

# **SoftEther VPN Becomes Open Source**

January 4, 2014 By Daiyuu Nobori, SoftEther VPN Project at University of Tsukuba, Japan.

We are very happy to announce that the source code of SoftEther VPN is released as open-source software under the GPLv2 license. SoftEther VPN is the underlying VPN engine of VPN Gate. The source code is provided as packages in .tar.gz and .zip formats, and is also published on our GitHub repository. You can build the full SoftEther VPN programs from the source code in Windows, Linux, Mac OS X, FreeBSD or Solaris computers. You can also generate your own customized installer packages of SoftEther VPN automatically from the source code.

Download the Source Code

SoftEther VPN is a product-class VPN software suite with popularity as a tool to build on-premise or cloud-base VPNs. The binaries of SoftEther VPN were released on March 8, 2013. Since then, SoftEther VPN Server has been installed into over 80,000+ server computers in Japan, United States, China, Taiwan, Iran, Germany, United Kingdom, France, Korea, India and other 164 regions (\*1). SoftEther VPN supports Windows, Mac, Linux, and smartphones including iPhone and Android. SoftEther VPN supports multiple VPN protocols including SSL-VPN, OpenVPN, IPsec, L2TP, MS-SSTP, L2TPv3 and EtherIP, by a single instance of VPN server program. Individual and corporate network administrators can replace their legacy OpenVPN or Cisco's VPN router products by SoftEther VPN for integration.

One of the popular applications of SoftEther VPN is VPN Gate (http://www.vpngate.net/). VPN Gate is <u>"A Volunteer-Organized Public VPN Relay</u> System with Blocking Resistance for Bypassing Government Censorship Firewalls" (\*2). VPN Gate is a circumvention tool for bypassing governments' censorship firewalls. Many Internet users behind censorship firewall, including Chinese Great Firewall, are using VPN Gate to browse YouTube, Twitter and Facebook. Daily 110,000+ unique users (estimated by the number of client IP addresses) are using VPN Gate (\*4). The offense and defense between VPN Gate and Chinese Great Firewall will be reported on <u>USENIX</u> NSDI 2014 International Conference (Seattle, April 2-4, 2014) (\*3).

The text data of the source code of SoftEther VPN is approximately 380,000 lines. The total file size is 11 Mbytes. The source code includes not only the user-mode programs of

SoftEther VPN, but also kernel-mode device driver codes for Virtual Network Adapter and Ethernet Bridging Module.

## sourcecode.png

Many developers are now able to download the SoftEther VPN source code and study the technique how to design and implement a VPN protocol-engine to achieve the high-performance, multi-protocol support VPN communication with high-level penetrating-ability against firewalls. They can also study the know-how to implement kernel-mode device drivers which access to low-level Ethernet packet processing fabric on Windows and other modern operating systems.

Furthermore, because the source code is published under the traditional GPLv2 (GNU General Public License version 2), SoftEther VPN is granted to be modified, be recompiled, be embedded into derived software or hardware, or be redistributed with new branding, by any developers who have abilities to do so.

We believe that easy-to-use software-based VPN tools are necessary to achieve the free Internet world. Herein, the free Internet world means that any governments cannot censor or tap over the communication of people, and people can use communication technology without any kind of fears of suppression by governments. However, implementing such an easy-to-use VPN tool has required enormous difficult effort to implement the VPN engines. By using the source code of SoftEther VPN, any developer can exploit it to build his own VPN-based application. We hope that the release of SoftEther VPN source code will help such developers, and will also help to achieve the free Internet world in future.

\*1 graph1.jpg

Current geographic locations of 81,424 SoftEther VPN Server users on January 4, 2014. SoftEther VPN Server is installed on server computers around the world.

## \*2

The offense and defense between VPN Gate and Chinese Great Firewall will be reported on our academic paper: "VPN Gate: A Volunteer-Organized Public VPN Relay System with Blocking Resistance for Bypassing Government Censorship Firewalls" which was accepted on the USENIX NSDI 2014 International Conference (Seattle, April 2-4, 2014). More details: <u>https://www.usenix.org/conference/nsdi14/technical-sessions/presentation/ nobori</u>.

\*3 graph3.jpg The graph of number of daily unique source IP addresses of VPN Gate clients.

\*4

The ranking table of VPN Gate client source locations. More details in real time: <u>http://www.vpngate.net/en/region.aspx</u>.

graph4.jpg

# Build the programs from the source code

To build from the source, see "BUILD\_UNIX.TXT" or "BUILD\_WINDOWS.TXT" files in the package, or see the following links.

- How to build SoftEther VPN for Windows
- How to build SoftEther VPN for UNIX (Linux, Mac OS X, FreeBSD and Solaris)

# Explore the latest source code tree from GitHub

We use GitHub as the primary official SoftEther VPN repository.

If you are an open-source developer, visit our GitHub repository:

https://github.com/SoftEtherVPN/SoftEtherVPN/

You can download the up-to-date source-code tree of SoftEther VPN from GitHub. You may make your own fork project from our project.

The download and build instruction is following:

```
git clone https://github.com/SoftEtherVPN/SoftEtherVPN.git
cd SoftEtherVPN
make
make install
```

## To circumvent your government's firewall restriction

Because SoftEther VPN is overly strong tool to build a VPN tunnel, some censorship governments want to block your access to the source code of SoftEther VPN, by abusing their censorship firewalls.

To circumvent your censor's unjust restriction, SoftEther VPN Project distributes the upto-date source-code on all the following open-source repositories:

- GitHub
   <u>https://github.com/SoftEtherVPN/SoftEtherVPN/</u>
- SourceForge https://sourceforge.net/p/softethervpn/code/ci/master/tree/
- Google Code
   <a href="https://code.google.com/p/softether/source/browse/">https://code.google.com/p/softether/source/browse/</a>

To fetch the source code from GitHub:

git clone https://github.com/SoftEtherVPN/SoftEtherVPN.git

To fetch the source code from SourceForge:

git clone http://git.code.sf.net/p/softethervpn/code

- or -

```
git clone git://git.code.sf.net/p/softethervpn/code
```

To fetch the source code from Google Code:

git clone https://code.google.com/p/softether/

We hope that you can reach one of the above URLs at least!

#### Introduction of SoftEther VPN

**SoftEther VPN** ("SoftEther" means "Software Ethernet") is one of the world's most powerful and easy-to-use multi-protocol VPN software. It runs on Windows, Linux, Mac, FreeBSD and Solaris.

SoftEther VPN is <u>open source</u>. You can use SoftEther for any personal or commercial use for free of charge.

SoftEther VPN is an optimum <u>alternative to</u> <u>OpenVPN</u> and <u>Microsoft's VPN</u> <u>servers</u>. SoftEther VPN has a clone-function of OpenVPN

Server. You can integrate from OpenVPN to SoftEther VPN smoothly. <u>SoftEther VPN is</u> <u>faster than OpenVPN</u>. SoftEther VPN also supports Microsoft SSTP VPN for Windows Vista / 7 / 8. No more need to pay expensive Windows Server license-fee for Remote-Access VPN function.

SoftEther VPN can be used to realize <u>BYOD</u> (Bring your own device) on your business. If you have smartphones, tablets or laptop PCs, <u>SoftEther VPN's L2TP/</u> <u>IPsec server function</u> helps you to establish a remote-access VPN from remote to your local network. SoftEther VPN's L2TP VPN Server has strong compatible with <u>Windows</u>, <u>Mac</u>, <u>iOS</u> and <u>Android</u>.

1.2.jpg

## 1.0\_vpnserver.jpg

SoftEther VPN is not only an alternative VPN server to existing VPN products (OpenVPN, IPsec and MS-SSTP). SoftEther VPN has also <u>original strong SSL-VPN</u> <u>protocol</u> to penetrate any kinds of firewalls. Ultra-optimized SSL-VPN Protocol of SoftEther VPN has very fast throughput, low latency and firewall resistance.

SoftEther VPN has <u>strong</u> <u>resistance against firewalls</u> than ever. <u>Built-in NAT-</u>

<u>traversal</u> penetrates your network admin's troublesome firewall for overprotection. You can setup your own VPN server behind the firewall or NAT in your company, and you can reach to that VPN server in the corporate private network from your home or mobile place, without any modification of firewall settings. Any deep-packet inspection firewalls cannot detect SoftEther VPN's transport packets as a VPN tunnel, because SoftEther VPN uses Ethernet over HTTPS for camouflage.

1.0 vpnclient2.jpg

Easy to imagine, design and1.0\_vpnimplement your VPN topologywith SoftEther VPN. Itvirtualizes Ethernet by software-<br/>enumeration. SoftEther VPNClient implements VirtualNetwork Adapter, and SoftEther<br/>VPN Server implements VirtualEthernet Switch. You can easilybuild both Remote-AccessVPN and Site-to-Site VPN, as expansion of Ethernet-based L2 VPN. Of<br/>course, traditional IP-routing L3 based VPN can be built by SoftEther VPN.

iphone.jpg SoftEther VPN has strong compatibility to today's most popular VPN products. It has the interoperability with OpenVPN, L2TP, IPsec, EtherIP, L2TPv3, Cisco VPN Routers and MS-SSTP VPN Clients. SoftEther VPN is the world's only VPN software which supports SSL-VPN, OpenVPN, L2TP, EtherIP, L2TPv3 and IPsec, as a single VPN software.

SoftEther VPN is free software because it was developed as <u>Daiyuu Nobori's Master</u> <u>Thesis research</u> in the University. You can <u>download</u> and <u>use it</u> today. <u>The source-code</u> of SoftEther VPN is available under GPL license.

# **OpenVPN vs. SoftEther VPN**

Many people have a question: what is the advantage of SoftEther VPN to OpenVPN?

Obviously, OpenVPN is an excellent tool. However, the development of OpenVPN has been stalled for many years. OpenVPN has no significant improvement in recent years.

SoftEther VPN has many advantages to OpenVPN as the following table. SoftEther VPN supports multi VPN protocols and multi native-VPN clients of various operating systems. SoftEther VPN has an easy-to-use VPN server management GUI tool. SoftEther VPN has also multi-language support. There are any other advantages in SoftEther VPN. Furthermore, SoftEther VPN has the OpenVPN-clone server function. It means that any OpenVPN users can replace it to SoftEther VPN seamlessly.

The SoftEther VPN Project believes that SoftEther VPN has the potential ability to occupy the position of today's OpenVPN.

comparison3.png