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

100%
LEAK DEFENSE
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.

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.

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 **What is the commercial name of Private Internet Access VPN?**

- ◯ A) PIA VPN
- ◯ B) Safe Connect
- ◯ C) Threat Protection
- ◯ D) Proton VPN

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

- ◯ A) PIA MACE
- ◯ B) Threat Protection
- ◯ C) Safe Shield
- ◯ D) CleanWeb

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 **Which open-source protocol is default in newer PIA client apps?**

- ◯ A) WireGuard
- ◯ B) OpenVPN
- ◯ C) IKEv2
- ◯ D) PPTP

Checkpoint 2: True or False Challenge

6 Question 6

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

◯ True ◯ False

7 Question 7

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

◯ True ◯ False

8 Question 8

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

◯ True ◯ False

9 Question 9

PIA does not support manual port forwarding configurations.

◯ True ◯ False

10 Question 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. Outbound speeds are optimized by using default _____ tunnel configurations.
6. The zero-logs policy has been verified by being _____ in federal court subpoenas.

VOCABULARY WORD BANK

PIA VPN	United States	PIA MACE	Unlimited
WireGuard	Court Proven	Kill Switch	Tunneling

Write your answers here:

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

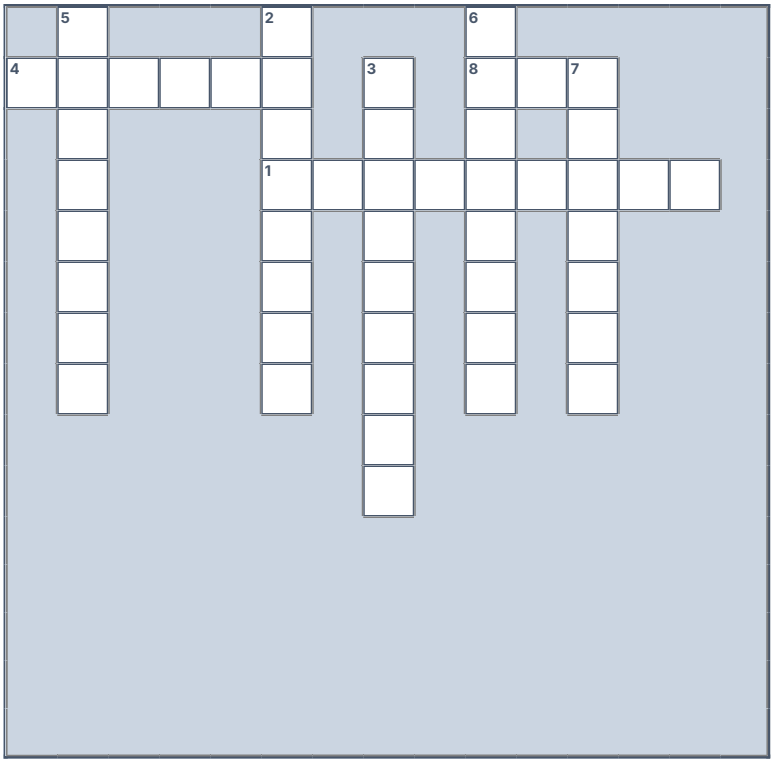
Checkpoint 4: VPN & Network Concept Match

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.

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

1. Process of wrapping data packets inside other packets (9)

4. Remote server that routes traffic and hides your IP (6)

8. Internet Service Provider, logs traffic unless encrypted (3)

DOWN

2. Rules determining how data is sent and encrypted (8)

3. Rate of data transfer across a path (9)

5. Blocking site access based on location (8)

6. Security system that monitors and blocks traffic (8)

7. State of being free from tracking or surveillance (7)

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: Private Internet Access commercial brand name. (6) (6 letters):

4 Across: North American corporate jurisdiction. (12) (12 letters):

5 Across: DNS-based ad and tracker blocker. (7) (7 letters):

7 Across: Concurrent connection policy parameter. (9) (9 letters):

DOWN CLUES

2 Down: Default high-speed tunneling protocol. (9) (9 letters):

3 Down: Zero-logs policy validated in court. (11) (11 letters):

6 Down: Failsafe connection block switch. (10) (10 letters):

8 Down: Encapsulating data over public networks. (8) (6 letters):

Checkpoint 6: Hidden Word Search

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

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

VOCABULARY WORD LIST

PIA VPN	United States	PIA MACE	Unlimited
WireGuard	Court Proven	Kill Switch	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. PIA VPN
B. United States
C. PIA MACE
D. Unlimited
E. WireGuard
F. Court Proven
G. Kill Switch
H. Tunneling

DEFINITIONS & MATCH FIELDS

_____ 1. Commercially branded Private Internet Access standalone client.

_____ 2. North American legal jurisdiction and corporate headquarters.

_____ 3. DNS-based ad and tracker blocker built into client.

_____ 4. Concurrent device connection policy without limits.

_____ 5. Modern high-speed open-source connection protocol.

_____ 6. Logs policy validated by legal requests yielding no data.

_____ 7. Failsafe blocker cutting traffic if the tunnel drops.

_____ 8. Encapsulating packet payloads to cross networks.

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. IAVPNP

2. NITEDSTATESU

3. IAMACEP

4. NLIMITEDU

5. IREGUARDW

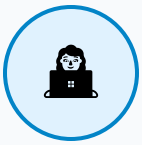
6. OURTPROVENC

7. ILLSWITCHK

8. UNNELT

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.

Final Challenge: 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 cybersecurity 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.

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.

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, WireGuard is supported and set as the default protocol for high-performance connections.

Q7: Does the app support port forwarding?

Yes, PIA is one of the few premium VPNs that natively supports client-side port forwarding.

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 11: Advanced VPN FAQs (Part A)

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 11: Advanced VPN FAQs (Part B)

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

Q6: Does PIA support split tunneling?

Yes, it supports advanced split tunneling, letting users bypass the VPN by app, IP address, or custom port rules.

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.

Q8: Does PIA support shadowsocks obfuscation?

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

Q9: Does PIA own its server network?

PIA uses a mix of co-located servers that it owns and leased bare-metal servers from secure datacenters.

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.

2. VPN INSIGHT

PIA has proven its zero-logs architecture in court cases in 2016 and 2018 under US government subpoenas.

3. VPN INSIGHT

The MACE ad-blocker does not load ad images, saving significant mobile data and improving page load speeds.

4. VPN INSIGHT

PIA maintains one of the largest server networks, with thousands of co-located servers globally.

5. VPN INSIGHT

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

6. VPN INSIGHT

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

7. VPN INSIGHT

Kape Technologies also owns other prominent VPN brands, including ExpressVPN and CyberGhost.

8. VPN INSIGHT

PIA's zero-logs policy was audited and validated by Deloitte, confirming no logging of activity or IP addresses.

9. VPN INSIGHT

The client app includes a dedicated network interface driver (PIA TAP) that handles routing tables on Windows.

10. VPN INSIGHT

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

Technical References & Sources

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

SCHOLARLY & INDUSTRY REFERENCES

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[8] PIA Support. (2026). Explaining Advanced Kill Switch Rules. Retrieved from https://support.privateinternetaccess.com/

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[10] VPN.com. (2026). Private Internet Access Technical Review. Retrieved from https://www.vpn.com/vpn/pia/

Answer Key: Checkpoint 1 - Multiple Choice

1 Network Check 1 VPN PROTECTION — Correct Answer: A

TEACHING NOTE

What is the commercial name of Private Internet Access VPN?

Citation: IETF VPN RFC [Ref 3].

2 Network Check 2 VPN PROTECTION — Correct Answer: A

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

3 Network Check 3 VPN PROTECTION — Correct Answer: A

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

4 Network Check 4 VPN PROTECTION — Correct Answer: A

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

5 Network Check 5 VPN PROTECTION — Correct Answer: A

TEACHING NOTE

Which open-source protocol is default in newer PIA client apps?

Citation: IETF VPN RFC [Ref 3].

Answer Key: Checkpoint 2 - True or False

6 **Network Rule 1** VPN PROTECTION — Correct Answer: True

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

7 **Network Rule 2** VPN PROTECTION — Correct Answer: True

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

8 **Network Rule 3** VPN PROTECTION — Correct Answer: True

TEACHING NOTE

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

Citation: IETF VPN RFC [Ref 3].

9 **Network Rule 4** VPN PROTECTION — Correct Answer: False

TEACHING NOTE

PIA does not support manual port forwarding configurations.

Citation: IETF VPN RFC [Ref 3].

10 **Network Rule 5** VPN PROTECTION — Correct Answer: True

TEACHING NOTE

All PIA desktop client applications are completely open-source.

Citation: IETF VPN RFC [Ref 3].

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

A PIA VPN	B United States	C PIA MACE	D Unlimited
E WireGuard	F Court Proven	G Kill Switch	H Tunneling

CHECKPOINT 3: KEY TERM KEY

1 PIA VPN	2 United States	3 PIA MACE
4 Unlimited	5 WireGuard	6 Court Proven

DISCUSSION NOTES FOR INSTRUCTORS

Valuation Accuracy:
Verify that students understand how domain length, extension (.com, .ai), and commercial search volume drive appraisal pricing.

Escrow Security:
Emphasize that funds are held in licensed third-party holding accounts prior to domain WHOIS transfer verification.

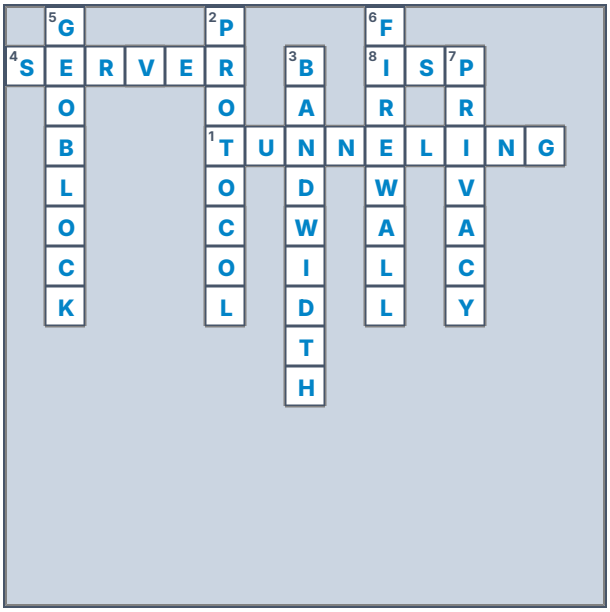
Stealth Representation:
Highlight the role of NDAs and third-party representation in preventing speculative price gouging during corporate procurement.

Puzzles Keys & Instructor Notes

WORD SEARCH SOLUTION

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

CROSSWORD SOLUTION



INSTRUCTOR GUIDE FOR CROSSWORD SOLUTIONS

ACROSS CLUES

1 Across: TUNNELING Process of wrapping data packets. (3,5)

4 Across: SERVER Remote computer routing traffic. (1,0)

8 Across: ISP Internet Service Provider. (1,9)

DOWN CLUES

2 Down: PROTOCOL Rules determining data transmission. (0,5)

3 Down: BANDWIDTH Rate of data transfer. (1,7)

5 Down: GEOBLOCK Location website restriction. (0,1)

6 Down: FIREWALL Security monitor barrier. (0,9)

7 Down: PRIVACY State of freedom from tracking. (1,11)

Scrambled Words & Cipher Solution Key

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

WORD UNSCRAMBLE KEY

1. IAVPNP
   PIAVPN

2. NITEDSTATESU
   UNITEDSTATES

3. IAMACEP
   PIAMACE

4. NLIMITEDU
   UNLIMITED

5. IREGUARDW
   WIREGUARD

6. OURTPROVENC
   COURTPROVEN

7. ILLSWITCHK
   KILLSWITCH

8. UNNELT
   TUNNEL

SECRET CIPHER CHALLENGE KEY

"PIA VPN PROTECTS USER SECURITY AND PRIVACY"

VPN & Network Case Studies Solution Key

A Case Study 1: Verifying Court-Proven Zero Log

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 Forwardir

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.