C) SSTP
   - D) L2TP

Checkpoint 2: True or False Challenge

6 Question 6

6. Private Internet Access is headquartered in the US under Five Eyes jurisdiction.

○ True ○ False

7 Question 7

7. PIA has proven its zero-logs policy in US federal court subpoenas.

○ True ○ False

8 Question 8

8. PIA MACE ad blocking operates inside the client by filtering DNS requests.

○ True ○ False

9 Question 9

9. PIA does not support manual port forwarding configurations.

○ True ○ False

10 Question 10

10. All PIA desktop client applications are completely open-source.

○ True ○ False

Checkpoint 3: Key Term Insertion

Read each sentence below and fill in the blank with the correct term from the Word Bank.

1. The standalone VPN client is commercially branded as _____ software.
2. Operating out of Denver, Colorado, PIA is based in the _____ jurisdiction.
3. Ad and tracker blocking is handled natively by _____ technology.
4. Subscribers can connect a massive number of devices using _____ concurrent licenses.
5. PIA apps can use the fast, modern _____ protocol instead of OpenVPN.
6. The zero-logs policy has been verified by being _____ in federal court subpoenas.

VOCABULARY WORD BANK

COURT PROVEN | KILL SWITCH | PIA MACE | PIA VPN | TUNNELING | UNITED STATES | UNLIMITED | WIREGUARD

Write your answers here:

1.
2.
3.
4.
5.
6.

Checkpoint 4: VPN & Network Concept Match

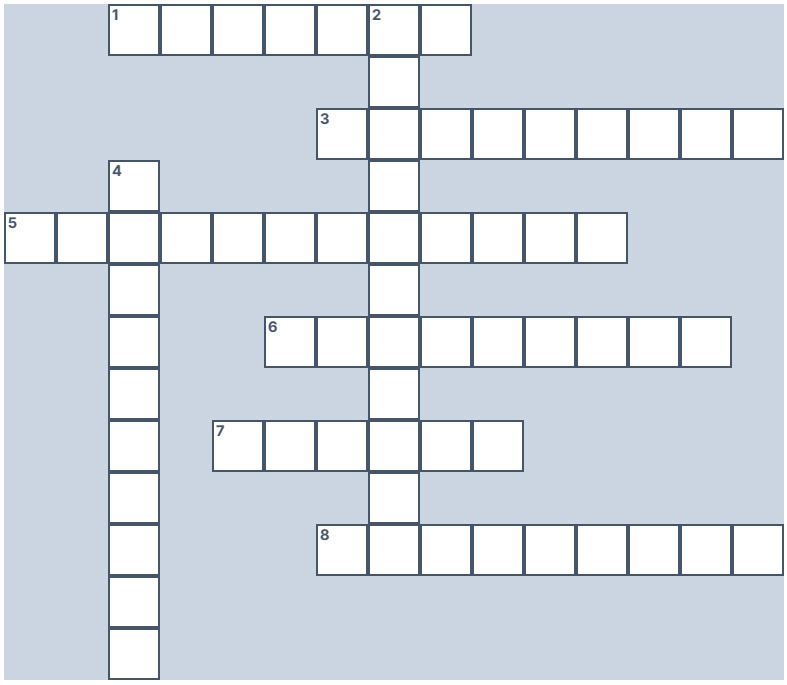
DEFINITION MATCHING

Match each vocabulary term on the left with its correct definition on the right by writing the corresponding letter (A-H) in the fillable input box.

☐	1. PIA VPN	A	Encapsulating packet payloads to cross networks.
☐	2. United States	B	DNS-based ad and tracker blocker built into client.
☐	3. PIA MACE	C	Modern high-speed open-source connection protocol.
☐	4. Unlimited	D	Failsafe blocker cutting traffic if the tunnel drops.
☐	5. WireGuard	E	Logs policy validated by legal requests yielding no data.
☐	6. Court Proven	F	North American legal jurisdiction and corporate headquarters.
☐	7. Kill Switch	G	Concurrent device connection policy without limits.
☐	8. Tunneling	H	Commercially branded Private Internet Access standalone client.

Checkpoint 5: Crossword Puzzle

Solve the crossword puzzle by typing letters into the active white boxes. The numbers correspond to the clues below.



ACROSS CLUES

1. DNS-based ad and tracker blocker built into client (7)

3. Encapsulating packet payloads to cross networks (9)

5. North American legal jurisdiction and corporate headquarters (12)

6. Modern high-speed open-source connection protocol (9)

7. Commercially branded Private Internet Access standalone client (6)

8. Concurrent device connection policy without limits (9)

DOWN CLUES

2. Logs policy validated by legal requests yielding no data (11)

4. Failsafe blocker cutting traffic if the tunnel drops (10)

Checkpoint 5 Alternative: Accessible Crossword Clues

Screen-reader and keyboard users can type the crossword answers directly in the text fields below.

ACROSS CLUES

1 Across: DNS-based ad and tracker blocker built into client (7 letters):

3 Across: Encapsulating packet payloads to cross networks (9 letters):

5 Across: North American legal jurisdiction and corporate headquarters (12 letters):

6 Across: Modern high-speed open-source connection protocol (9 letters):

7 Across: Commercially branded Private Internet Access standalone client (6 letters):

8 Across: Concurrent device connection policy without limits (9 letters):

DOWN CLUES

2 Down: Logs policy validated by legal requests yielding no data (11 letters):

4 Down: Failsafe blocker cutting traffic if the tunnel drops (10 letters):

Checkpoint 6: Hidden Word Search

Find the 8 key vocabulary terms hidden in the grid below. Words can be horizontal, vertical, or diagonal.

I G D R Q M E U I R Z S F Q V
N N F A A Q O N N P W T X Q K
E I R U S D N L Y B I F S X W
V L J A P R Z I Y Y R L G I M
O E R J I M L M T O E H Q K Q
R N H Z A A O I V G G U B I Y
P N R Y V B H T L Z U G J L O
T U P N P W C E M Z A Y G L Y
R T O W N U K D V P R B N S V
U T M G V D Y U K R D B X W Z
O U N I T E D S T A T E S I Y
C M R Q X I P D A D J Q V T W
W L P I A M A C E J H T H C G
B E I K T S V R Z E H E S H C
A L Q C Z M K V R U A S W J M

VOCABULARY WORD LIST

PIAVPN UNITEDSTATES PIAMACE UNLIMITED WIREGUARD COURTPROVEN KILLSWITCH TUNNELING

Checkpoint 6 Alternative: Accessible Vocabulary Matching

Match each of the 8 vocabulary terms from the Word Search to its correct definition by writing the letter (A-H) in the blank space.

VOCABULARY TERMS

- **A. PIAVPN**
- **B. UNITEDSTATES**
- **C. PIAMACE**
- **D. UNLIMITED**
- **E. WIREGUARD**
- **F. COURTPROVEN**
- **G. KILLSWITCH**
- **H. TUNNELING**

DEFINITIONS & MATCH FIELDS

1. _____ DNS-based ad and tracker blocker built into client.
2. _____ Logs policy validated by legal requests yielding no data.
3. _____ Encapsulating packet payloads to cross networks.
4. _____ Failsafe blocker cutting traffic if the tunnel drops.
5. _____ North American legal jurisdiction and corporate headquarters.
6. _____ Concurrent device connection policy without limits.
7. _____ Modern high-speed open-source connection protocol.
8. _____ Commercially branded Private Internet Access standalone client.

Checkpoint 7: Scrambled Word Challenge

Unscramble the letters below to reveal key Virtual Private Network (VPN) concepts and terms. Write your answers in the input boxes provided.

1. APVPNI
2. PAECAMI
3. WUGIADERR
4. WCSHLTIKIL
5. NTTSSIEADUET
6. EINTIUMDL
7. OTCORNVEUPR
8. GENTNULIN

Bonus Activity: Think Fast

3 ITEMS FROM EACH CATEGORY. FIRST PERSON TO COMPLETE THE LIST WINS.

1	Situations where a kill switch helps			
2	Words that describe a good VPN app			
3	Buttons or menus in a VPN app			
4	Features you look for in PIA			
5	Reasons to choose PIA			
6	Signs your VPN connection is slow			
7	Places where you would turn on PIA			
8	People you would recommend PIA to			
9	Data a VPN should never store			
10	Countries where you'd want PIA servers			
11	Things you do online every day			
12	VPN services other than PIA			
13	Things to check before buying a VPN			
14	Things PIA can hide from your network			
15	Questions for PIA customer support			

Checkpoint 8: VPN & Network Case Studies

Apply the concepts you have learned to solve the real-world scenarios below.

CASE STUDY 1: VERIFYING COURT-PROVEN ZERO LOGS

👮

Scenario: A government agency issues a subpoena to PIA requesting connection logs for a specific IP address during a cyber crime investigation.

Discussion Question: Detail how PIA's server configuration and zero-logs architecture allow it to comply with subpoenas without exposing user data.

CASE STUDY 2: CONFIGURING CUSTOM PORT FORWARDING

👮

Scenario: A software engineer wants to host a temporary local service and share it with remote testers using a secure VPN port allocation.

Discussion Question: Explain how port forwarding is enabled in the PIA client and analyze the security tradeoffs of exposing custom incoming ports.

Checkpoint 9: Decrypting the Cipher

A network engineer secures routing channels and client tunnels. Use the Letter-to-Number key below to decrypt the message by writing the matching letters in the blank spaces.

LETTER-TO-NUMBER ENCRYPTION KEY

A=1 B=2 C=3 D=4 E=5 F=6 G=7 H=8 I=9 J=10 K=11 L=12 M=13

N=14 O=15 P=16 Q=17 R=18 S=19 T=20 U=21 V=22 W=23 X=24 Y=25 Z=26

16	9	1		22	16	14		16	18	15	20	5	3	20	19		21	19	5	18

19	5	3	21	18	9	20	25		1	14	4		16	18	9	22	1	3	25

Decoded message:

TIP: EACH NUMBER REPRESENTS THE POSITION OF THAT LETTER IN THE ALPHABET (E.G. 1 = A, 2 = B, 26 = Z).

Checkpoint 10: Basic VPN FAQs (Part A)

Review the most common questions and answers regarding Virtual Private Networks (VPNs) and tunneling.

Q1: What is Private Internet Access?

It is a highly customizable, open-source VPN provider focused on speed, security, and digital privacy.

Q2: Where is PIA headquartered?

PIA is headquartered in Denver, Colorado, operating under United States jurisdiction. [6]

Q3: Does PIA keep logs?

No, PIA enforces a strict zero-logs policy that has been audited and proven in court multiple times.

Q4: How many devices can I connect?

PIA offers unlimited concurrent device connections under a single subscription plan. [1]

Q5: What is PIA MACE?

It is a DNS-based ad, tracker, and malware blocker built directly into the PIA client applications.

Checkpoint 10: Basic VPN FAQs (Part B)

Review the most common questions and answers regarding Virtual Private Networks (VPNs) and tunneling.

Q6: Does PIA support WireGuard?

Yes, the apps let you choose WireGuard or OpenVPN in the Protocols section of the settings.

Q7: Does the app support port forwarding?

Yes, PIA offers built-in port forwarding on select servers, enabled in the app's Network settings.

Q8: Are the client apps open-source?

Yes, all PIA desktop and mobile client applications are fully open-source and hosted on GitHub.

Q9: Does it have a kill switch?

Yes, it features an advanced kill switch that blocks all traffic if the VPN tunnel goes down.

Q10: Can I install PIA on a router?

Yes, PIA provides manual OpenVPN and WireGuard configurations for compatible routers.

Checkpoint 10: Advanced VPN FAQs (Part C)

Explore advanced technical aspects of VPN tunneling protocols, mobile client integrations, and enterprise deployment.

Q1: How has the zero-logs policy been proven in court?

On multiple occasions, US federal subpoenas demanded user connection histories from PIA, but the company yielded no data due to zero logging.

Q2: How does PIA MACE differ from browser ad-blockers?

MACE operates at the DNS level, returning empty responses for ad domains, but cannot hide page elements or filter non-DNS ad streams.

Q3: What encryption standard is default for WireGuard in PIA?

It utilizes ChaCha20-Poly1305 symmetric key encryption, which is faster on mobile CPUs than AES-GCM.

Q4: How is port forwarding configured securely?

The client requests an open port from the VPN gateway, which maps it dynamically for inbound traffic while masking the client's local ports.

Q5: What are the risks of US jurisdiction for PIA?

The US is a member of the Five Eyes; however, because PIA keeps no logs, subpoenas cannot compel the company to produce non-existent data.

Checkpoint 10: Advanced VPN FAQs (Part D)

Explore advanced technical aspects of VPN tunneling protocols, mobile client integrations, and enterprise deployment.

Q6: Does PIA support split tunneling?

Yes, Split Tunnel rules let chosen apps or IP addresses bypass the VPN or use it exclusively.

Q7: How does the Advanced Kill Switch function?

It blocks all outbound internet access even when the VPN client app is closed, ensuring no accidental leaks occur. [2]

Q8: Does PIA support shadowsocks obfuscation?

Yes, it allows multi-hop routing using Shadowsocks proxies to hide VPN traffic signatures in censored networks. [4]

Q9: What kind of servers does PIA run?

PIA says its network runs on RAM-only servers, which cannot write user data to a hard drive because they have none.

Q10: Does the client support custom MTU sizes?

Yes, the advanced settings allow users to adjust MTU packets to troubleshoot connection drops on restrictive networks.

Part 11: 10 Real-World VPN Facts & Insights

Review real-world facts regarding VPN encryption speeds, protocol audits, mobile connectivity, and enterprise remote work.

1. VPN INSIGHT

Private Internet Access was founded in 2010 by London Trust Media and was acquired by Kape Technologies in 2019. [7]

2. VPN INSIGHT

PIA says its no-logs policy has been tested in US court more than once, including cases involving the FBI. [1]

3. VPN INSIGHT

MACE blocks domains used for ads, trackers and malware at the DNS level, before they load. [2]

4. VPN INSIGHT

PIA says it runs RAM-only servers in 91 countries on a 10-Gbps network (as of September 2026). [1]

5. VPN INSIGHT

All desktop and mobile clients are open-source, allowing anyone to verify their security configurations on GitHub. [8]

6. VPN INSIGHT

The advanced split tunneling feature supports routing traffic based on destination IP ranges as well as local apps. [2]

7. VPN INSIGHT

PIA's corporate office is in Denver, Colorado, which places the company under United States law. [6]

8. VPN INSIGHT

Deloitte Audit Romania has audited PIA's no-logs setup, concluding it keeps no data that identifies users or activity. [1]

9. VPN INSIGHT

The Advanced Kill Switch blocks all traffic outside the VPN even when the VPN is turned off. [2]

10. VPN INSIGHT

It supports dedicated static IPs as an add-on service for users who require consistent remote access gateways. [2]

Technical References & Sources

The study guide and interactive puzzles are compiled from global technical standards, specifications, and regulatory frameworks.

SCHOLARLY & INDUSTRY REFERENCES

[1] Private Internet Access. (n.d.). Strict No-Logs VPN: Stay Secure Online.

https://www.privateinternetaccess.com/vpn-features/no-logs-vpn

[2] Private Internet Access Support. (2026). Understanding Basic Settings on the PIA Client.

https://helpdesk.privateinternetaccess.com/hc/en-us/articles/46777033424923-Understanding-Basic-Settings-on-the-PIA-Client

[3] Private Internet Access Support. (2026). Understanding Advanced Settings on the Desktop PIA Client.

https://helpdesk.privateinternetaccess.com/hc/en-us/articles/46813740976667-Understanding-Advanced-Settings-on-the-Desktop-PIA-Client

[4] Private Internet Access Support. (2026). Understanding the Multi-Hop Feature.

https://helpdesk.privateinternetaccess.com/hc/en-us/articles/46776477273627-Understanding-the-Multi-Hop-Feature

[5] Private Internet Access. (2025). VPN Port Forwarding: The Ultimate Guide.

https://helpdesk.privateinternetaccess.com/hc/en-us/articles/46701354754843-Next-Generation-Port-Forwarding

[6] Private Internet Access. (n.d.). About Us.

https://www.privateinternetaccess.com/about-us

[7] Kape Technologies plc. (2019). Completion of Private Internet Access Acquisition.

https://www.investegate.co.uk/announcement/rns/kape-technologies--kape/completion-of-private-internet-access-acquisition/5834879

[8] Private Internet Access. (n.d.). Private Internet Access - Free and Open Source Software.

https://github.com/pia-foss

[9] Private Internet Access. (n.d.). pia-foss/desktop: Private Internet Access - Desktop VPN Client for Windows/macOS/Linux.

https://github.com/pia-foss/desktop

[10] WireGuard. (n.d.). Protocol & Cryptography.

https://www.wireguard.com/protocol/

Answer Key: Checkpoint 1 - Multiple Choice

1 Question 1

Correct Answer: A

TEACHING NOTE

What is the commercial name of Private Internet Access VPN? → PIA VPN

2 Question 2

Correct Answer: A

TEACHING NOTE

In which country is Private Internet Access headquartered, subjecting it to US laws? → United States

3 Question 3

Correct Answer: A

TEACHING NOTE

Which proprietary ad-blocking tool does PIA include in its desktop clients? → PIA MACE

4 Question 4

Correct Answer: A

TEACHING NOTE

What is the concurrent device connection limit under a standard PIA account? → Unlimited

5 Question 5

Correct Answer: A

TEACHING NOTE

PIA's apps let users choose WireGuard, a modern open-source protocol, or OpenVPN.

Answer Key: Checkpoint 2 - True or False

6 Question 6

Correct Answer: True

TEACHING NOTE

Private Internet Access is headquartered in the US under Five Eyes jurisdiction.

7 Question 7

Correct Answer: True

TEACHING NOTE

PIA has proven its zero-logs policy in US federal court subpoenas.

8 Question 8

Correct Answer: True

TEACHING NOTE

PIA MACE ad blocking operates inside the client by filtering DNS requests.

9 Question 9

Correct Answer: False

TEACHING NOTE

False: PIA offers built-in port forwarding on select servers.

10 Question 10

Correct Answer: True

TEACHING NOTE

All PIA desktop client applications are completely open-source.

Vocabulary Keys & Grading Rubric

Instructor Grading Rubric: Award 1 point for each correct matching (8 points total) and context term (6 points total).

CHECKPOINT 4: CONCEPT MATCH KEY

H 1. PIA VPN	F 2. United States	B 3. PIA MACE	G 4. Unlimited
C 5. WireGuard	E 6. Court Proven	D 7. Kill Switch	A 8. Tunneling

CHECKPOINT 3: KEY TERM KEY

1 PIA VPN	2 UNITED STATES	3 PIA MACE	4 UNLIMITED
5 WIREGUARD	6 COURT PROVEN		

CHECKPOINT 6 ALTERNATIVE: VOCABULARY MATCH KEY

1 C – PIAMACE	2 F – COURTPROVEN	3 H – TUNNELING	4 G – KILLSWITCH
5 B – UNITEDSTATES	6 D – UNLIMITED	7 E – WIREGUARD	8 A – PIAVPN

DISCUSSION NOTES FOR INSTRUCTORS

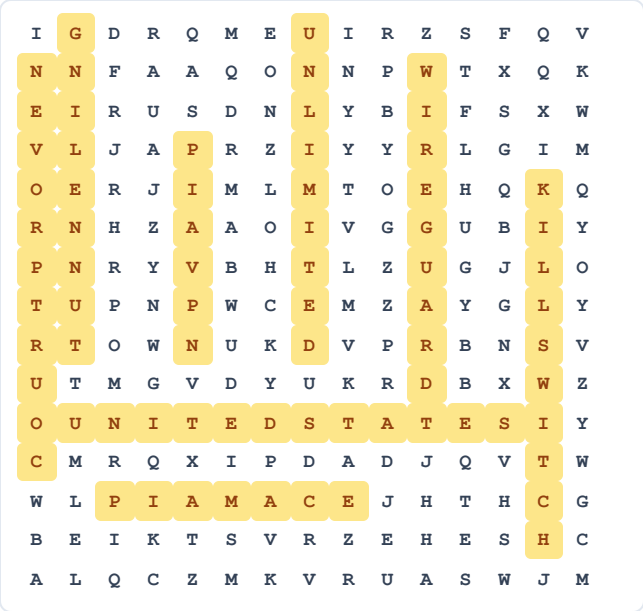
Key Terms:
Check that students can explain PIA VPN, United States and PIA MACE in their own words and give an example of each.

Case Studies:
Ask students to support their recommendations with facts from the worksheet rather than assumptions.

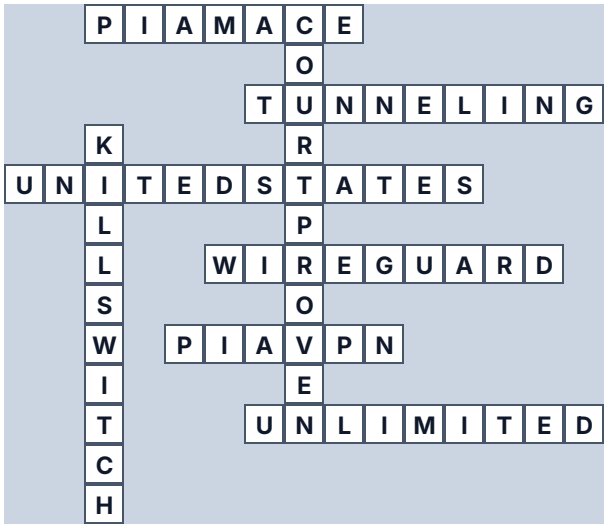
Source Evaluation:
Have students verify at least one claim against the worksheet references, and discuss why figures, prices and rules can change over time.

Puzzles Keys & Instructor Notes

WORD SEARCH SOLUTION



CROSSWORD SOLUTION



INSTRUCTOR GUIDE FOR CROSSWORD SOLUTIONS

ACROSS CLUES

1 Across: PIAMACE DNS-based ad and tracker blocker built into client (7 letters)

3 Across: TUNNELING Encapsulating packet payloads to cross networks (9 letters)

5 Across: UNITEDSTATES North American legal jurisdiction and corporate headquarters (12 letters)

6 Across: WIREGUARD Modern high-speed open-source connection protocol (9 letters)

7 Across: PIAVPN Commercially branded Private Internet Access standalone client (6 letters)

8 Across: UNLIMITED Concurrent device connection policy without limits (9 letters)

DOWN CLUES

2 Down: COURTPROVEN Logs policy validated by legal requests yielding no data (11 letters)

4 Down: KILLSWITCH Failsafe blocker cutting traffic if the tunnel drops (10 letters)

Scrambled Words & Cipher Solution Key

Grading key for the vocabulary word unscramble activity and Secret Cipher Challenge.

WORD UNSCRAMBLE KEY

1. APVPNI	PIAVPN	5. NTTSSIEADUET	UNITEDSTATES
2. PAECAMI	PIAMACE	6. EINTIUMDL	UNLIMITED
3. WUGIADERR	WIREGUARD	7. OTCORNVEUPR	COURTPROVEN
4. WCSHLTIKIL	KILLSWITCH	8. GENTNULIN	TUNNELING

SECRET CIPHER CHALLENGE KEY

"PIA VPN PROTECTS USER SECURITY AND PRIVACY"

Case Studies Solution Key

A CASE STUDY 1: VERIFYING COURT-PROVEN ZERO LOGS

Instructor Solution

GRADING GUIDELINE

Student answers should cover the following points:

- Scenario Analysis: A government agency issues a subpoena to PIA requesting connection logs for a specific IP address during a cyber crime investigation.
- Recommended Strategy & Solution: Grading Guidance: Explain that because PIA's server database is configured to write no logs or metadata to disk, they have no user history to surrender.

B CASE STUDY 2: CONFIGURING CUSTOM PORT FORWARDING

Instructor Solution

GRADING GUIDELINE

Student answers should cover the following points:

- Scenario Analysis: A software engineer wants to host a temporary local service and share it with remote testers using a secure VPN port allocation.
- Recommended Strategy & Solution: Grading Guidance: Explain that the client requests an incoming port from the server, which redirects incoming traffic; the tradeoff is increased port scanning vulnerability.