

Name: _____

Date: _____

Score: _____

Mullvad Review

Technical analysis of Swedish Mullvad VPN, account number anonymity, cash-by-mail payment processing, and diskless RAM-only volatile memory server architectures.

MULLVAD 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 Mullvad VPN. You will explore account number anonymity, Sweden jurisdiction, cash-by-mail payments, and diskless RAM-only servers.

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/mullvad/>

Your Mullvad Learning Roadmap

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

MULLVAD 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 RAM-Only server architectures and cash payments.

ACCOUNT ANONYMITY & SWEDISH DATA JURISDICTIONS (INTRODUCTION)

Mullvad is a privacy-first VPN that does not require an email to sign up, instead assigning a random 16-digit account number. It supports anonymous cash-by-mail payments and operates diskless RAM-only servers under Swedish jurisdiction.

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

Checkpoint 1: Multiple Choice Challenge

1 What unique identifier does Mullvad use for user account creation?

- ☐ A) 16-Digit Account Number
- ☐ B) Registered Email
- ☐ C) Phone Number
- ☐ D) Username and Password

2 In which country is Mullvad VPN headquartered and legislated?

- ☐ A) Sweden
- ☐ B) Switzerland
- ☐ C) Romania
- ☐ D) Iceland

3 Which system-wide server architecture does Mullvad enforce to prevent disk logs?

- ☐ A) RAM-Only Diskless Servers
- ☐ B) Encrypted HDD
- ☐ C) Virtual Cloud Servers
- ☐ D) Shared Local Hosts

4 What anonymous payment method does Mullvad support to protect billing identity?

- ☐ A) Cash by Mail
- ☐ B) Bank Wire
- ☐ C) Apple Pay
- ☐ D) PayPal

5 How many concurrent device connections are allowed under one Mullvad account?

- ☐ A) Five Devices
- ☐ B) Unlimited
- ☐ C) Ten Devices
- ☐ D) Two Devices

Checkpoint 2: True or False Challenge

6 Question 6

Mullvad does not collect or require any personal email addresses during signup.

☐ True ☐ False

7 Question 7

Mullvad operates completely under Sweden's data protection jurisdiction.

☐ True ☐ False

8 Question 8

Mullvad server hardware runs on local hard drives that log metadata history.

☐ True ☐ False

9 Question 9

Mullvad supports native custom port forwarding in its newest client updates.

☐ True ☐ False

10 Question 10

Mullvad has undergone independent physical security audits of its server infrastructure.

☐ 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. Mullvad registers accounts using a random _____ without emails.
2. The company operates out of Gothenburg, _____ complying with local laws.
3. To secure active memory, Mullvad utilizes custom _____ diskless servers.
4. Anonymous signup is protected by accepting physical _____ in envelopes by mail.
5. Mullvad enforces a strict audited _____ policy across all locations.
6. Outbound speeds are optimized by using default _____ tunnel configurations.

VOCABULARY WORD BANK

Account Number
No Logs

Sweden
WireGuard

RAM-Only
Kill Switch

Cash Payment
Tunneling

Write your answers here:

- | | | | |
|----|----------------------|----|----------------------|
| 1. | <input type="text"/> | 2. | <input type="text"/> |
| 3. | <input type="text"/> | 4. | <input type="text"/> |
| 5. | <input type="text"/> | 6. | <input type="text"/> |

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.

Account Number

F Modern high-speed open-source tunneling protocol.

Sweden

C Volatile memory server hardware storing zero disk logs.

RAM-Only

D Physical currency mailing option protecting billing identity.

Cash Payment

G Failsafe blocker cutting connection on drops.

No Logs

H Encapsulating packet payloads to cross networks.

WireGuard

E Strict policy validated by audits to store no session details.

Kill Switch

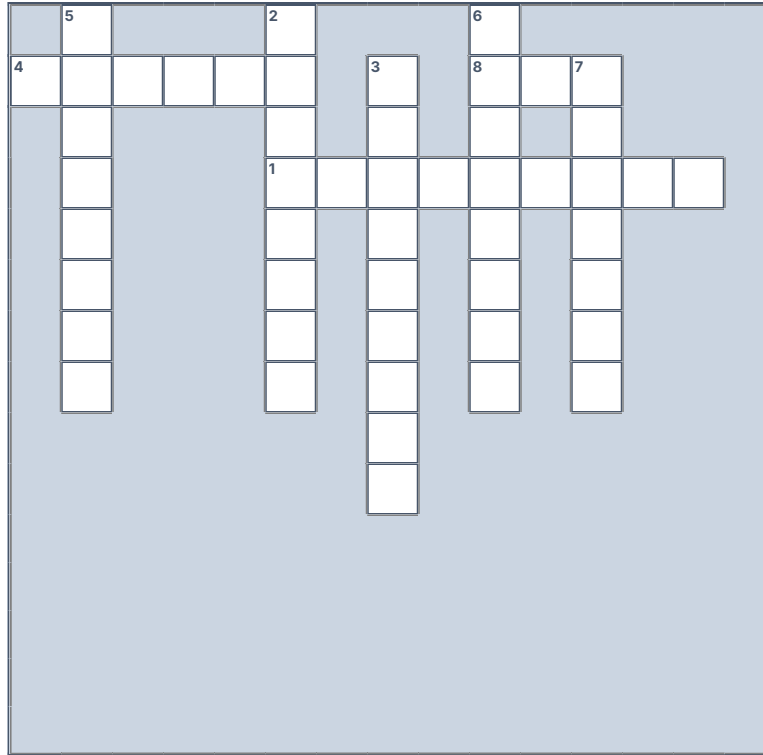
A Randomly generated digit string used for VPN logins.

Tunneling

B Scandinavian corporate jurisdiction and head office.

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: Login credential generated randomly. (14) (6 letters):

4 Across: Scandinavian corporate head office. (6) (6 letters):

5 Across: Volatile memory server deployment. (8) (7 letters):

7 Across: Mailing physical currency standard. (12) (11 letters):

DOWN CLUES

2 Down: Policy verified to save no data. (7) (6 letters):

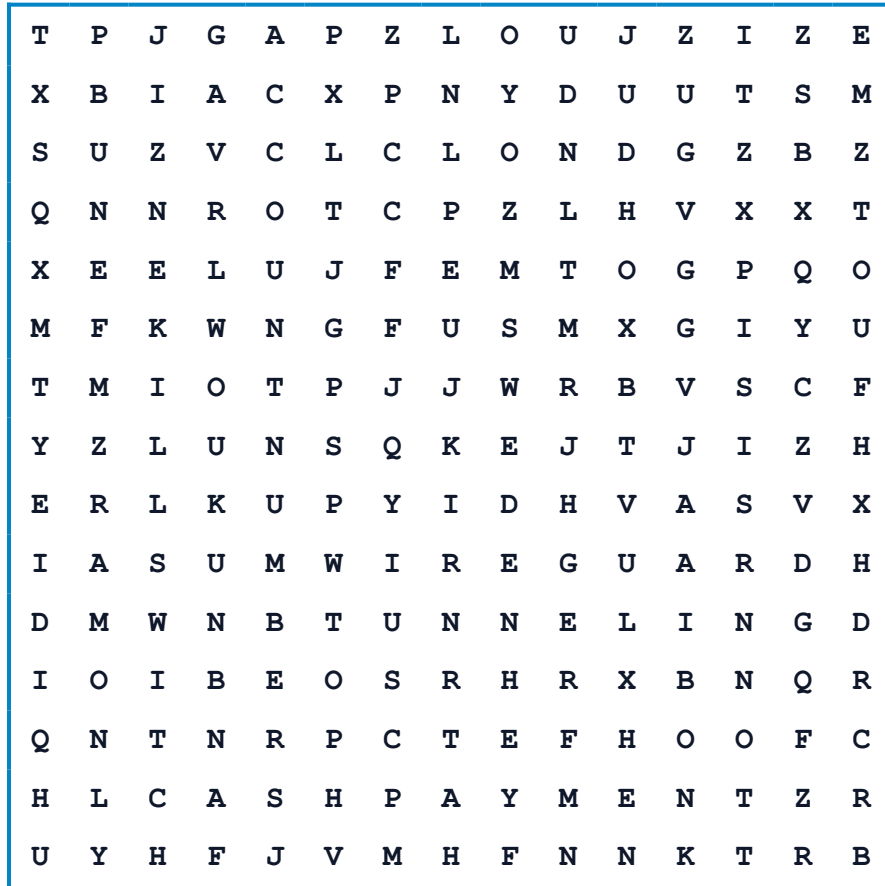
3 Down: Default fast connection protocol. (9) (9 letters):

6 Down: Traffic blocker fail-safe switch. (10) (10 letters):

8 Down: Encapsulating data payloads. (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.



VOCABULARY WORD LIST

Account Number
No Logs

Sweden
WireGuard

RAM-Only
Kill Switch

Cash Payment
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. Account Number
- B. Sweden
- C. RAM-Only
- D. Cash Payment
- E. No Logs
- F. WireGuard
- G. Kill Switch
- H. Tunneling

DEFINITIONS & MATCH FIELDS

- 1. Randomly generated digit string used for VPN logins.
- 2. Scandinavian corporate jurisdiction and head office.
- 3. Volatile memory server hardware storing zero disk logs.
- 4. Physical currency mailing option protecting billing identity.
- 5. Strict policy validated by audits to store no session details.
- 6. Modern high-speed open-source tunneling protocol.
- 7. Failsafe blocker cutting connection on 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. UMBERN

5. OLOGSN

2. WEDENS

6. IREGUARDW

3. AMONLYR

7. ILLSWITCHK

4. ASHPAYMENTC

8. UNNELT

Checkpoint 8: VPN & Network Case Studies

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



CASE STUDY 1: ANONYMITY IN ACCOUNT CREATION

Scenario: A journalist needs to establish a VPN account that cannot be traced back to their email or payment credentials in a hostile state.

Discussion Question: Detail how Mullvad's account generation and cash-by-mail payment systems protect user anonymity.



CASE STUDY 2: DISKLESS SERVER SEIZURE SCENARIO

Scenario: Local authorities attempt to seize a physical Mullvad server node to retrieve connection histories and user IP records.

Discussion Question: Explain why the hardware seizure yields no usable connection logs or data remnants.

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

13	21	12	12	22	1	4	5	14	6	15	18	3	5	19	1
19	20	18	9	3	20	26	5	18	15	12	15	7	19		
						16	15	12	9	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: How do I create a Mullvad account?

You generate a random 16-digit account number on Mullvad's website without providing any email or personal info.

Q2: Where is Mullvad VPN based?

Mullvad is headquartered in Gothenburg, Sweden, operating under Swedish jurisdiction.

Q3: Does Mullvad accept cash payments?

Yes, you can mail cash in an envelope with your account token to their Swedish office for anonymous funding.

Q4: How many devices can I connect?

You can connect up to 5 devices simultaneously on one Mullvad account.

Q5: Are Mullvad servers RAM-only?

Yes, Mullvad uses a diskless server infrastructure running entirely on volatile RAM to prevent data logging.

Checkpoint 10: Basic VPN FAQs (Part B)

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

Q6: Does Mullvad support WireGuard?

Yes, Mullvad was an early adopter and natively supports the WireGuard protocol across all servers.

Q7: Does it have a split tunneling feature?

Yes, its client apps support split tunneling on Windows, macOS, Android, and Linux.

Q8: What is Mullvad's pricing policy?

Mullvad has a flat-rate pricing of 5 EUR per month, which has remained unchanged since 2009.

Q9: Is there a kill switch?

Yes, Mullvad features an always-on, built-in system firewall that acts as a secure kill switch.

Q10: Does Mullvad keep connection logs?

No, Mullvad enforces a strict zero-logs policy, audited by independent third-party firms.

Checkpoint 11: Advanced VPN FAQs (Part A)

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

Q1: How does Swedish jurisdiction affect user privacy?

Sweden is a member of the 14 Eyes alliance, but local laws do not mandate VPN logging, meaning there is no data to hand over.

Q2: How does WireGuard key management work in Mullvad?

The client generates local public/private key pairs and dynamically registers the public key with the server during handshakes.

Q3: Why did Mullvad remove port forwarding support?

It was disabled to mitigate security risks, prevent malicious activity hosting, and protect the shared IP pool from abuse.

Q4: How are Mullvad's infrastructure audits conducted?

Security firms like Cure53 perform regular source code reviews and infrastructure penetration testing, publishing full reports.

Q5: Does Mullvad support Multi-Hop routing?

Yes, it supports Multi-Hop, allowing users to route traffic through two distinct entry and exit server locations.

Checkpoint 11: Advanced VPN FAQs (Part B)

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

Q6: How does Mullvad handle IPv6 DNS queries?

The client redirects all IPv6 traffic into the encrypted tunnel and uses its own private DNS resolvers to prevent leaks.

Q7: Does the app support bridge connection modes?

Yes, Mullvad can route OpenVPN traffic through Shadowsocks obfuscation bridges to bypass strict firewalls.

Q8: What happens to the server memory during a power drop?

Because servers are diskless and run on RAM, a power loss immediately destroys all session keys and routing data.

Q9: Are the Mullvad client applications reproducible?

Yes, Mullvad supports reproducible builds, allowing users to verify that compiled apps match the open-source code.

Q10: Does Mullvad include ad and tracker blocking?

Yes, the app has options to block ad networks, tracking scripts, and known malware domains.

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

Mullvad was founded in 2009 by Amagicom AB, making it one of the oldest privacy-focused VPN services.

2. VPN INSIGHT

The Gothenburg office was audited by Swedish police in 2023, but no customer data could be seized due to the zero-logs architecture.

3. VPN INSIGHT

Mullvad maintains its flat rate of 5 EUR per month in order to treat all users equally without upsells.

4. VPN INSIGHT

The provider owns several of its physical server nodes (co-located) while leasing others from trusted datacenters.

5. VPN INSIGHT

Mullvad has released a custom, open-source browser in partnership with the Tor Project, called Mullvad Browser.

6. VPN INSIGHT

Its server network includes over 650 active servers distributed across more than 40 countries worldwide.

7. VPN INSIGHT

Shadowsocks proxy bridges route packets through encrypted proxy ports before entering the main VPN tunnel.

8. VPN INSIGHT

Mullvad was one of the first VPN providers to implement a completely diskless server infrastructure.

9. VPN INSIGHT

The client uses kernel-level routing tables to ensure all traffic goes through the secure interface.

10. VPN INSIGHT

Payments made via Monero or Bitcoin receive a 10% discount due to lower processing overheads.

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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Answer Key: Checkpoint 1 - Multiple Choice

1 Network Check 1

VPN PROTECTION

Correct Answer: A

TEACHING NOTE

What unique identifier does Mullvad use for user account creation?

Citation: IETF VPN RFC [Ref 3].

2 Network Check 2

VPN PROTECTION

Correct Answer: A

TEACHING NOTE

In which country is Mullvad VPN headquartered and legislated?

Citation: IETF VPN RFC [Ref 3].

3 Network Check 3

VPN PROTECTION

Correct Answer: A

TEACHING NOTE

Which system-wide server architecture does Mullvad enforce to prevent disk logs?

Citation: IETF VPN RFC [Ref 3].

4 Network Check 4

VPN PROTECTION

Correct Answer: A

TEACHING NOTE

What anonymous payment method does Mullvad support to protect billing identity?

Citation: IETF VPN RFC [Ref 3].

5 Network Check 5

VPN PROTECTION

Correct Answer: A

TEACHING NOTE

How many concurrent device connections are allowed under one Mullvad account?

Citation: IETF VPN RFC [Ref 3].

Answer Key: Checkpoint 2 - True or False

6 Network Rule 1

VPN PROTECTION

Correct Answer: True

TEACHING NOTE

Mullvad does not collect or require any personal email addresses during signup.

Citation: IETF VPN RFC [Ref 3].

7 Network Rule 2

VPN PROTECTION

Correct Answer: True

TEACHING NOTE

Mullvad operates completely under Sweden's data protection jurisdiction.

Citation: IETF VPN RFC [Ref 3].

8 Network Rule 3

VPN PROTECTION

Correct Answer: False

TEACHING NOTE

Mullvad server hardware runs on local hard drives that log metadata history.

Citation: IETF VPN RFC [Ref 3].

9 Network Rule 4

VPN PROTECTION

Correct Answer: False

TEACHING NOTE

Mullvad supports native custom port forwarding in its newest client updates.

Citation: IETF VPN RFC [Ref 3].

10 Network Rule 5

VPN PROTECTION

Correct Answer: True

TEACHING NOTE

Mullvad has undergone independent physical security audits of its server infrastructure.

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 Account Number

B Sweden

C RAM-Only

D Cash Payment

E No Logs

F WireGuard

G Kill Switch

H Tunneling

CHECKPOINT 3: KEY TERM KEY

1 Account Number

2 Sweden

3 RAM-Only

4 Cash Payment

5 No Logs

6 WireGuard

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

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

CROSSWORD SOLUTION

[illegible]

INSTRUCTOR GUIDE FOR CROSSWORD SOLUTIONS

ACROSS CLUES

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

4 Across: **SERVER** Remote computer routing traffic.

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.

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. UMBERN

NUMBER

5. OLOGSN

NOLOGS

2. WEDENS

SWEDEN

6. IREGUARDW

WIREGUARD

3. AMONLYR

RAMONLY

7. ILLSWITCHK

KILLSWITCH

4. ASHPAYMENTC

CASHPAYMENT

8. UNNELT

TUNNEL

SECRET CIPHER CHALLENGE KEY

"MULLVAD ENFORCES A STRICT ZERO LOGS POLICY"

VPN & Network Case Studies Solution Key

A Case Study 1: Anonymity in Account Creatio

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** A journalist needs to establish a VPN account that cannot be traced back to their email or payment credentials in a hostile state.
- **Recommended Strategy & Solution:** Grading Guidance: Explain that generating a 16-digit account ID removes all personal identity, and mailing cash removes electronic billing traces.

B Case Study 2: Diskless Server Seizure Scenar

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** Local authorities attempt to seize a physical Mullvad server node to retrieve connection histories and user IP records.
- **Recommended Strategy & Solution:** Grading Guidance: Explain that Mullvad's RAM-only servers store no configurations or logs on disk, so pulling power instantly wipes all volatile memory.