

# VPN Service Design Overview

## 1. Objectives

- Remote employees securely access company network.
- Encrypt data transmission over the internet.
- Hide internal IP addresses from external threats.

## 2. Key Components

- VPN Server: Main system to authenticate clients and tunnel traffic securely.
- VPN Clients: Devices (PC, mobile) used by employees to connect to VPN.
- Authentication Server: Handles credentials via RADIUS, LDAP, or AD.
- Firewall: Filters unauthorized access to VPN ports.
- Router/Gateway: Forwards traffic to/from VPN network.
- DNS Server: Resolves internal hostnames securely.
- Monitoring Tools: Logs access, detects threats (e.g., Zabbix, PRTG).

## 3. Technical Setup (Example with OpenVPN)

Server-Side:

- OS: Ubuntu Server 22.04 or Windows Server 2019/2022
- Software: OpenVPN / WireGuard / SoftEther VPN
- Authentication: LDAP/Active Directory (for enterprise)
- Certificates: TLS with CA (Certificate Authority) setup

Client-Side:

- Windows/Mac/Linux clients with OpenVPN GUI
- Mobile devices (Android/iOS) with OpenVPN Connect app
- Config files with keys/certs

## 4. Security Layers

- Encryption: AES-256 for strong encryption of traffic
- Authentication: Multi-factor authentication (MFA) for users

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- Firewall Rules: Allow only VPN port (e.g., 1194/UDP for OpenVPN)
- Split Tunneling: Only route business traffic via VPN, rest through local internet
- Logging: Track login/logout times, IP addresses, usage patterns

## 5. Network Design Diagram (Simple View)

[Client Device]

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[Internet]

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[Firewall + VPN Server] -- [Auth Server (AD/LDAP)]

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[Internal Company Network]

## 6. Port Requirements

- UDP 1194: Default OpenVPN Port
- TCP 443: SSL VPN fallback
- UDP 500/4500: For IPSec/L2TP VPN
- TCP/UDP 1701: For L2TP

## 7. Documentation Needed

- Network Topology Diagram
- VPN Setup SOP (Step-by-step configuration)
- Security Policy (password rules, allowed devices)
- Troubleshooting Guide
- Client Training Manual

## 8. Who Handles What

- Network Admin: Setup, maintain VPN server and network rules
- SysAdmin: Manage authentication and OS-level settings

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- Security Analyst: Monitor logs, patch vulnerabilities
- Helpdesk: Assist clients in setup and connection

## 9. Approx Cost (Small Setup)

- VPS/Cloud Server (monthly): Rs. 1,000 - Rs. 3,000
- OpenVPN License (optional): Free / Enterprise Plan Rs. 5,000+
- Domain + SSL (optional): Rs. 1,000 - Rs. 2,000
- Monitoring Tool: Free / Paid (Rs. 5,000+)
- Total Setup (Basic): Rs. 5,000 - Rs. 15,000

## 10. Bonus: Extra Services You Can Add

- VPN with Failover (HA)
- VPN with Logging + Alerts
- VPN Portal for Users (Self Service Portal)
- Mobile Device Management (MDM) Integration
- Geo IP Blocking / Country Access Restriction