

Name: _____

Date: _____

Score: _____

Best VPN for Windows

Windows VPN speed and feature analysis based on hands-on testing.

BEST VPN FOR WINDOWS 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 aspects of Windows VPN configurations. You will explore built-in Windows protocols, Always On VPN setups, Name Resolution Policy Tables, split tunneling, and RAS gateway endpoints.

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/best-vpn-for-windows/>

Your Windows VPN Learning Roadmap

- Identify top Windows VPN providers and their specific rankings.
- Analyze platform-specific features like Threat Protection and Privacy Guard.
- Explain hardware compatibility issues for ARM64 and telemetry controls.

WINDOWS VPN GUIDE 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 Windows VPN scenarios in the case study section.

WINDOWS VPN CONNECTIVITY & SECURITY (INTRODUCTION)

Configuring enterprise VPN access on Windows requires understanding native protocols (like SSTP and IKEv2), configuring Always On VPN triggers, managing split tunneling policies, and validating registry entries.

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

Checkpoint 1: Multiple Choice Challenge

1 Which VPN features a 45-day refund window and Privacy Guard?

- ☐ A. CyberGhost
- ☐ B. ExpressVPN
- ☐ C. NordVPN
- ☐ D. Proton VPN

2 What does NordVPN's Threat Protection Pro scan for?

- ☐ A. File-download malware
- ☐ B. Display resolution
- ☐ C. CPU temperatures
- ☐ D. Disk partitioning

3 Which Windows installer runs sandboxed and auto-updates?

- ☐ A. Microsoft Store app
- ☐ B. Standard EXE file
- ☐ C. MSI command line
- ☐ D. Portable zip archive

4 What is the advantage of Private Internet Access on Windows?

- ☐ A. Fully open-source app
- ☐ B. Proprietary protocols
- ☐ C. Dedicated media player
- ☐ D. Smart DNS setup

5 What processor architecture requires native VPN client builds?

- ☐ A. ARM64 processor
- ☐ B. Intel x86 chip
- ☐ C. AMD x64 chip
- ☐ D. RISC V platform

Checkpoint 2: True or False Challenge

6 Question 6

CyberGhost's Privacy Guard disables telemetry services in one click.

☐ True ☐ False

7 Question 7

Proton VPN features Secure Core routing via Switzerland and Iceland.

☐ True ☐ False

8 Question 8

Running emulated x86 VPN clients on ARM64 hardware saves battery life.

☐ True ☐ False

9 Question 9

Private Internet Access lacks native port forwarding on Windows.

☐ True ☐ False

10 Question 10

NordVPN's Threat Protection Pro blocked an EICAR test file.

☐ 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 high-speed protocol developed by NordVPN is _____.
2. Background data sent to Microsoft by default is _____.
3. NordVPN's Threat Protection Pro scans downloads for _____.
4. Routing traffic to self-hosted services on Windows uses _____.
5. Surface Pro and Copilot+ PCs use ARM as their main _____.
6. PIA and Proton VPN feature clients that are completely _____.

VOCABULARY WORD BANK

NORDLYNX
PROCESSOR

TELEMETRY
OPENSOURCE

MALWARE
LIGHTWAY

FORWARDING
FEEDBACK

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: Domain 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.

NORDLYNX

E Surface Pro CPU architecture.

TELEMETRY

C Threat Protection target.

MALWARE

H Windows feedback setting.

FORWARDING

B Background data collection.

PROCESSOR

F PIA and Proton client design.

OPENSOURCE

G ExpressVPN custom protocol.

LIGHTWAY

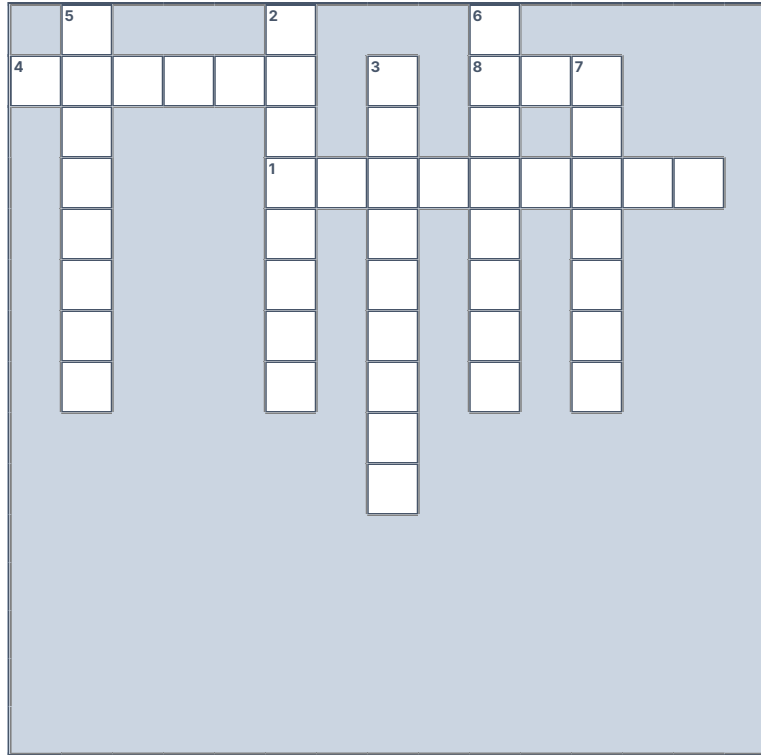
D Self-hosted service routing.

FEEDBACK

A NordVPN speed protocol.

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: High speed WireGuard based protocol by NordVPN. (8 letters):

3 Across: Harmful software target scanned by Threat Protection Pro. (7 letters):

5 Across: ARM hardware core powering Copilot+ laptops. (9 letters):

7 Across: Custom protocol with Lightway Turbo by ExpressVPN. (8 letters):

DOWN CLUES

2 Down: Diagnostic usage details sent to Microsoft by default. (9 letters):

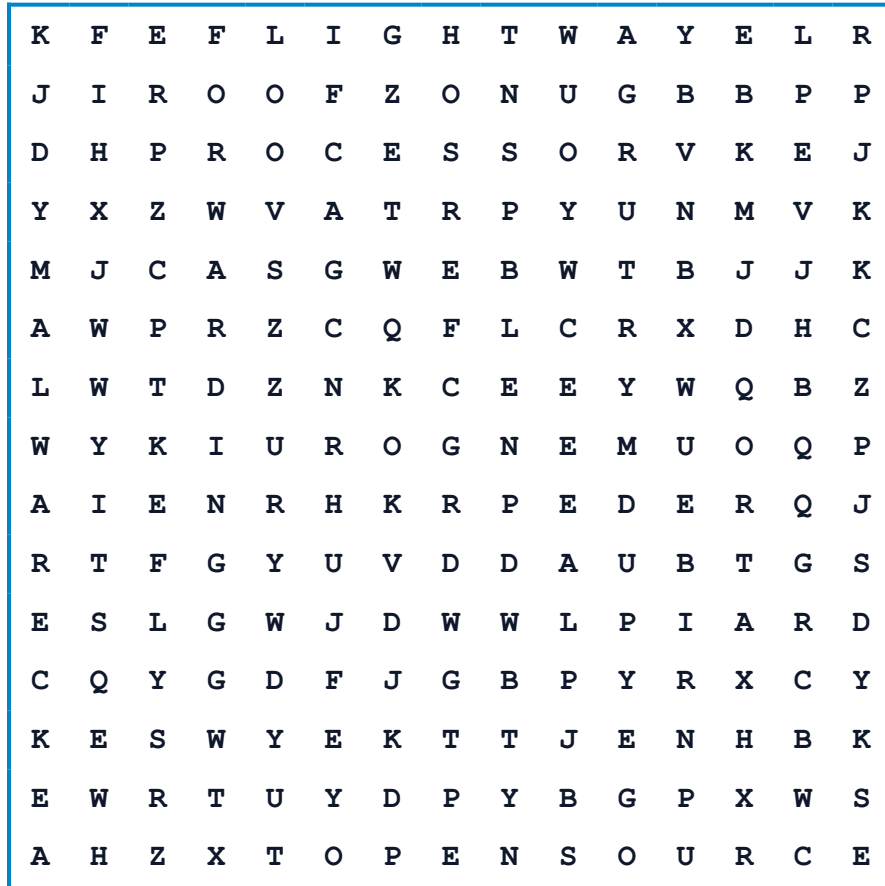
4 Down: Port setting used by PIA for faster torrent seeding. (10 letters):

6 Down: Publicly viewable client code utilized by Proton VPN. (10 letters):

8 Down: Diagnostics category disabled via Privacy Guard. (8 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

NORDLYNX
PROCESSOR

TELEMETRY
OPENSOURCE

MALWARE
LIGHTWAY

FORWARDING
FEEDBACK

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. NORDLYNX
- B. TELEMETRY
- C. MALWARE
- D. FORWARDING
- E. PROCESSOR
- F. OPENSOURCE
- G. LIGHTWAY
- H. FEEDBACK

DEFINITIONS & MATCH FIELDS

- 1. HTTPS 443 protocol.
- 2. Automatic VPN feature.
- 3. Bypassing specific traffic.
- 4. Configuration store database.
- 5. Fast reconnect tunnel protocol.
- 6. Drive encryption utility.
- 7. Legacy system compliance.
- 8. Authentication remote node.

Checkpoint 7: Scrambled Word Challenge

Unscramble the letters below to reveal key domain brokerage concepts and terms. Write your answers in the input boxes provided.

1. X Y N L D R O N

5. R O S S E C O R P

2. Y R T E M E L E T

6. E C R U O S N E P O

3. E R A W L A M

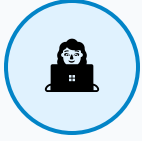
7. Y A W T H G I L

4. G N I D R A W R O F

8. K C A B D E E F

Checkpoint 8: Domain Brokerage Case Studies

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



CASE STUDY 1: WINDOWS TELEMETRY PRIVACY AUDITS

Scenario: A financial compliance audit reveals Windows 11 enterprise clients are uploading background diagnostics reports containing app usage metadata over active network connections.

Discussion Question: Propose a configuration setting to block active telemetry transmission.



CASE STUDY 2: NATIVE ARM64 CLIENT EMULATION LOSSES

Scenario: An organization deploys an x86 emulated VPN client on new Surface Pro Copilot+ PCs. Users report short battery runtime and high CPU consumption.

Discussion Question: Identify the cause and specify the required client application standard.

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

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 does a VPN protect Windows beyond encryption?

By adding platform-specific features like malware scanning, telemetry blocking, and native ARM64 support.

Q2: What does NordVPN's Threat Protection Pro scan?

It scans downloaded files for active malware before they execute on the system.

Q3: What is Windows telemetry?

Background usage and diagnostics data sent to Microsoft by default.

Q4: Why is native ARM64 support important?

Emulating x86 client apps on ARM processors drains battery and degrades performance.

Q5: Which VPN features open-source Windows clients?

Proton VPN and Private Internet Access (PIA) both offer open-source code.

Checkpoint 10: Basic VPN FAQs (Part B)

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

Q6: What does CyberGhost's Privacy Guard do?

It disables background Windows telemetry and diagnostics services in one click.

Q7: Why use port forwarding on Windows?

It allows routing connections to self-hosted local services or torrent clients.

Q8: Where is split tunneling useful on Windows?

It allows routing specific app traffic through the VPN while other apps bypass it.

Q9: What is ExpressVPN's custom Windows protocol?

Lightway, built for high throughput and rapid network switching.

Q10: How do you verify IP leaks on Windows?

Check both your public IP and DNS settings at ipleak.net after connecting.

Checkpoint 11: Advanced VPN FAQs (Part A)

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

Q1: What is the benefit of open-source clients?

They allow independent code audits to verify zero-logs privacy claims.

Q2: How does a kill switch protect Windows?

It blocks internet access automatically if the VPN connection drops.

Q3: Can you install VPNs from the Microsoft Store?

Yes, ExpressVPN and others offer Store packages that run sandboxed.

Q4: How does Secure Core routing work?

It routes traffic through privacy-friendly nations before passing to the destination.

Q5: What is the longest money-back guarantee?

CyberGhost offers a 45-day refund window, longer than most competitors.

Checkpoint 11: Advanced VPN FAQs (Part B)

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

Q6: What is the NetShield feature?

Proton VPN's built-in ad, tracker, and malware blocker.

Q7: Why is PPTP insecure for Windows?

It has known cryptographic vulnerabilities and is easily cracked.

Q8: What is NordLynx built on?

The modern WireGuard protocol, optimized for high speeds.

Q9: How do you disable Windows telemetry manually?

Go to Privacy and Security settings and turn off Diagnostics and Feedback.

Q10: What is the EICAR test file?

A standard safe file used to benchmark antivirus and malware scanners.

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

Over 83% of malware targets Windows desktops specifically, demanding client-side scan security.

2. VPN INSIGHT

NordVPN ranks #1 of 22 in our Speed Lab with its custom NordLynx protocol throughput.

3. VPN INSIGHT

Surface Pro and Copilot+ PCs run on ARM architectures, which need native ARM64 software.

4. VPN INSIGHT

ExpressVPN installs from the Microsoft Store for automated, sandboxed app updates.

5. VPN INSIGHT

Private Internet Access is the only mainstream pick with a fully open-source Windows app.

6. VPN INSIGHT

PIA's SOCKS5 proxy completed a 20 GB download in 8 minutes versus 12 minutes over standard tunnels.

7. VPN INSIGHT

CyberGhost's Privacy Guard disables background telemetry collection settings in a single click.

8. VPN INSIGHT

CyberGhost features over 11,690 servers and a 45-day refund window, the longest tested.

9. VPN INSIGHT

Proton VPN client features secure Core routing through Switzerland or Iceland exit locations.

10. VPN INSIGHT

Retaining diagnostic reporting on Windows can bypass active VPN tunnels to reveal telemetry.

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 Refund Period

CYBERGHOST

Correct Answer: A

TEACHING NOTE

CyberGhost features over 11,690 servers and a 45-day refund window, the longest tested.

Citation: MS Always On VPN [Ref 8].

2 Malware Scanning

NORDVPN

Correct Answer: A

TEACHING NOTE

NordVPN's Threat Protection Pro scans downloaded files for active malware before execution.

Citation: MS VPN Guide [Ref 2].

3 App Sandbox

STORE APP

Correct Answer: A

TEACHING NOTE

Windows Store packages install sandboxed and leverage automated background updates.

Citation: IETF RFC 7296 [Ref 4].

4 Code Audits

OPEN-SOURCE

Correct Answer: A

TEACHING NOTE

Private Internet Access (PIA) and Proton VPN offer completely open-source client apps.

Citation: MS VPNv2 CSP [Ref 6].

5 ARM Architecture

ARM64 CORE

Correct Answer: A

TEACHING NOTE

Surface Pro and Copilot+ PCs require native ARM64 VPN builds to prevent performance loss.

Citation: NIST SP 800-77 [Ref 7].

Answer Key: Checkpoint 2 - True or False

6 Privacy Settings

PRIVACY GUARD

Correct Answer: True

TEACHING NOTE

CyberGhost's Privacy Guard disables Windows telemetry and feedback services in one click.

Citation: MS Always On VPN [Ref 8].

7 Exit Routing

SECURE CORE

Correct Answer: True

TEACHING NOTE

Proton VPN routes user connections through secure core hubs in Switzerland or Iceland.

Citation: MS VPN Guide [Ref 2].

8 Emulation Cost

ARM OVERHEAD

Correct Answer: False

TEACHING NOTE

Running emulated x86 VPN clients on ARM64 processors drains battery and degrades speed.

Citation: NIST SP 800-77 [Ref 7].

9 Seeding Speeds

PORT FORWARDING

Correct Answer: False

TEACHING NOTE

PIA supports native port forwarding on Windows, allowing connections to local services.

Citation: MS VPNv2 CSP [Ref 6].

10 Threat Detection

EICAR TEST

Correct Answer: True

TEACHING NOTE

NordVPN's Threat Protection Pro successfully detects and blocks standard EICAR test files.

Citation: IETF RFC 7296 [Ref 4].

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 NORDLYNX

B TELEMETRY

C MALWARE

D FORWARDING

E PROCESSOR

F OPENSOURCE

G LIGHTWAY

H FEEDBACK

CHECKPOINT 3: KEY TERM KEY

1 NORDLYNX

2 TELEMETRY

3 MALWARE

4 FORWARDING

5 PROCESSOR

6 OPENSOURCE

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

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

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. X Y N L D R O N

NORDLYNX

5. R O S S E C O R P

PROCESSOR

2. Y R T E M E L E T

TELEMETRY

6. E C R U O S N E P O

OPENSOURCE

3. E R A W L A M

MALWARE

7. Y A W T H G I L

LIGHTWAY

4. G N I D R A W R O F

FORWARDING

8. K C A B D E E F

FEEDBACK

SECRET CIPHER CHALLENGE KEY

**"ALWAYS ON VPN PROVIDES SECURE CLIENT
CONNECTIVITY"**

Domain Brokerage Case Studies Solution Key

A Case Study 1: Windows Telemetry Privacy Audits

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** A financial compliance audit reveals Windows 11 enterprise clients are uploading background diagnostics reports containing app usage metadata over active network connections.
- **Recommended Strategy & Solution:** Deploy Group Policy Objects or utilize CyberGhost's Privacy Guard feature to disable background telemetry and diagnostics collection services completely.

B Case Study 2: Native ARM64 Client Emulation Losses

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** An organization deploys an x86 emulated VPN client on new Surface Pro Copilot+ PCs. Users report short battery runtime and high CPU consumption.
- **Recommended Strategy & Solution:** The emulated x86 software causes high processor overhead. Replace the client with a native ARM64 VPN build to optimize hardware speed and conserve battery.