

"OPERA" BROWSER'S FREE VPN

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SUMMARY

You can use the Opera browser's free "virtual private network" (VPN) services to securely access the Internet from public Internet services and to block future privacy intrusions by Internet providers. Unlike other VPN service's the VPN service inside Opera has no data cap limits.

TOPICS

- Basic information about the VPN inside Opera
- Free VPN inside Opera only works for the Opera browser
- No data cap limits unlike other VPN service's free accounts
- Additional ad blocking feature is handy

**BASIC
INFORMATION
ABOUT THE
FREE VPN IN
"OPERA"**

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA"

- You can get free, unlimited VPN service by using the "Opera" Web browser.
- The current version of the "Opera" web browser is 44.
- Their VPN service is provided without requiring you to get an account from either the Opera

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- Their VPN service is provided without requiring you to get an account from either the Opera company or their "SurfEasy VPN" subsidiary.

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- The "SurfEasy VPN" subsidiary of "Opera Software" is the provider of the VPN service that is bundled into the "Opera"

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- To use this amazing free service, go to <http://www.opera.com>
- Then, click on the "Download now" button to download the "OperaSetup.exe" file.

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- Then double-click on the "OperaSetup.exe" file to start the installation process.
- Locate the "Opera" icon on the Windows desktop and double-click on it.

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- Click on the "Opera" icon in the upper-right corner of the "Opera" window.
- Click on "Settings" in the pop-up utility menu.
- Click on "Privacy & security".

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- Place a checkmark in the box next to "Enable VPN".
- Click on the orange "VPN" icon that is located to the left of the URL address box.
- Click on the drop down list button that is to the right of "Optimal location".

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- Select the location of the VPN server that you wish to connect to.

BASIC INFORMATION ABOUT THE FREE VPN IN "OPERA" (continued)

- As long as the "VPN" icon stays blue, any Web sites that you visit with the "Opera developer" browser will be secured by the VPN connection between your computer and the VPN server that is provided by "SurfEasy VPN" subsidiary of "Opera Software".

FREE VPN INSIDE "OPERA" ONLY WORKS FOR THE "OPERA" BROWSER

- However, any Internet downloads and uploads that you perform with other Web browser programs, FTP client programs, and command line utilities such as FTP, ping, etc. will not be protected by Opera's free VPN service, since their free VPN service is a bundled part of the "Opera" browser.

FREE VPN INSIDE "OPERA" ONLY WORKS FOR THE "OPERA" BROWSER

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FREE VPN INSIDE "OPERA" ONLY WORKS FOR THE "OPERA" BROWSER (continued)

- For the free accounts of other "VPN Services", all Internet activity (FTP, SMTP email sending, POP email receiving, IMAP email receiving, etc) is protected while the free VPN inside "Opera" only protects Internet access from inside the "Opera" browser.

FREE VPN INSIDE "OPERA" HAS NO DATA CAP LIMITS

- The free VPN inside "Opera" has no daily or weekly data cap limits
- In contrast, the free accounts of the various "VPN services" have severe data cap limitations and they nag you to pay to upgrade to a paid account when you reach their daily or weekly data cap limits.

ADDITIONAL INFORMATION ABOUT THE "OPERA" WEB BROWSER


- Free, bundled VPN in Opera does not require a user log-in while all other VPNs that we tested will not run until the user logs in start the bundled VPN software
- Bundled, optional ad blocker feature of "Opera" can block ads but the bundled ad blocker breaks parts of some Web sites.

ADDITIONAL INFORMATION ABOUT THE "OPERA" WEB BROWSER (continued)

- For some Web sites such as some of the photo albums at <http://cnn.com>, the Opera Web browser causes various buttons and features to fail.
- "Turbo" feature of "Opera" can speed up Web browsing but is not compatible with the free VPN feature.



**Blue items are part of
the VPN service's
secure encrypted tunnel**



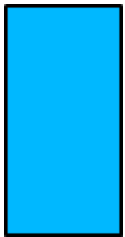
**Red items are part of
regular unencrypted
Internet data
communications
traffic**



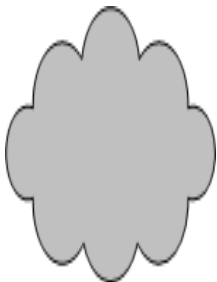
Unencrypted network data



Encrypted network data



Real network adapter



Internet cloud

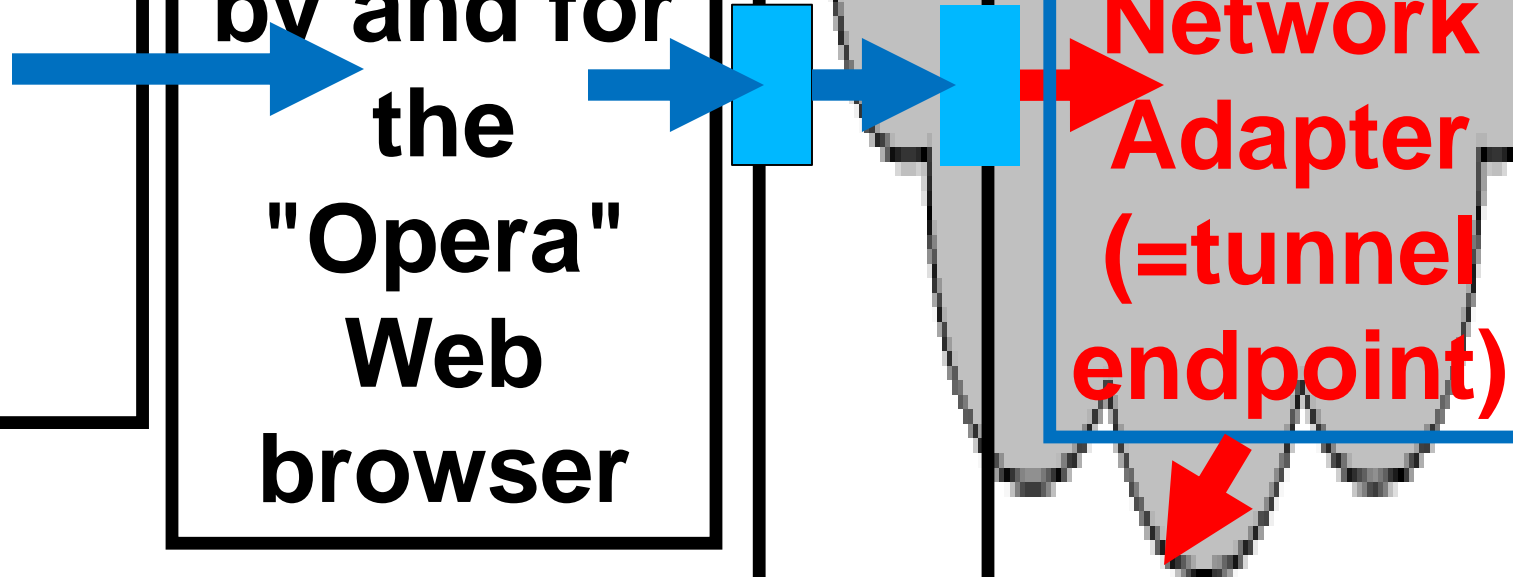
**Your "Windows..", Mac,
or Linux Computer**

**"Opera"
Web
browser**

**Virtual
Network
Adapter
Provided
by and for
the
"Opera"
Web
browser**

**VPN Server
of Opera's
SurfEasy
VPN
Service**

**Cloned
Virtual
Network
Adapter
(=tunnel
endpoint)**



```
graph TD; A[ISP-owned routers] --> B[ISP-owned routers]; B --> C[VPN server];
```

Routers owned and controlled by your Internet Provider (usually close to your location)

Routers not owned and controlled by your Internet Provider

Cloned Virtual Network Adapter Provided by VPN server of Opera's SurfEasy Service (Toronto, NYC, etc.)

ADVANTAGES OF A "VIRTUAL PRIVATE NETWORK SERVICE"

- All network traffic between your computer and the VPN server provided by the service is encrypted including your local WiFi radio signals and your local router's Ethernet packets in both directions.

ADVANTAGES OF A "VIRTUAL PRIVATE NETWORK SERVICE"

- All network traffic going through your Internet provider's routers (which is easy for them to analyze and monitor) is encrypted so that they cannot analyze and monitor it without massive expense and computer processing power.

**EXAMPLE OF A
VERY UNSECURE
PUBLIC WIFI
INTERNET ACCESS**

Network Connections

Control Panel > Network and Internet > Network Connections

Organize

- Bluetooth Network Connection
Not connected
Bluetooth Device (Personal Area ...
- Ethernet
Disabled
Realtek PCIe GBE Family Controller
- VMware Network Adapter VMnet1
Unidentified network
VMware Virtual Ethernet Adapter ...
- VMware Network Adapter VMnet8
Unidentified network
VMware Virtual Ethernet Adapter ...
- Wi-Fi
HI [redacted]
Intel(R) WiFi Link 1000 BGN

5 items



Wi-Fi Status



General

Connection

IPv4 Connectivity: Internet
IPv6 Connectivity: No Internet access
Media State: Enabled
SSID: HI [redacted]
Duration: 00:21:39
Speed: 58.0 Mbps
Signal Quality:

Details...

Wireless Properties

Activity

Sent — — Received
Bytes: 1,511,108 | 5,138,773

Properties

Disable

Diagnose

Close

HIExpressSantaClara Wireless Network Prop...



Connection Security

Name: HI [redacted]

SSID: HI [redacted]

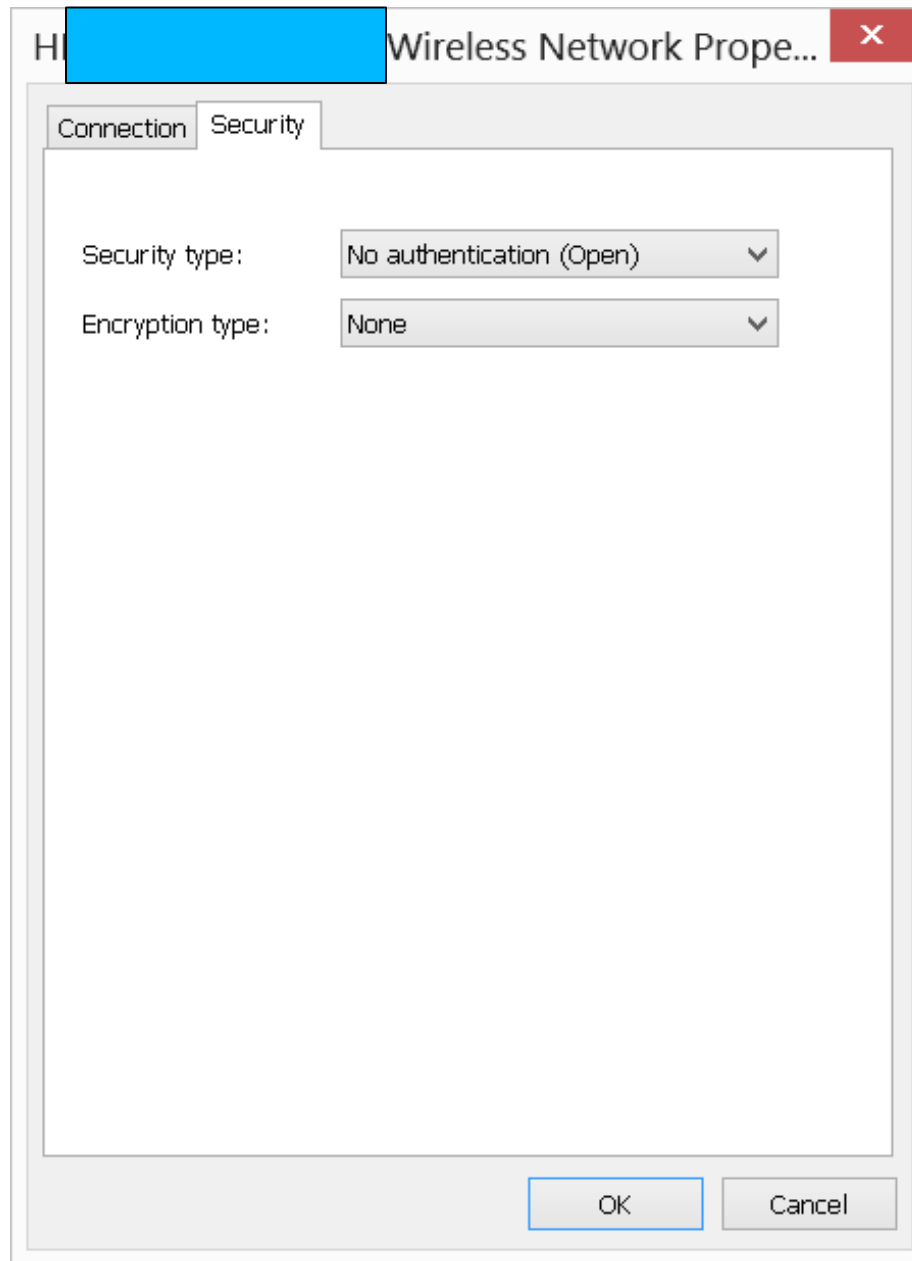
Network type: Access point

Network availability: All users

- Connect automatically when this network is in range
- Look for other wireless networks while connected to this network
- Connect even if the network is not broadcasting its name (SSID)

OK

Cancel



**EXAMPLE OF A
SLIGHTLY MORE-
SECURE PUBLIC
WIFI INTERNET
ACCESS**

Welcome to [Redacted]® high speed Internet access

It's free — just click and go.

Please read the Terms & Conditions. If you accept the Terms, enter the access code provided to you. If you do not have an access code, please contact the front desk.

[Redacted], Inc. Terms of Use of Internet

TERMS, CONDITIONS AND NOTICES

AGREEMENT BETWEEN CUSTOMER AND [Redacted] HOTELS, INC

The Service ("Service") consists of providing a wireless or high speed internet connection to authorized users.

This Service is offered to you, the customer, conditioned on your acceptance without modification of the terms, conditions, and notices contained herein. Your use of this Service constitutes your agreement to all such terms, conditions, and notices.

SECURITY OF YOUR ACCESS AND USE

Due to the nature of wireless LAN and High Speed Internet Access networks, control of physical

Access Code:

I accept the Terms & Conditions.

Access the Web



Wi-Fi

H



Intel(R) WiFi Link 1000 BGN



Wi-Fi Status



General

Connection

IPv4 Connectivity: Internet

IPv6 Connectivity: No Internet access

Media State: Enabled

SSID: Hc [redacted]

Duration: 01:26:16

Speed: 52.0 Mbps

Signal Quality: 


Details...


Wireless Properties

Activity

Sent —  — Received

Bytes: 3,889,668 | 10,765,224

 Properties

 Disable

Diagnose

Close

Holiday Inn Express Metrotown Wireless Net...



Connection Security

Name: Hd [redacted]

SSID: Hd [redacted]

Network type: Access point

Network availability: All users

- Connect automatically when this network is in range
- Look for other wireless networks while connected to this network
- Connect even if the network is not broadcasting its name (SSID)

OK

Cancel

Holiday Inn Express Metrotown Wireless Net...



Connection Security

Security type: WPA2-Personal

Encryption type: AES

Network security key: ●●●●●●●●

Show characters

Advanced settings

OK

Cancel



Connection Security

Security type: WPA2-Personal

Encryption type: AES

Network security key best

Show characters

Advanced settings

OK

Cancel

ADVANTAGES OF A "VIRTUAL PRIVATE NETWORK SERVICE" (continued)

- Web servers and other servers on the Internet see your computer as residing at the location of the VPN server of the VPN service, so can access services and Web server that are blocked in your country, if your VPN server has VPN servers that are in countries outside of the one that you are located in.

Security Complexities With Bank And Stock Brokerage Web Sites

- Many bank and stock brokerage Web sites memorize the IP address that you are logging in from.
- All free VPN services give you a different IP address with each connection that you make with them.

Security Complexities With Bank And Stock Brokerage Web Sites (continued)

- This causes many bank and stock brokerage Web sites to initiate various verification processes such as sending you a "verification code" to you via an email message or a text message or a voice phone call to you.

Security Complexities With Bank And Stock Brokerage Web Sites (continued)

- You are then required to enter this code as part of the login process at their Web site.

Security Complexities With Bank And Stock Brokerage Web Sites (continued)

- Some of the more expensive not-free "VPN" services assign you a permanent dedicated IP address and this avoids the problem caused by banks and stock brokerage Web sites that monitor the IP address that you are logging in from.

THREE "VIRTUAL PRIVATE NETWORK SERVICES"

- "Hotspot Shield"
- "TunnelBear"
- "VPNReactor"

THREE "VIRTUAL PRIVATE NETWORK SERVICES" (continued)

- The free version of "Hotspot Shield" displays a 1-inch advertising bar at the top of most Web browsers.

THREE "VIRTUAL PRIVATE NETWORK SERVICES" (continued)

- The free version of "TunnelBear" limits the amount of data that you can upload and download each month.

THREE "VIRTUAL PRIVATE NETWORK SERVICES" (continued)

- The free version of "VPNReactor" limits you to 30 minutes at a time with a 30 minute interval between access periods.

ADVICE ON USING "HOTSPOT SHIELD"

- See http://aztcs.org/meeting_notes/winhardsig/vpnservices/VPNs-HotspotShield.pdf

ADVICE ON USING "TUNNELBEAR"

- See

http://aztcs.org/meeting_notes/winhardsig/vpnservices/VPNs-TunnelBear.pdf

ADVICE ON USING "VPNREACTOR"

- See

http://aztcs.org/meeting_notes/winhardsig/vpnservices/VPNs-VPNReactor.pdf

VPN SERVICES FOR MACS

- <http://mac.tutsplus.com/tutorials/os-x/how-to-use-vpn-on-your-mac/>
- <http://www.hotspotshield.com/vpn-for-mac>
- https://vpnreactor.com/setup_tutorials.html
- <https://www.tunnelbear.com/>

DISADVANTAGES OF FREE VPN SERVICES

- **Slower Internet upload and download speeds relative to paid VPN services**
- **Less stable VPN servers relative to paid VPN services**

DISADVANTAGES OF FREE VPN SERVICES (continued)

- Limitations for upload and download data caps and advertising bars on Web browsers
- Less or no control over which VPN server or VPN server location that you are connecting to.

USING "VIRTUAL MACHINES" TO ENHANCE THE SECURITY OF PUBLIC INTERNET ACCESS

- When you use a "virtual machine" with an external USB WiFi adapter, you can isolate your real, host computer from viruses and malware and the virtual machine provides you with redundancy from equipment failures and theft.

USING "VIRTUAL MACHINES" TO ENHANCE THE SECURITY OF PUBLIC INTERNET ACCESS (continued)

- See

[http://aztcs.org/meeting_](http://aztcs.org/meeting_notes/winhardsig/vpnservices/VMs-secureInternet.pdf)
[notes/winhardsig/vpnserv](http://aztcs.org/meeting_notes/winhardsig/vpnservices/VMs-secureInternet.pdf)
[ices/VMs-](http://aztcs.org/meeting_notes/winhardsig/vpnservices/VMs-secureInternet.pdf)
[secureInternet.pdf](http://aztcs.org/meeting_notes/winhardsig/vpnservices/VMs-secureInternet.pdf)

USING "VIRTUAL PRIVATE NETWORK" SERVICES AS A WORKAROUND FOR SLOW BROADBAND INTERNET ACCESS

- See

http://aztcs.org/meeting_notes/winhardsig/vpnservices/vpnservices-slowinternet.pdf