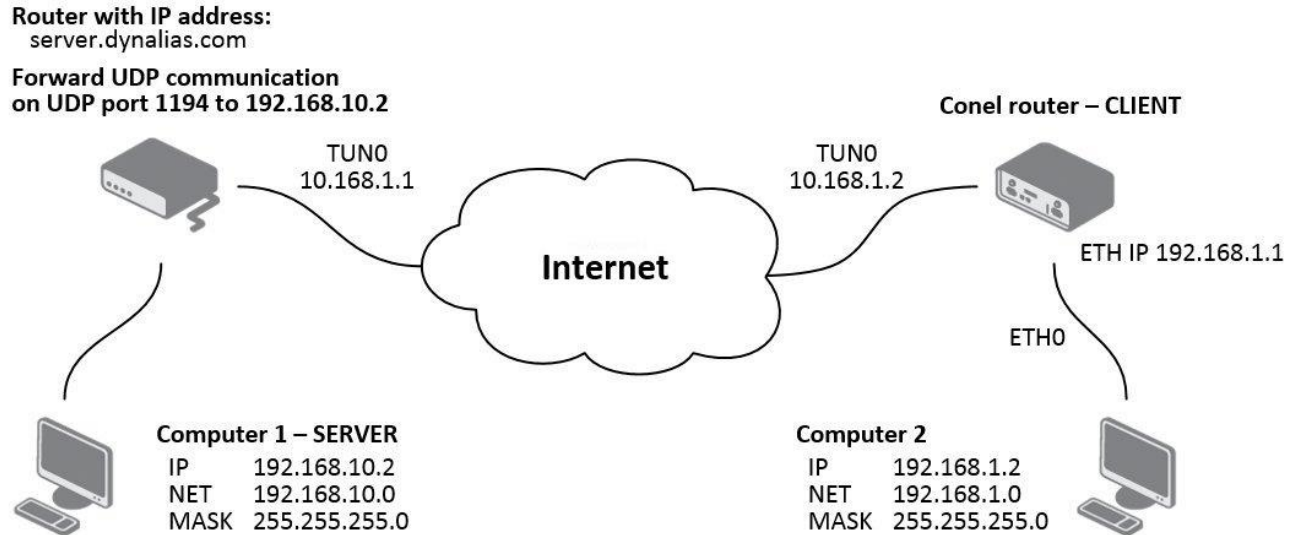


The figure below shows situation, where Conel/Spectre router is on one side of OpenVPN tunnel and device with an operating system Windows/Linux in SERVER mode is on the other side. IP address of the SIM card in the router can be static or dynamic.



OpenVPN tunnel configuration on the router

Item	Value
Remote IP Address	server.dynalias.com
Remote Subnet	192.168.10.0
Remote Subnet Mask	255.255.255.0
Local Interface IP Address	10.168.1.2
Remote Interface IP Address	10.168.1.1
Authenticate Mode	X.509 certificate (client)

CA Certificate	generated certificate from router
DH Parameters	Diffie-Hellman protokol for key exchange
Local Certificate	local certificate assigned by router
Local Private Key	local private key assigned by router

OpenVPN Tunnel Configuration	
<input checked="" type="checkbox"/> Create 1st OpenVPN tunnel	
Description *	<input type="text"/>
Protocol	UDP ▼
UDP Port	1194
Remote IP Address *	server.dynalias.com
Remote Subnet *	192.168.10.0
Remote Subnet Mask *	255.255.255.0
Redirect Gateway	no ▼
Local Interface IP Address	10.168.1.2
Remote Interface IP Address	10.168.1.1
Ping Interval *	10 sec
Ping Timeout *	30 sec
Renegotiate Interval *	sec
Max Fragment Size *	bytes
Compression	LZO ▼
NAT Rules	not applied ▼
Authenticate Mode	X.509 cert. (client) ▼
Pre-shared Secret	<input type="text"/>
CA Certificate	<pre>-----BEGIN CERTIFICATE----- MIIFITCCBIIsdFJNcUISZscdscvblO56knsdvLSKVNLksvbFSDdbvbVvdfv35DVD BBBlknklennmbmskhbCSvdSCBVBBDEvvdsvFWFEklmIUIONDFSx2C2cdsvJKHKmc</pre>
DH Parameters	<input type="text"/>
Local Certificate	<pre>-----BEGIN CERTIFICATE----- MIIFITCCBIIsdFJNcUISZscdscvblO56knsdvLSKVNLksvbFSDdbvbVvdfv35DVD BBBlknklennmbmskhbCSvdSCBVBBDEvvdsvFWFEklmIUIONDFSx2C2cdsvJKHKmc</pre>
Local Private Key	<pre>-----BEGIN RSA PRIVATE KEY----- MIICXAIBAjSDvHKSdbHVdHCVSDJchidnIOEHVoibvpoUBVUOIbvpEUIB6VDAS5xv 9yxvKSBcSVJSCV3ldjnvLSKnnVBVkBKKBJVkl3SBvklSdvbDJKBVdvkblKBVbkdvb</pre>
Username	<input type="text"/>
Password	<input type="text"/>
Extra Options *	<input type="text"/>
* can be blank	
<input type="button" value="Apply"/>	

Note: If NAT Rules parameter is enabled, specified rules (in the configuration form of NAT) are applied to the OpenVPN tunnel.

After establishing an OpenVPN tunnel, an interface tun0 and a route in the routing table of the router are displayed on the *Network Status* page.

Network Status

Interfaces

```
eth0      Link encap:Ethernet  HWaddr 00:55:44:33:52:98
          inet addr:192.168.2.234  Bcast:192.168.2.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:6743 errors:0 dropped:382 overruns:0 frame:0
          TX packets:532 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:541103 (528.4 KB)  TX bytes:277877 (271.3 KB)
          Interrupt:23

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

tun0      Link encap:UNSPEC  HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
          inet addr:10.168.1.1  P-t-P:10.168.1.2  Mask:255.255.255.255
          UP POINTOPOINT RUNNING NOARP MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:100
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
```

Route Table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
0.0.0.0	192.168.2.27	0.0.0.0	UG	0	0	0	eth0
10.0.1.17	172.16.0.101	255.255.255.255	UGH	0	0	0	tun0
172.16.0.0	172.16.0.101	255.255.0.0	UG	0	0	0	tun0
172.16.0.1	172.16.0.101	255.255.255.255	UGH	0	0	0	tun0
10.168.1.2	0.0.0.0	255.255.255.255	UH	0	0	0	tun0
192.168.2.0	0.0.0.0	255.255.255.0	U	0	0	0	eth0
192.168.2.27	0.0.0.0	255.255.255.255	UH	0	0	0	eth0

It is also possible to check successful establishment of OpenVPN tunnel in the system log (*System Log* item in menu). Listings should end with line *Initialization Sequence Completed*.

System Log

System Messages

```
2013-05-10 18:27:52 openvpn[1338]: Attempting to establish TCP connection with 88.86.101.201:1194 [nonblock]
2013-05-10 18:27:55 openvpn[1338]: TCP connection established with 88.86.101.201:1194
2013-05-10 18:27:55 openvpn[1338]: TCPv4_CLIENT link local: [undef]
2013-05-10 18:27:55 openvpn[1338]: TCPv4_CLIENT link remote: 88.86.101.201:1194
2013-05-10 18:27:58 openvpn[1338]: WARNING: this configuration may cache passwords in memory -- use the auth-nocache option to prevent this
2013-05-10 18:28:00 openvpn[1338]: [L1_server] Peer Connection Initiated with 88.86.101.201:1194
2013-05-10 18:28:14 openvpn[1338]: TUN/TAP device tap0 opened
2013-05-10 18:28:14 openvpn[1338]: /sbin/ifconfig tap0 5.11.2.2 netmask 255.255.0.0 mtu 1500 broadcast 5.11.255.255
2013-05-10 18:28:14 openvpn[1338]: Initialization Sequence Completed
```

Save Log

Save Report

Tunnel configuration on Computer 1 – Server

It is necessary to perform the following configuration on the computer, which is referred to as *Computer 1 – Server* in the diagram from the beginning of this chapter.

```
local 192.168.10.2
tls-server
```

```
dev tun
```

```
pull
```

```
ifconfig 10.168.1.1 10.168.1.2
route 192.168.1.0 255.255.255.0 10.168.1.2
```

```
mute 10
```

```
ca cacert.pem
cert client-cert.pem
key client-key2.pem
```

```
comp-lzo
```

```
verb 3
```