

Name: _____

Date: _____

Score: _____

Best VPN for openSUSE

Deploying secure VPN connections and RPM packages on openSUSE systems.

OPENSUSE LINUX VPN SETUPS 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 openSUSE Linux VPN configurations. You will explore YaST administration panels, zypper package managers, RPM binaries, and FirewallD routing zones.

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-linux-opensuse/>

Your openSUSE Linux VPN Learning Roadmap

- Configure secure VPN connections using command-line interface utilities.
- Build firewall rules to prevent unencrypted public traffic leaks.
- Diagnose DNS resolution conflicts and enforce secure nameservers.

OPENSUSE LINUX VPN SETUPS 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 YaST utilities, zypper command options, and FirewallD rules.

YAST ADMINISTRATION PANEL & RPM PACKAGE COMPILATION (INTRODUCTION)

Deploying VPN software on openSUSE systems requires using the zypper package manager, configuring NetworkManager profiles graphically in YaST, and managing FirewallD zone parameters to route encrypted traffic.

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

Checkpoint 1: Multiple Choice Challenge

1 Which system administration tool is unique to openSUSE for configuring VPNs?

- ☐ A. YaST
- ☐ B. Synaptic
- ☐ C. dnf-dragora
- ☐ D. Cockpit

2 What is openSUSE's command-line package manager?

- ☐ A. apt
- ☐ B. dnf
- ☐ C. pacman
- ☐ D. zypper

3 What is the rolling release version of openSUSE called?

- ☐ A. Leap
- ☐ B. Tumbleweed
- ☐ C. Rawhide
- ☐ D. Sid

4 Which VPN client provides a native RPM package and GUI app for openSUSE?

- ☐ A. ExpressVPN
- ☐ B. ProtonVPN
- ☐ C. NordVPN
- ☐ D. Surfshark

5 What is the stable openSUSE release built on SUSE Linux Enterprise called?

- ☐ A. Leap
- ☐ B. Tumbleweed
- ☐ C. Enterprise
- ☐ D. Alpine

Checkpoint 2: True or False Challenge

6 Question 6

openSUSE supports native WireGuard connections in the kernel.

☐

True

☐

False

7 Question 7

ExpressVPN provides an official YaST GUI module for openSUSE configuration.

☐

True

☐

False

8 Question 8

The package manager command to install an RPM package directly is 'sudo zypper install'.

☐

True

☐

False

9 Question 9

Leap is openSUSE's rolling release track.

☐

True

☐

False

10 Question 10

ProtonVPN has open-source client code for Linux.

☐

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. System administrators configure network cards and VPNs inside the _____.
2. Packages and repository keys are registered using the CLI tool _____.
3. NordVPN and ProtonVPN distribute native openSUSE binaries as _____.
4. Name resolution queries and dns caching are managed dynamically by _____.
5. Traffic leak protection is enforced by applying custom _____.
6. Primary nameserver configurations are written directly inside the _____.

VOCABULARY WORD BANK

YASTUTILITY
FIREWALLDRULE

ZYPPEHELPER
RESOLVCONFIG

RPMPACKAGES
TUNNELDEVICE

SYSTEMDRESOLV
TUMBLEWEED

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.

YASTUTILITY

C Red Hat standard package format containing binary installation files.

ZYPPERHELPER

D Systemd service managing local DNS server resolution variables.

RPMPACKAGES

H Rolling release distribution track providing the latest system packages.

SYSTEMDRESOLV

E FirewallD policy configurations defining packet filtering zones.

FIREWALLDRULE

G Logical point-to-point interface forwarding encrypted network packets.

RESOLVCONFIG

B Command-line package manager used to install and update repositories.

TUNNELDEVICE

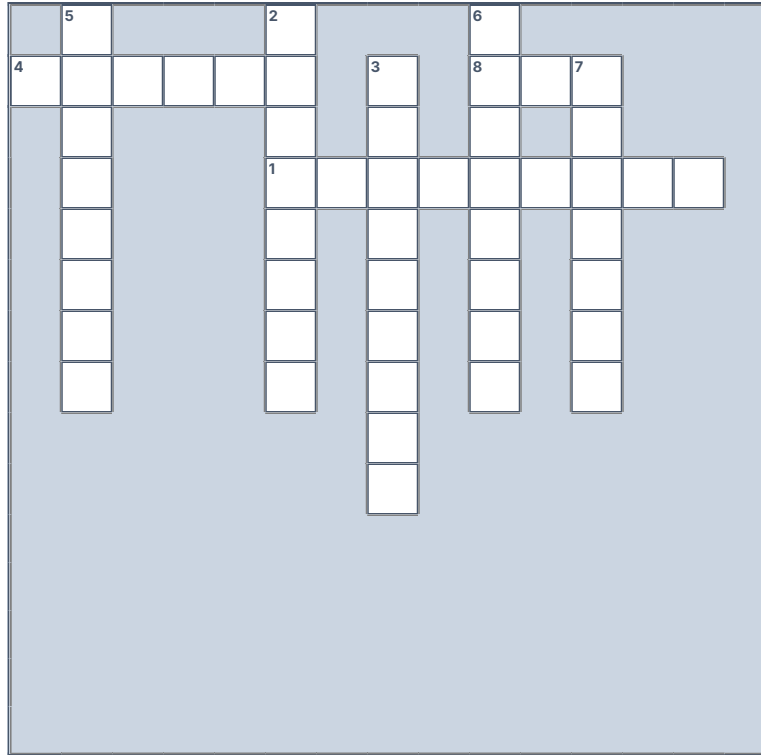
F Network resolver configuration file managing primary nameservers.

TUMBLEWEED

A Graphical system administration control center unique to openSUSE.

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: Secure encapsulation method that routes console packet traffic. (9) (9 letters):

4 Across: Remote gaming host node that you connect to for lobbies. (6) (6 letters):

8 Across: Broadband service provider whose throttling policies you bypass. (3) (3 letters):

DOWN CLUES

2 Down: Handshake rules (such as OpenVPN) running on a compatible router. (8) (8 letters):

3 Down: Data capacity limits monitored on your home router during play. (9) (9 letters):

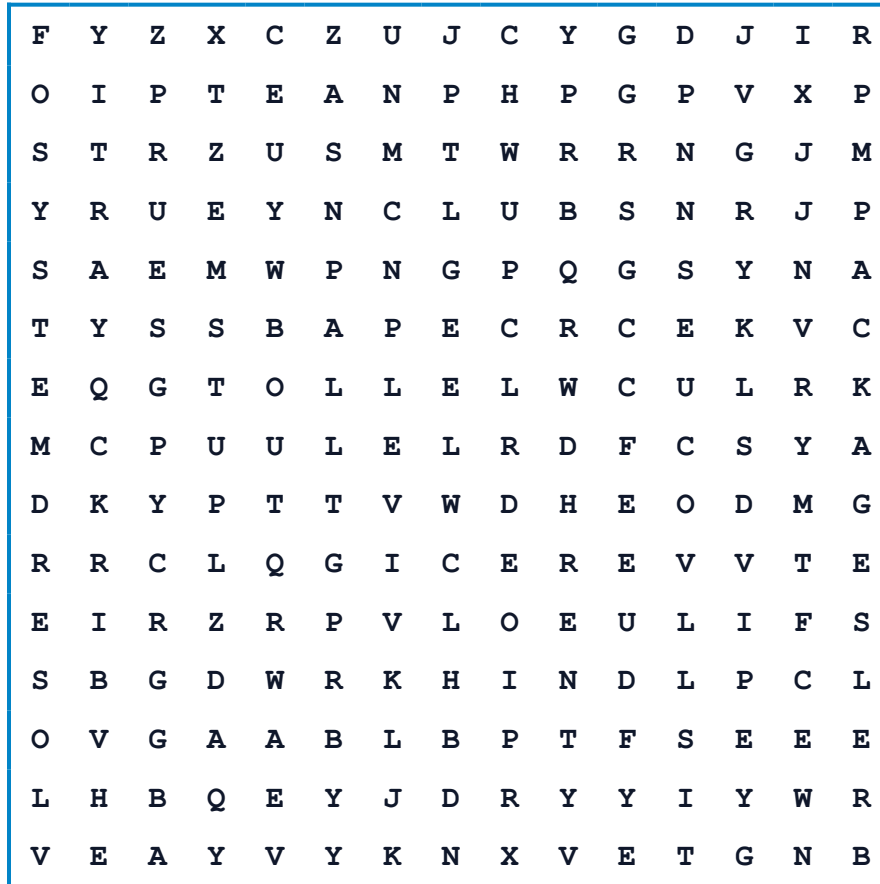
5 Down: Regional restriction that prevents accessing specific marketplace items. (8) (8 letters):

6 Down: Network shield that can block game ports and cause strict NAT. (8) (8 letters):

7 Down: Freedom from DDoS threats and online packet tracking while online. (7) (7 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

YASTUTILITY
FIREWALLDRULE

ZYPPERHELPER
RESOLVCONFIG

RPMPACKAGES
TUNNELDEVICE

SYSTEMDRESOLV
TUMBLEWEED

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. YASTUTILITY
- B. ZYPPEHELPER
- C. RPMPACKAGES
- D. SYSTEMDRESOLV
- E. FIREWALLDRULE
- F. RESOLVCONFIG
- G. TUNNELDEVICE
- H. TUMBLEWEED

DEFINITIONS & MATCH FIELDS

- ☐ 1. Graphical system administration control center unique to openSUSE.
- ☐ 2. Command-line package manager used to install and update repositories.
- ☐ 3. Red Hat standard package format containing binary installation files.
- ☐ 4. Systemd service managing local DNS server resolution variables.
- ☐ 5. FirewallD policy configurations defining packet filtering zones.
- ☐ 6. Network resolver configuration file managing primary nameservers.
- ☐ 7. Logical point-to-point interface forwarding encrypted network packets.
- ☐ 8. Rolling release distribution track providing the latest system packages.

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. **ASTUTILITYY**

5. **IREWALLDRULEF**

2. **YPPERHELPERZ**

6. **ESOLVCONFIGR**

3. **PMPACKAGESR**

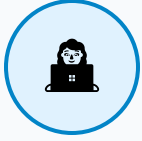
7. **UNNELDEVICET**

4. **YSTEMDRESOLVS**

8. **UMBLEWEEDT**

Checkpoint 8: VPN & Network Case Studies

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



CASE STUDY 1: TUMBLEWEED KERNEL BREAKAGE

Scenario: After a rolling release update on openSUSE Tumbleweed, the NordVPN service fails due to kernel module mismatch.

Discussion Question: How do you resolve this?



CASE STUDY 2: YAST NETWORK CONFIGURATION

Scenario: A server administrator wants to establish an OpenVPN tunnel on boot using openSUSE YaST without installing CLI clients.

Discussion Question: What is the procedure?

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

15	16	5	14	19	21	19	5	21	19	5	19	25	1	19	20	20	15
3	15	14	6	9	7	21	18	5	22	16	14						
20	21	14	14	5	12	19											

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 openSUSE?

A major Linux distribution featuring stable (Leap) and rolling-release (Tumbleweed) versions, using YaST configuration.

Q2: How do I configure a VPN via YaST?

Open YaST, go to System > Network Settings, select Routing or Add VPN, and specify connection endpoints.

Q3: What package format does openSUSE use?

openSUSE uses the RPM (Red Hat Package Manager) package format for installing applications.

Q4: What is Zypper?

The command-line package manager for openSUSE, equivalent to apt on Debian or dnf on Fedora.

Q5: How do I install NordVPN on openSUSE?

Download the official RPM package, run 'sudo zypper install <filename>.rpm', and start its systemd service.

Checkpoint 10: Basic VPN FAQs (Part B)

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

Q6: Does openSUSE support split tunneling?

Yes, through NetworkManager routing configurations or manual ip route rules in terminal.

Q7: What is the openSUSE firewall?

openSUSE uses FirewallD by default, managed via YaST or the firewall-cmd utility.

Q8: Is WireGuard built into openSUSE?

Yes, WireGuard is included in the openSUSE Linux kernel natively on Leap 15+ and Tumbleweed.

Q9: How do I check VPN service status on openSUSE?

Execute 'sudo systemctl status nordvpn' or equivalent for your VPN provider daemon.

Q10: What is the difference between Leap and Tumbleweed?

Leap uses stable, tested enterprise bases, while Tumbleweed is a rolling-release track with bleeding-edge packages.

Checkpoint 11: Advanced VPN FAQs (Part A)

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

Q1: How do I configure FirewallD for a VPN killswitch?

Set public interface zone to deny output, and allow traffic targeting the VPN server IP and the tun0 interface.

Q2: How do I fix SELinux context blocks on openSUSE?

Ensure configuration files are placed in standard directories or use semanage to define appropriate context labels.

Q3: How do I import OpenVPN profiles via command line?

Run 'nmcli connection import type openvpn file profile.ovpn' to register the connection profile.

Q4: How do I resolve DNS conflicts with systemd-resolved?

Verify resolv.conf is a symlink to stub-resolv.conf and inspect link dns scopes using resolvectl status.

Q5: What is the price of ProtonVPN Plus?

ProtonVPN Plus starts from \$2.49 per month on long-term plans, offering 10 simultaneous device connections.

Checkpoint 11: Advanced VPN FAQs (Part B)

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

Q6: How do I add custom repository keys in openSUSE?

Run 'sudo rpm --import <GPG_key_URL>' or import the key graphically inside YaST Software Repositories.

Q7: How do I monitor live VPN bandwidth?

Install vnstat or iftop via zypper, and run it targeting the virtual tunnel interface name.

Q8: What is YaST Software Management?

A comprehensive GUI package installer that searches, installs, and resolves package conflicts on openSUSE.

Q9: Where are VPN configuration profile files stored?

Usually saved under /etc/NetworkManager/system-connections/ or specific config directories.

Q10: How do I force Zypper to rebuild kernel modules?

Run 'sudo zypper install --force dkms' or rebuild the specific DKMS module for the current kernel.

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

openSUSE features YaST, a powerful graphical configuration tool that handles system settings and network setups.

2. VPN INSIGHT

The zypper package manager installs binary packages from RPM repositories, verifying GPG signatures.

3. VPN INSIGHT

Leap offers rock-solid stability built on enterprise bases, whereas Tumbleweed is rolling-release.

4. VPN INSIGHT

NordVPN is ranked #1 for openSUSE with a speed of 730 Mbps, using native RPM installation packages.

5. VPN INSIGHT

ProtonVPN includes a native GTK GUI client available in RPM formats for openSUSE Leap and Tumbleweed.

6. VPN INSIGHT

ExpressVPN runs through a CLI client on openSUSE, utilizing a background systemd service daemon.

7. VPN INSIGHT

A VPN killswitch blocks network leaks by shutting down all public adapter egress when the tunnel drops.

8. VPN INSIGHT

YaST's Network Settings module allows administrators to establish manual OpenVPN profiles on boot.

9. VPN INSIGHT

WireGuard is included natively in openSUSE's kernel, delivering higher speeds than OpenVPN.

10. VPN INSIGHT

Network configurations on openSUSE are managed dynamically via NetworkManager or wicked daemons.

Technical References & Sources

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

SCHOLARLY & INDUSTRY REFERENCES

- [1] openSUSE Project. (2026). openSUSE Reference Manual: Network Configuration. Retrieved from <https://doc.opensuse.org/documentation/leap/reference/html/book-reference/cha-network.html>
- [2] openSUSE Project. (2026). YaST Network Devices Configuration. Retrieved from <https://yast.opensuse.org/documentation>
- [3] openSUSE Wiki. (2026). WireGuard VPN Setup. Retrieved from <https://en.opensuse.org/SDB:Wireguard>
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- [8] OpenVPN Community CLI Reference Guide. Retrieved from <https://openvpn.net/community-resources/>
- [9] IETF RFC 768: User Datagram Protocol. Retrieved from <https://datatracker.ietf.org/doc/rfc768/>
- [10] IETF RFC 793: Transmission Control Protocol. Retrieved from <https://datatracker.ietf.org/doc/rfc793/>

Answer Key: Checkpoint 1 - Multiple Choice

1 YaST Utility

YAST MODULE

Correct Answer: A

TEACHING NOTE

YaST is openSUSE's graphical configuration control center handling network cards and VPNs.

Citation: YaST Settings [Ref 2].

2 Zypper Manager

ZYPPE COMMAND

Correct Answer: D

TEACHING NOTE

zypper is the command-line package manager used to install and update RPM packages on openSUSE.

Citation: openSUSE Reference [Ref 1].

3 Tumbleweed Track

TUMBLEWEED

Correct Answer: B

TEACHING NOTE

Tumbleweed is openSUSE's rolling release track offering continuous kernel and package updates.

Citation: openSUSE Reference [Ref 1].

4 RPM GUI Option

PROTONVPN

Correct Answer: B

TEACHING NOTE

ProtonVPN provides an official RPM package containing its graphical client for openSUSE.

Citation: Proton RPM Repo [Ref 5].

5 Leap Distribution

LEAP STABLE

Correct Answer: A

TEACHING NOTE

Leap is the stable openSUSE release built on enterprise SUSE Linux Enterprise foundations.

Citation: openSUSE Reference [Ref 1].

Answer Key: Checkpoint 2 - True or False

6 Kernel WG

NATIVE MODULE

Correct Answer: True

TEACHING NOTE

WireGuard kernel modules are included natively in openSUSE Leap 15+ and Tumbleweed.

Citation: openSUSE Wiki [Ref 3].

7 No YaST Module

EXPRESSVPN

Correct Answer: False

TEACHING NOTE

ExpressVPN does not provide a custom graphical module for YaST network settings.

Citation: openSUSE Reference [Ref 2].

8 Direct Install

ZYPPER INSTALL

Correct Answer: True

TEACHING NOTE

The zypper package manager installs binary files directly from local RPM packages.

Citation: openSUSE Reference [Ref 1].

9 Rolling Release

TUMBLEWEED

Correct Answer: False

TEACHING NOTE

Tumbleweed is openSUSE's rolling release track, while Leap is the stable release track.

Citation: openSUSE Reference [Ref 1].

10 Open Source GUI

PROTONVPN

Correct Answer: True

TEACHING NOTE

ProtonVPN's Linux application code is open-source and publicly audited by Securitum.

Citation: Proton RPM Repo [Ref 10].

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 YASTUTILITY

B ZYPPEHELPER

C RPMPACKAGES

D SYSTEMDRESOLV

E FIREWALLDRULE

F RESOLVCONFIG

G TUNNELDEVICE

H TUMBLEWEED

CHECKPOINT 3: KEY TERM KEY

1 YASTUTILITY

2 ZYPPEHELPER

3 RPMPACKAGES

4 SYSTEMDRESOLV

5 FIREWALLDRULE

6 RESOLVCONFIG

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

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

CROSSWORD SOLUTION

		5	G					2	P				6	F				
4	S	E	R	V	E	R				3	B			8	I	S	7	P
		O				O					A			R			R	
		B					1	T	U	N	N	E	L	I	N	G		
		L						O		D			W		V			
		O						C		W			A		A			
		C						O		I			L		C			
		K						L		D			L		Y			
										T								
										H								

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. ASTUTILITYY

YASTUTILITY

5. IREWALLDRULEF

FIREWALLDRULE

2. YPPERHELPERZ

ZYPPERHELPER

6. ESOLVCONFIGR

RESOLVCONFIG

3. PMPACKAGESR

RPMPACKAGES

7. UNNELDEVICET

TUNNELDEVICE

4. YSTEMDRESOLVS

SYSTEMDRESOLV

8. UMBLEWEEDT

TUMBLEWEED

SECRET CIPHER CHALLENGE KEY

"OPENSUSE USES YAST TO CONFIGURE VPN TUNNELS"

VPN & Network Case Studies Solution Key

A Case Study 1: Tumbleweed Kernel Breakage

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** After a rolling release update on openSUSE Tumbleweed, the NordVPN service fails due to kernel module mismatch.
- **Recommended Strategy & Solution:** Run `sudo zypper install --force nordvpn` to force-rebuild the client package for the new kernel version.

B Case Study 2: YaST Network Configuration

[Instructor Solution](#)

GRADING GUIDELINE

Student answers should cover the following points:

- **Scenario Analysis:** A server administrator wants to establish an OpenVPN tunnel on boot using openSUSE YaST without installing CLI clients.
- **Recommended Strategy & Solution:** Open YaST Network Devices, select System Settings, click Add VPN, and configure the OpenVPN server settings.