

Name: _____

Date: _____

Score: _____

Enterprise VPN

Implementing Zero Trust network access, dedicated gateway nodes, and centralized corporate admin controls.

ENTERPRISE VPN NETWORKS 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 enterprise VPN networks. You will explore Zero Trust architectures, dedicated static IP gateways, administrator consoles, provisioning, and site-to-site IPsec tunnels.

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-business-enterprise/>

Your Enterprise VPN Network Learning Roadmap

- Implement Zero Trust Network Access (ZTNA) frameworks.
- Configure dedicated server gateway IP addresses for whitelist filters.
- Manage centralized corporate admin panels and user seat lists.
- Audit network access logs and user connection histories.
- Configure Single Sign-On (SSO) and multi-factor authentication rules.

ENTERPRISE VPN NETWORKS 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 Zero Trust and site-to-site IPsec.

ZERO TRUST ARCHITECTURES & DEDICATED GATEWAYS (INTRODUCTION)

Enterprise VPNs secure corporate assets by transitioning to Zero Trust Network Access (ZTNA) frameworks and whitelisting dedicated static IP gateways. IT managers utilize centralized admin consoles to orchestrate site-to-site IPsec tunnels and single sign-on (SSO) links.

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

Checkpoint 1: Multiple Choice Challenge

1 What security model is replacing legacy enterprise VPNs?

- ☐ A) Zero Trust
- ☐ B) Multi-hop
- ☐ C) Peer-to-peer
- ☐ D) Single gateway

2 What feature is required to restrict database access to company servers?

- ☐ A) Dedicated IP
- ☐ B) Dynamic routing
- ☐ C) Split tunnel
- ☐ D) DNS proxy

3 Which protocol is the standard for corporate site-to-site tunnels?

- ☐ A) IPsec
- ☐ B) PPTP
- ☐ C) SOCKS5
- ☐ D) SSL v3

4 What central tool allows administrators to manage employee seats?

- ☐ A) Admin console
- ☐ B) Registry key
- ☐ C) Router firmware
- ☐ D) System log

5 What authentication standard allows logging in via Okta or Azure AD?

- ☐ A) Single Sign-On
- ☐ B) Shared secret
- ☐ C) EPP authentication
- ☐ D) WEP key

Checkpoint 2: True or False Challenge

6 Question 6

Zero Trust Network Access grants network entry only after verifying continuous device trust.

☐

True

☐

False

7 Question 7

Dedicated IP gateways route employee traffic alongside random public consumer users.

☐

True

☐

False

8 Question 8

Centralized admin consoles allow IT managers to instantly revoke individual employee seats.

☐

True

☐

False

9 Question 9

IPsec is a lightweight protocol that does not support site-to-site network tunnels.

☐

True

☐

False

10 Question 10

Single Sign-On enables secure employee authentication using corporate identity providers.

☐

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. Modern security architectures replace legacy tunnels with _____ access. _____ access.
2. To restrict database access, companies configure a _____ gateway address. _____ gateway address.
3. Branch offices are connected securely using site-to-site _____ tunnels. _____ tunnels.
4. IT administrators allocate employee user licenses inside the central _____. _____.
5. Okta integration allows employees to authenticate via corporate _____. _____.
6. To protect logins, enterprise portals mandate _____ authentication. _____ authentication.

VOCABULARY WORD BANK

ZEROTRUST
SINGLESIGNON

DEDICATEDIP
MULTIFACTOR

IPSEC
GATEWAY

ADMINCONSOLE
PROVISION

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.

ZEROTRUST

B Static whitelist gateway address.

DEDICATEDIP

D Central IT manager seat portal.

IPSEC

F Login security requiring extra tokens.

ADMINCONSOLE

G Network entrance routing node.

SINGLESIGNON

H Allocating employee VPN access licenses.

MULTIFACTOR

A Continuous trust verification framework.

GATEWAY

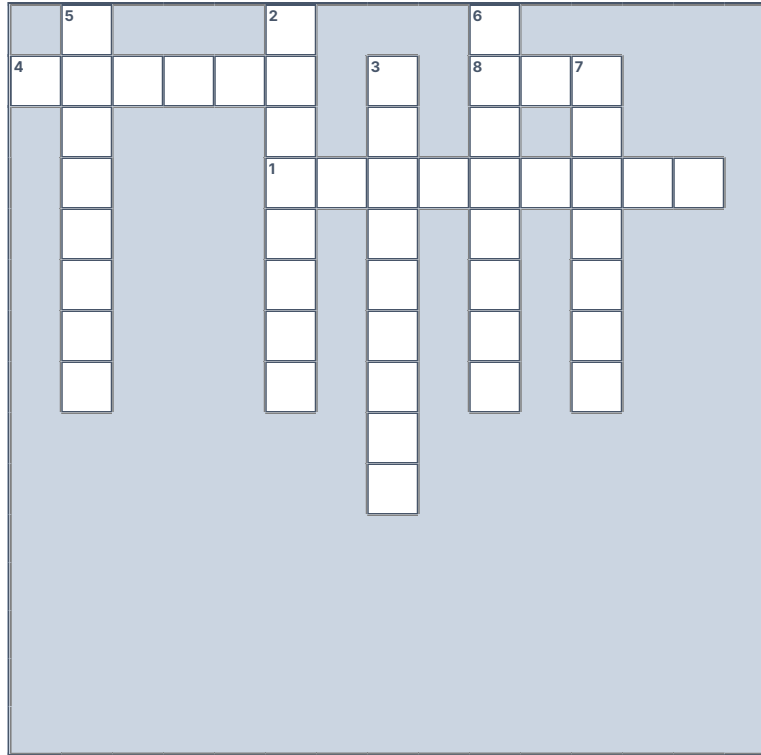
E Okta and Azure AD identity link.

PROVISION

C Site-to-site tunnel standard.

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: Continuous trust verification framework. (9 letters):

3 Across: Site-to-site tunnel standard. (5 letters):

5 Across: Okta and Azure AD identity link. (12 letters):

7 Across: Network entrance routing node. (7 letters):

DOWN CLUES

2 Down: Static whitelist gateway address. (11 letters):

4 Down: Central IT manager seat portal. (12 letters):

6 Down: Login security requiring extra tokens. (11 letters):

8 Down: Allocating employee VPN access licenses. (9 letters):

Checkpoint 6: Hidden Word Search

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

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

VOCABULARY WORD LIST

ZEROTRUST
SINGLESIGNON

DEDICATEDIP
MULTIFACTOR

IPSEC
GATEWAY

ADMINCONSOLE
PROVISION

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. ZEROTRUST
- B. DEDICATEDIP
- C. IPSEC
- D. ADMINCONSOLE
- E. SINGLESIGNON
- F. MULTIFACTOR
- G. GATEWAY
- H. PROVISION

DEFINITIONS & MATCH FIELDS

- 1. Continuous trust verification framework.
- 2. Static whitelist gateway address.
- 3. Site-to-site tunnel standard.
- 4. Central IT manager seat portal.
- 5. Okta and Azure AD identity link.
- 6. Login security requiring extra tokens.
- 7. Network entrance routing node.
- 8. Allocating employee VPN access licenses.

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. RUSTEZROT

5. SGNSLININGOE

2. CDATEEDIDIP

6. LUMFAITCTRO

3. CIPSE

7. EWYGATA

4. MDCASNELONIA

8. ONVOSRPVI

Checkpoint 8: Domain Brokerage Case Studies

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



CASE STUDY 1: ZERO TRUST MIGRATION

Scenario: An enterprise wants to secure their local servers by verifying device compliance certificates, firewall status, and user location continuously rather than trusting anyone inside the network.

Discussion Question: What framework should the IT security director implement to achieve this?



CASE STUDY 2: GATEWAY RESTRICTION

Scenario: A company hosts private financial databases in the cloud. They want to block all public internet access to the admin panels, allowing logins only from verified company endpoints.

Discussion Question: What network configuration should the database administrator set up on the cloud firewall?

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: What is an enterprise VPN?

A secure network tunnel designed for businesses, allowing remote workers to access corporate networks with centralized management.

Q2: How does Zero Trust differ from traditional VPNs?

Traditional VPNs trust anyone inside the tunnel, while Zero Trust continuously verifies every device and user connection.

Q3: What is a Dedicated IP in business VPNs?

A static IP address reserved solely for your business, allowing you to whitelist it for secure cloud database access.

Q4: Why is SSO important for business VPNs?

Single Sign-On allows employees to use their corporate credentials (like Okta or Azure AD) to log in securely.

Q5: What is a site-to-site VPN?

A tunnel connecting two physical offices (like a branch office and headquarters) over the public internet using IPsec.

Checkpoint 10: Basic VPN FAQs (Part B)

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

Q6: What is an admin console's function?

A dashboard for IT administrators to add or remove employee seats, assign gateways, and monitor active connections.

Q7: How does MFA secure business VPNs?

By requiring a secondary code (like an authenticator app token) to prevent unauthorized entry from compromised passwords.

Q8: Can I audit employee connection history?

Yes, enterprise VPNs log connection timestamps, duration, and assigned IPs for compliance auditing.

Q9: What is ZTNA?

Zero Trust Network Access, a security model that grants access only to specific applications rather than the entire network.

Q10: What is the role of gateway nodes?

They serve as secure entrance points for remote traffic, routing data directly to private corporate servers.

Checkpoint 11: Advanced VPN FAQs (Part A)

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

Q1: How does IPsec protect site-to-site corporate communications?

IPsec encrypts traffic at the network layer using Encapsulating Security Payload (ESP) to ensure data confidentiality and integrity.

Q2: Why is legacy perimeter-based security failing for remote workforces?

Because employees access data from multiple locations and devices, making a single network firewall perimeter obsolete.

Q3: How do IT managers implement automated provisioning?

By mapping SCIM protocols between identity providers (Okta) and the VPN admin console to synchronize user directories.

Q4: What is the benefit of split tunneling in corporate environments?

It routes local SaaS traffic (like Office 365) outside the VPN tunnel, preserving corporate gateway bandwidth for private databases.

Q5: How do device posture checks validate endpoint security?

The VPN client scans the device before connecting to verify that the firewall is active, antivirus is running, and OS patches are current.

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 role of NAT traversal in business VPN setups?

NAT-T encapsulates IPsec packets in UDP to allow them to pass through home routers and firewalls without connection drops.

Q7: How do businesses prevent gateway bandwidth choke?

By deploying multiple regional gateway nodes and balancing incoming user traffic across them using load balancers.

Q8: Why are static IP whitelists preferred over dynamic ones?

Static whitelists prevent unauthorized external IPs from attempting connection handshakes, dramatically reducing the attack surface.

Q9: What is the role of certificate-based authentication in enterprise VPNs?

It validates unique digital certificates installed on company-managed devices, blocking unmanaged personal computers.

Q10: How does ZTNA reduce lateral movement risk?

By isolating user sessions to specific authorized resources, preventing hackers from traversing the network if one node is breached.

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

Zero Trust architectures continuously verify the security state of every device attempting a network connection.

2. VPN INSIGHT

Dedicated IP gateways allow businesses to lock down cloud databases by whitelisting static addresses.

3. VPN INSIGHT

IPsec is the industry standard protocol for configuring secure site-to-site office network tunnels.

4. VPN INSIGHT

Admin consoles allow IT departments to provision, manage, and audit employee VPN access seats.

5. VPN INSIGHT

Single Sign-On integrates VPN access with corporate identity providers like Okta and Azure AD.

6. VPN INSIGHT

Multi-factor authentication blocks unauthorized connection attempts originating from stolen password keys.

7. VPN INSIGHT

Split tunneling optimizes corporate bandwidth by excluding public SaaS traffic from the encrypted tunnel.

8. VPN INSIGHT

Device posture checks verify local security settings before granting access to corporate servers.

9. VPN INSIGHT

SCIM directory synchronization automates employee onboarding and offboarding access controls.

10. VPN INSIGHT

Zero Trust Network Access limits user access to specific authorized applications, preventing lateral network movement.

Technical References & Sources

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

SCHOLARLY & INDUSTRY REFERENCES

- [1] NIST Special Publication 800-207: Zero Trust Architecture. Retrieved from <https://csrc.nist.gov/>
- [2] CISA Enterprise Infrastructure Security Guidelines. Retrieved from <https://www.cisa.gov/>
- [3] IPsec Tunneling Protocol Standards and RFCs. Retrieved from <https://datatracker.ietf.org/>
- [4] Okta Enterprise Identity and SSO Integration. Retrieved from <https://www.okta.com/>
- [5] Zero Trust Network Access (ZTNA) Deployment Guide. Retrieved from <https://www.vpn.com/ztna/>
- [6] Dedicated IP Allocation and Whitelist Management. Retrieved from <https://www.cloudflare.com/>
- [7] Multi-Factor Authentication (MFA) Policy Configuration. Retrieved from <https://owasp.org/>
- [8] CISA Telework Security and Remote Access Guides. Retrieved from <https://www.cisa.gov/>
- [9] Enterprise VPN Cost Analysis and ROI Metrics. Retrieved from <https://www.vpn.com/business/>
- [10] NIST Guidelines for Securing Remote Access Systems. Retrieved from <https://csrc.nist.gov/>

Answer Key: Checkpoint 1 - Multiple Choice

1 Zero Trust

ZTNA MODEL

Correct Answer: A

TEACHING NOTE

Zero Trust models verify device compliance continuously before network entry.

Citation: NIST Zero Trust [Ref 1].

2 Dedicated IP

STATIC IP

Correct Answer: A

TEACHING NOTE

Dedicated IP addresses allow whitelisting gateways to block public traffic.

Citation: Dedicated IP Guide [Ref 6].

3 IPsec Standard

IPSEC TUNNEL

Correct Answer: A

TEACHING NOTE

IPsec is the standard protocol used for branch site-to-site tunnels.

Citation: IPsec Tunneling [Ref 3].

4 IT Allocation

ADMIN CONSOLE

Correct Answer: A

TEACHING NOTE

Centralized admin dashboards allow IT managers to allocate seat licenses.

Citation: CISA Guidelines [Ref 2].

5 Okta SSO Link

SINGLE SIGN-ON

Correct Answer: A

TEACHING NOTE

Single Sign-On integrates VPN logins with corporate directories like Okta.

Citation: Okta SSO [Ref 4].

Answer Key: Checkpoint 2 - True or False

6 Zero Trust

ZTNA CHECKS

Correct Answer: True

TEACHING NOTE

Zero Trust models verify device compliance continuously before network entry.

Citation: NIST Zero Trust [Ref 1].

7 Dedicated IP

WHITELIST STATIC

Correct Answer: False

TEACHING NOTE

Dedicated IP addresses allow whitelisting gateways to block public traffic.

Citation: Dedicated IP Guide [Ref 6].

8 IPsec Standard

SITE-TO-SITE

Correct Answer: True

TEACHING NOTE

IPsec is the standard protocol used for branch site-to-site tunnels.

Citation: IPsec Tunneling [Ref 3].

9 IT Allocation

IT ADMIN SEAT

Correct Answer: False

TEACHING NOTE

Centralized admin dashboards allow IT managers to allocate seat licenses.

Citation: CISA Guidelines [Ref 2].

10 Okta SSO Link

SSO LOGIN

Correct Answer: True

TEACHING NOTE

Single Sign-On integrates VPN logins with corporate directories like Okta.

Citation: Okta SSO [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 ZEROTRUST

B DEDICATEDIP

C IPSEC

D ADMINCONSOLE

E SINGLESIGNON

F MULTIFACTOR

G GATEWAY

H PROVISION

CHECKPOINT 3: KEY TERM KEY

1 ZEROTRUST

2 DEDICATEDIP

3 IPSEC

4 ADMINCONSOLE

5 SINGLESIGNON

6 MULTIFACTOR

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

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

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. RUSTEZROT

ZEROTRUST

5. SGNSLININGOE

SINGLESIGNON

2. CDATEEDIDIP

DEDICATEDIP

6. LUMFAITCTRO

MULTIFACTOR

3. CIPSE

IPSEC

7. EWYGATA

GATEWAY

4. MDCASNELONIA

ADMINCONSOLE

8. ONVOSRPVI

PROVISION

SECRET CIPHER CHALLENGE KEY

"ZERO TRUST VERIFIES EVERY DEVICE CONNECTING TO NETWORK"

VPN & Network Case Studies Solution Key

A Case Study 1: Zero Trust Migration

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** An enterprise wants to secure their local servers by verifying device compliance certificates, firewall status, and user location continuously rather than trusting anyone inside the network.
- **Recommended Strategy & Solution:** The director should migrate to a Zero Trust Network Access (ZTNA) model, which enforces continuous context-based security checks.

B Case Study 2: Gateway Restriction

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** A company hosts private financial databases in the cloud. They want to block all public internet access to the admin panels, allowing logins only from verified company endpoints.
- **Recommended Strategy & Solution:** The administrator should configure a Dedicated IP gateway on the enterprise VPN and whitelist this static address on the cloud database firewall.