

Virtual Private Networks



Discussion Topics

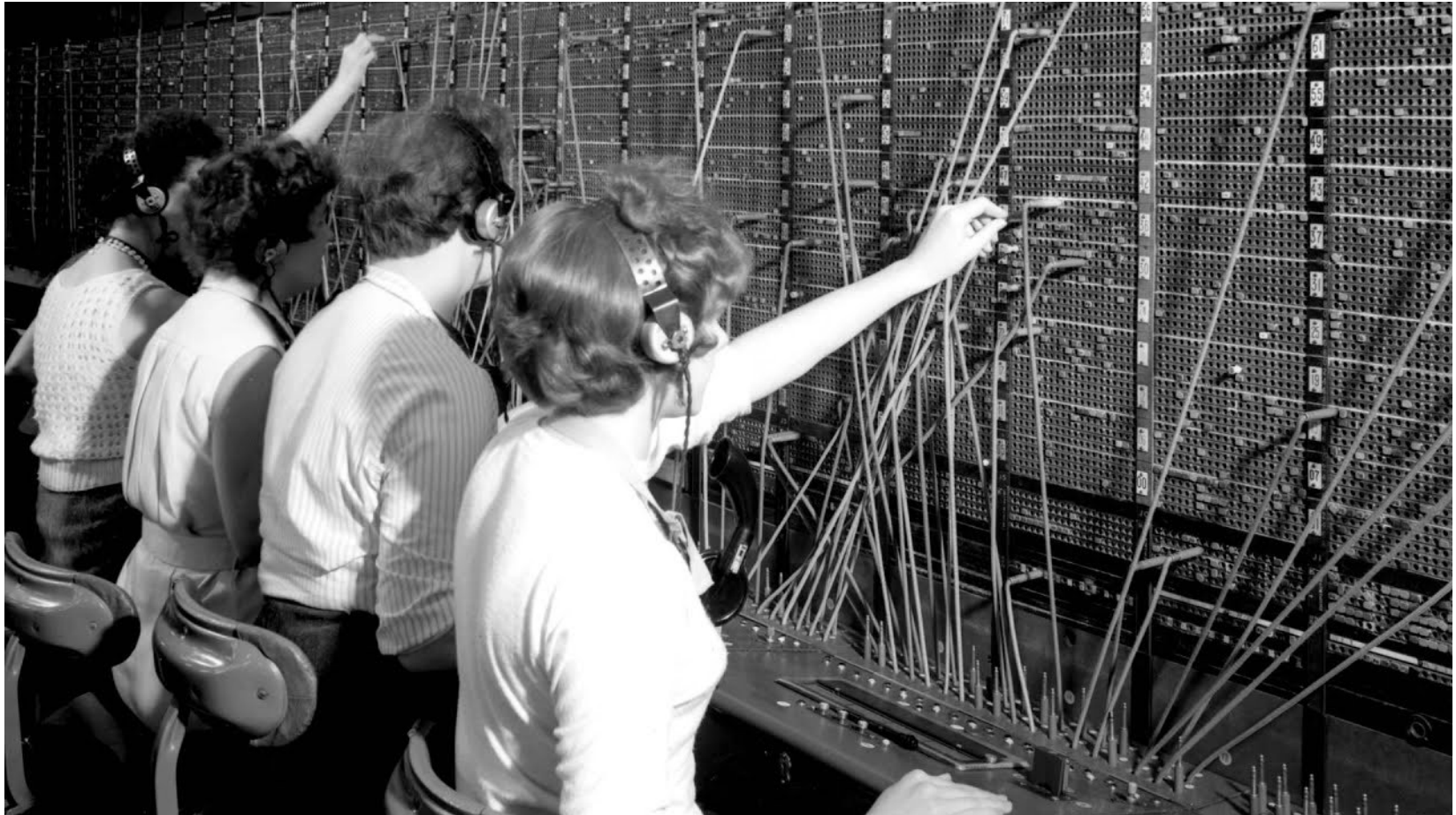
- What is a VPN?
- How does a VPN work?
- Advantages of VPNs
- Disadvantages of VPNs
- Do you need a VPN?
- VPN cost – free vs. paid
- Selecting a VPN provider
- Comparison Sites and other links
- Final Thoughts

VPN

NOUN *computing*

an arrangement whereby a secure, apparently private network is achieved using encryption over a public network, typically the internet.

How a VPN Works

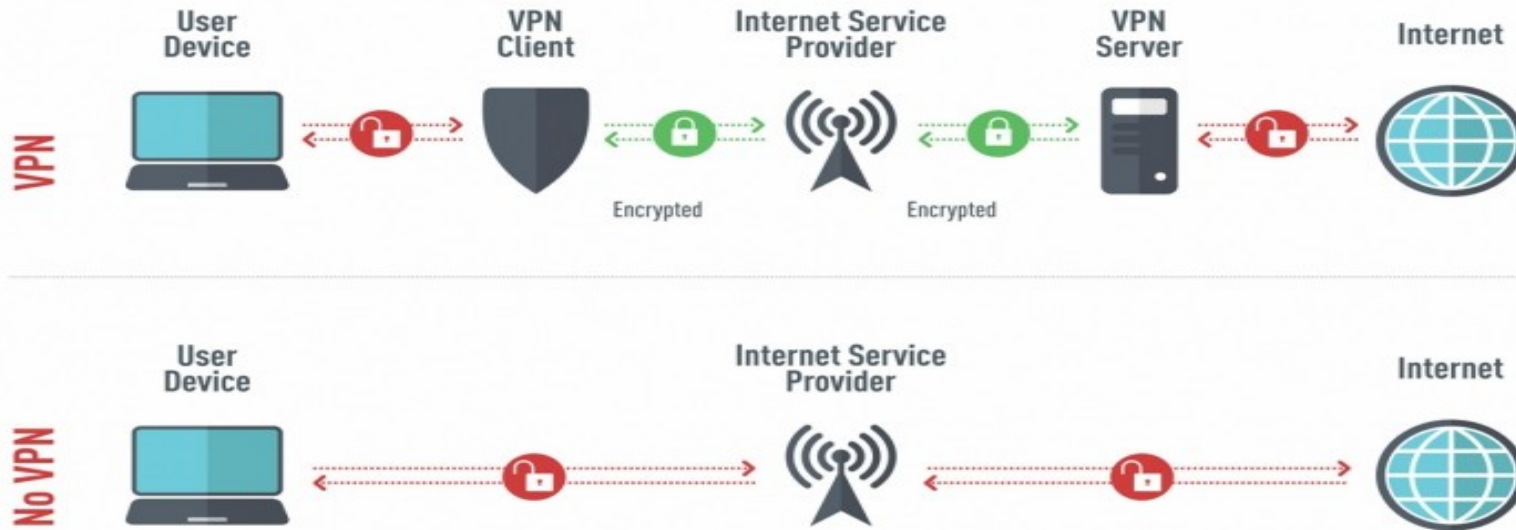


Remember Telephone Party Lines?

- 1) You could listen in on your neighbors
- 2) Neighbors could listen to you
- 3) Operator could listen to everything
- 4) Anyone with right equipment could tap in

You could solve all of those problems by spending money for a private line

How a VPN works



A VPN is Similar

Bottom – without VPN anyone can see your internet traffic

Top – with VPN any one can see traffic, but it is encrypted. All they will see is gibberish.

VPN Protocols

A VPN Protocol determines how your data routes between your computer and the VPN server. Protocols have different specifications, offering benefits to users in a range of circumstances. For instance, some prioritize speed, while others focus on privacy and security.

Some Common Protocols

- PPTP - Point-To-Point Tunneling Protocol
- SSTP - Secure Socket Tunneling Protocol
- L2TP/IPSec - Layer 2 Tunneling Protocol, combined with Internet Protocol Security
- IKEv2 - Internet Key Exchange version 2
- OpenVPN - open-source VPN protocol
- And many others

I'm not going into any details on protocols. They are very technical and confusing.

You will probably never need to adjust, play around with, switch or change them.

Just remember, a VPN protocol is a just a “rule” for the VPN client to connect and encrypt.

Advantages of using a VPN

- Secure on-line connection – data is encrypted
- Hide your on-line identity – masks IP address
- Bypass geo-blocks
- Browse the internet and d/l anonymously
- Prevent shopping price discrimination
- Brag to your geeky friends about how smart you are

Disadvantages of using a VPN

- Might slow your internet speed
- Increased costs
- Some VPNs get blocked – mostly popular ones
- Some VPNs are difficult to setup and use
- Often have problems sending e-mail

Do you need a VPN?

- 1) Do you need a car?
- 2) Do you need a desktop computer?
- 3) Do you need to attend Cajun Clickers classes?
- 4) Do you need to wear a raincoat when it rains?
- 5) Do you need a pet dog or cat?
- 6) Do you need to read any more questions?



Like anything else, you have to decide on whether you “need” a VPN. I can only give you information. You’ll have to decide for yourself.

What Does a VPN Cost?

1 Month	1 + 1 Year FREE	6 Months
<p>\$8.95 / mo</p> <p>Billed USD 8.95</p> <p>Save None</p> <p>Buy Now →</p> <p>7 Days Money Back Guarantee</p>	<p>BEST SELLER</p> <p>\$107</p> <p>\$4.08 / mo</p> <p>Billed USD 48.95</p> <p>Save 54.42%</p> <p>Buy Now →</p> <p>30 Days Money Back Guarantee</p>	<p>\$5 / mo</p> <p>Billed USD 30.00</p> <p>Save 44.13%</p> <p>Buy Now →</p> <p>30 Days Money Back Guarantee</p>

Free VPN Costs









































- Free VPNs are like free lunches – there is no such thing.
 - 1) Almost always restrict bandwidth
 - 2) Often sell data
 - 3) Often use slower services
 - 4) Some interject advertising
- Remember – you aren't a customer, you're the product

Paid VPN Costs

- How much does lunch cost? – depends on what you eat.
 - 1) Average of \$3 to \$10 a month
 - 2) Most VPN offer deals – cheaper for long term contracts
 - 3) Many VPNs offer discounts and other deals
- You usually get what you pay for
 - 1) More servers
 - 2) Faster speeds
 - 3) Connect with more devices
 - 4) Customer support

Research – Research – Research - Research

Selecting a VPN Provider

 <p>Proxy VPN illimité g TouchVPN Inc.</p> <p>★★★★★</p>	 <p>Turbo VPN – Unlimi Innovative Connecting</p> <p>★★★★★</p>	 <p>Thunder VPN - Un V Signal Lab</p> <p>★★★★★</p>	 <p>Hola VPN gratuit Hola</p> <p>★★★★★</p>	 <p>SuperVPN Free VPN SuperSoftTech</p> <p>★★★★★</p>	 <p>VPN Melon - Unlimi Fruit Security Studio(Pr</p> <p>★★★★★</p>	 <p>VPN Master-Free-ur Innovative Connecting</p> <p>★★★★★</p>	 <p>Proxy VPN Illimité G Mera Moji Security Lab</p> <p>★★★★★</p>	 <p>2018 Free VPN Unlimited Hotspot VPN(Proxy & §</p> <p>★★★★★</p>	 <p>Proxy SurfVPN Grat RapidVPN Global (Surf</p> <p>★★★★★</p>
 <p>Betternet VPN Proxi Betternet LLC</p> <p>★★★★★</p>	 <p>TunnelBear TunnelBear, Inc.</p> <p>★★★★★</p>	 <p>VPN Hotspot Shield AnchorFree GmbH</p> <p>★★★★★</p>	 <p>Inf VPN - FREE VPN Inf Free VPN (Proxy & P</p> <p>★★★★★</p>	 <p>CyberGhost VPN Cyberghost SA</p> <p>★★★★★</p>	 <p>Yoga VPN - Free Un Sarah Hawken</p> <p>★★★★★</p>	 <p>vpn gratuit illimite p Apps Metro</p> <p>★★★★★</p>	 <p>VPN Free Internet Freedom Apps</p> <p>★★★★★</p>	 <p>VPN Monster - free Autumn Breeze 2018</p> <p>★★★★★</p>	 <p>VPN Easy ZPN</p> <p>★★★★★</p>
 <p>Kaspersky VPN – S Kaspersky Lab</p> <p>★★★★★</p>	 <p>Free VPN proxy by S Lemon Clove</p> <p>★★★★★</p>	 <p>Hotspot Shield Grat AnchorFree GmbH</p> <p>★★★★★</p>	 <p>gratuit et illimité VP Apps Luna World</p> <p>★★★★★</p>	 <p>PureVPN- Meilleur V GZ Systems Ltd.</p> <p>★★★★★</p>	 <p>VPN serveur Proxy Indragni Soft Solutions</p> <p>★★★★★</p>	 <p>Eagle VPN-Free-urb Eagle VPN proxy</p> <p>★★★★★</p>	 <p>VPN gratuit par Free FREE VPN LLC</p> <p>★★★★★</p>	 <p>FREE VPN PRIVATE VPN Private</p> <p>★★★★★</p>	 <p>VPN Robot -Free Un Lemon Clove</p> <p>★★★★★</p>
 <p>2018 Hi VPN - Super Fast Hi Security Lab - Hawk</p> <p>★★★★★</p>	 <p>Cloud VPN Gratuit App Myth</p> <p>★★★★★</p>	 <p>HOT VPN - Free- Un Autumn Breeze 2018</p> <p>★★★★★</p>	 <p>2018 Secure VPN - Free V Hotspot VPN(Proxy & §</p> <p>★★★★★</p>	 <p>Mango VPN - Unlimi XTool Apps</p> <p>★★★★★</p>	 <p>Easy VPN - Free VPN Hotspot VPN(Proxy & §</p> <p>★★★★★</p>	 <p>VPN Unblocker Free Royal Partner Company</p> <p>★★★★★</p>	 <p>GO VPN Free-unlimi VPNMaster Team</p> <p>★★★★★</p>	 <p>VPN Free Turbo Speed VPN</p> <p>★★★★★</p>	 <p>FREE Super VPN - Best F SuperVPN Inc</p> <p>★★★★★</p>

Choosing a VPN is **HARD**

- There are thousands of them
- It is hard to differentiate good from bad
- Many are resellers
- Reviews are not always true

Let's move on to some specifics to look for

(in no particular order)

Does the Company Log Data?

- 1) Connection dates
- 2) Session times
- 3) Device IDs
- 4) IP addresses visited
- 5) Usage logs
- 6) Files downloaded

How long are logs kept?

What Country is the Company Located In?

Can the government monitor VPN traffic? These have International Surveillance Agreements to trade information.

- 5 Eyes – US, UK, Canada, New Zealand, Australia
- 9 Eyes – US, UK, Canada, Australia, Denmark, New Zealand, France, Netherlands, Norway
- 14 Eyes – US, UK, Canada, Australia, Denmark, New Zealand, France, Netherlands, Norway, Belgium, Germany, Italy, Spain, Sweden

Other Things to Check

- 1) Privacy Policy
- 2) How many servers and location(s)
- 3) Protocols used
- 4) Supported platforms
- 5) How long have they been in business
- 6) Is there a kill switch?
- 7) Ease of use

Some Useful Links

- **[That One Privacy Site](#)**

- 1) Done by one person
- 2) Compares several VPNs
- 3) Easy to read charts (better if downloaded)

- **[Tech Radar](#)**

- 1) Lots of reviews (on lots of tech)
- 2) Use the search function

- **[VPN Comparison](#)**

- 1) Kind of hard to navigate
- 2) Only major VPNs
- 3) Nice side by side comparison

Some Final Thoughts

- 1) **Research-Research-Research-Research**
- 2) This was all fairly technical and I'm sure I didn't cover everything about VPNs. (See Number 1)
- 3) Notice I didn't recommend a VPN? Everyone's situation is different. (See Number 1)
- 4) When it comes to buying a VPN, Google is your friend. (See Number 1)

What's The Next SIG Topic



Have you got a topic idea? Want to learn about something special?
Tell me anytime you see me or contact me online.

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