OpenVPN Server with x.509 certificate

1. Introduction

1.1 Overview

This document contains information regarding the configuration and use of OpenVPN Server with x.509 certification.

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product, and of the requirements for their specific application.

1.2 Compatibility

This application note applies to ：

Models Shown: 641M series.

Firmware Version: V1.2.0 (68c082c) or newer

1.3 Version

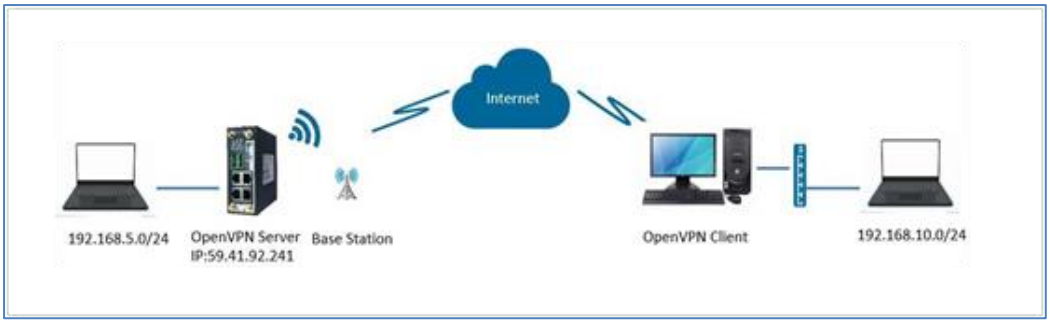
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2020/03/05	V1.0.0	V1.2.0(68c082c)	First released

1.4 Corrections

Appreciate for corrections or rectifications to this application note, and if any request for new application notes please email to: support@elpro.com.au

2. Topology

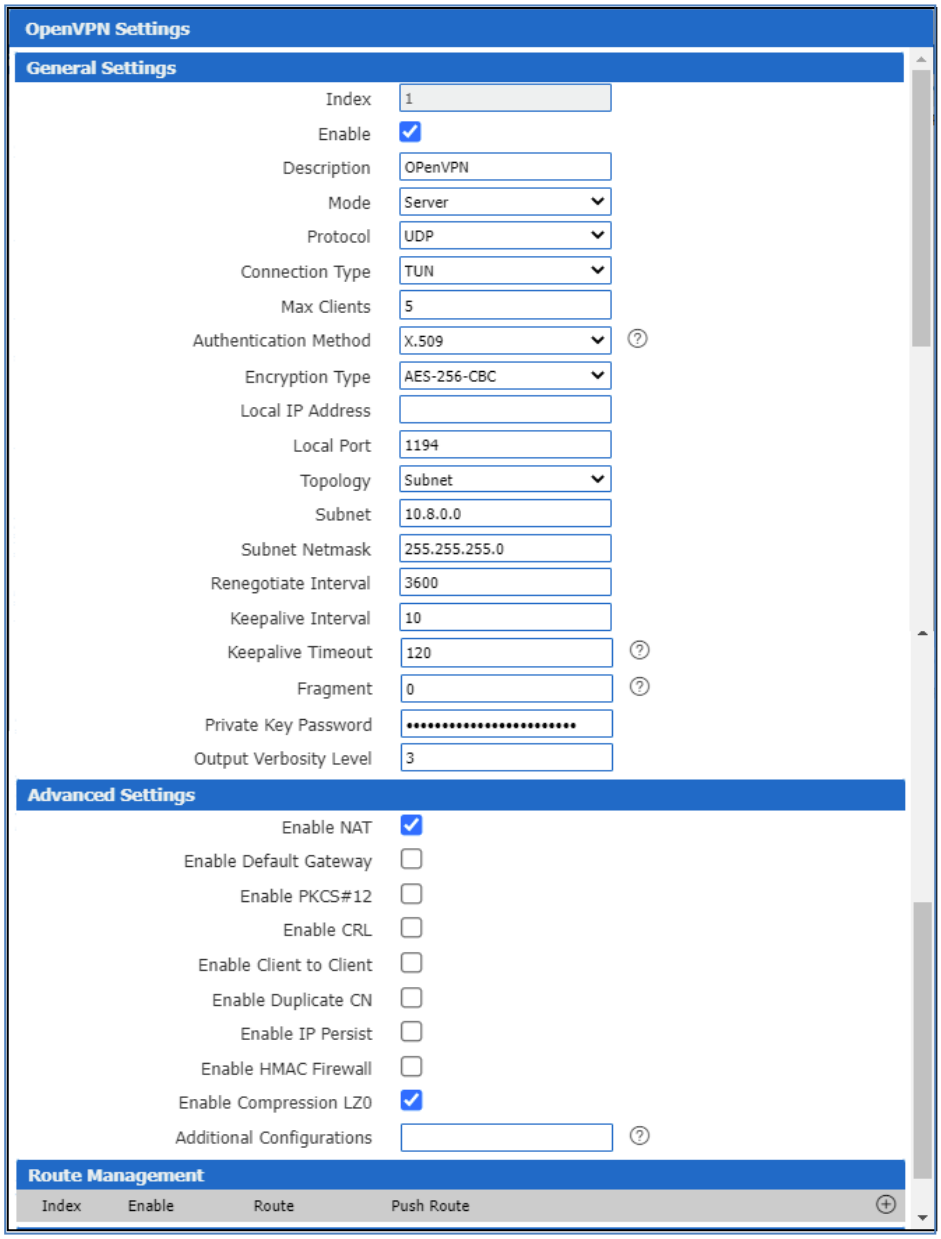


1. 641M Router runs as OpenVPN Server with Public IP address or Domain Name, which can be ping by OpenVPN Client successfully.
2. A PC runs as OpenVPN Client with any kinds of the IP, just able to connect to internet.
3. OpenVPN tunnel is established between Server and Client, the subnet can PING each other successfully

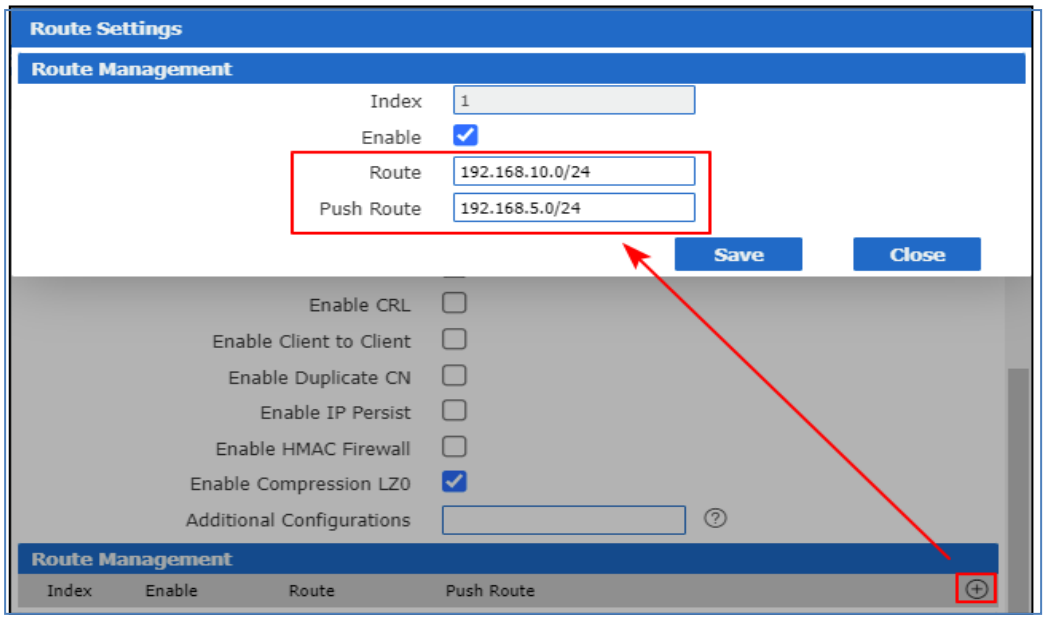
3. Configuration

3.1 Server Configuration

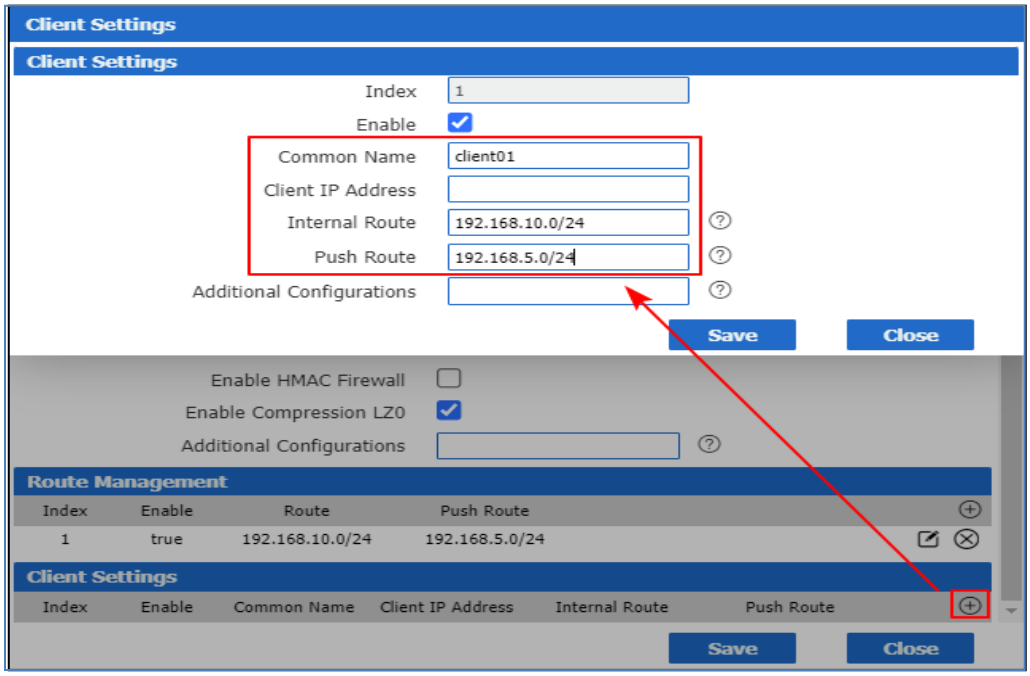
1. Go to **VPN>OpenVPN>OpenVPN>General Settings,** click the Edit Button and configure OpenVPN as below picture. Click Save.



2. Setting on Router Management like below, click “Save”.

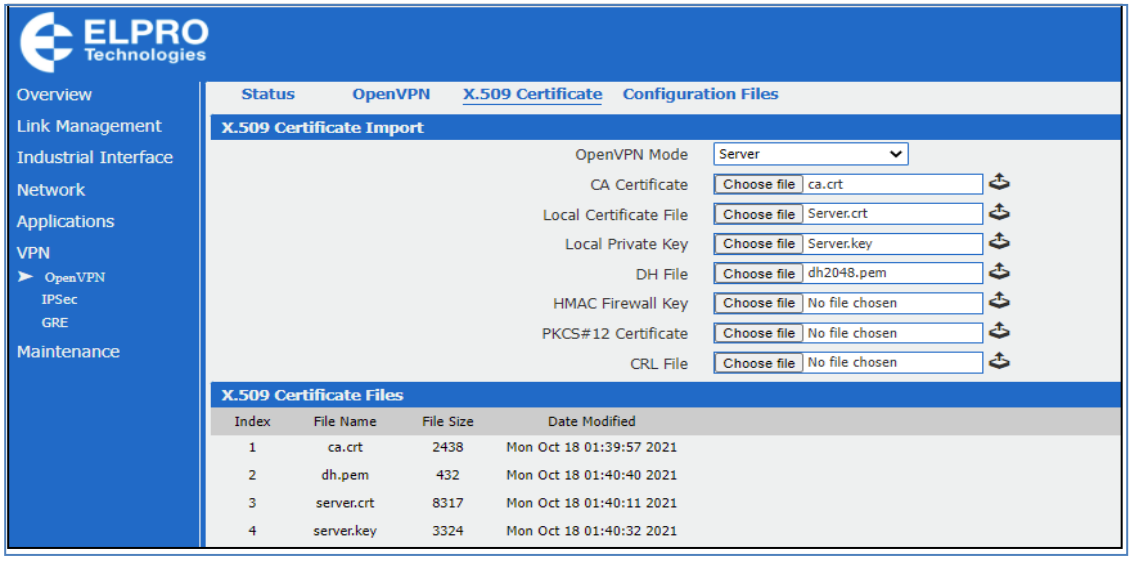


3. Setting on Client Settings like below, click “Save”:



4. After that, click Save>Apply.

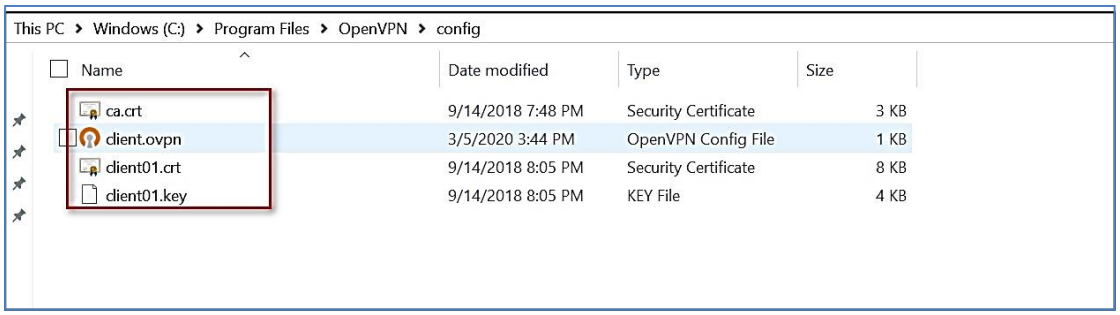
5. Go to VPN>OpenVPN>X.509 Certificate, import the related certificates:



6. Click Apply.

3.2 Client Configuration

1. Install OpenVPN software on PC and copy the related certifications and configuration to the PC like below:



Note:

a) Kindly download OpenVPN software with: **https://openvpn.net/**

b) Kindly install and run OpenVPN software with **administrator authority.**

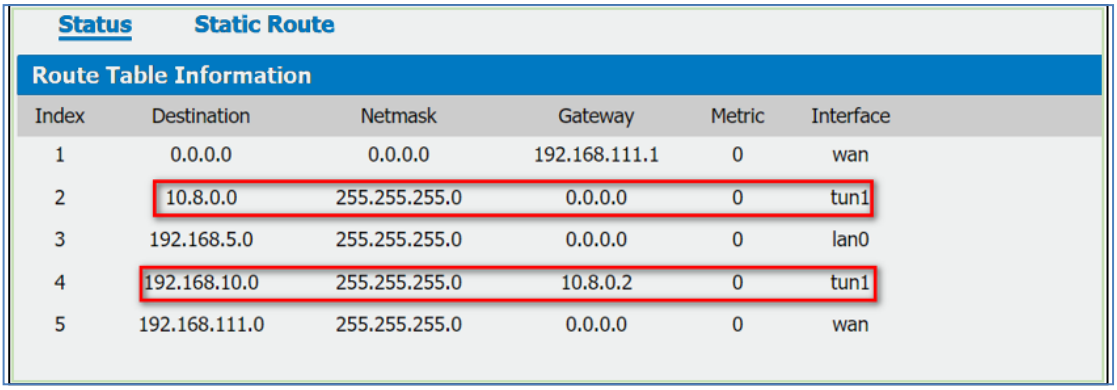
2. The configuration of **client.ovpn** like below:

```
==========================================================
client
remote 59.41.92.241 1194
dev tun
proto udp
resolv-retry infinite
nobind
```

persist-key
persist-tun
ca ca.crt
cert client01.crt
key client01.key
remote-cert-tls server
cipher AES-256-CBC
keepalive 10 120
comp-lzo
verb 3
==========

4. Route Table

1. Route Table on OpenVPN Server for reference.

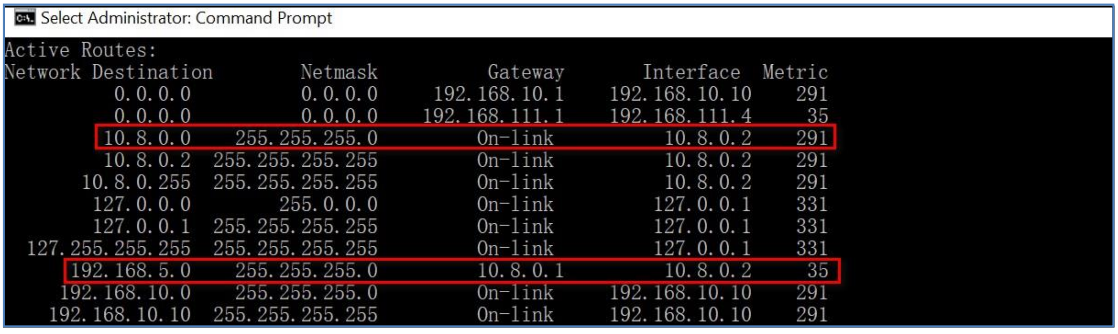


Status | Static Route

Route Table Information

Index	Destination	Netmask	Gateway	Metric	Interface
1	0.0.0.0	0.0.0.0	192.168.111.1	0	wan
2	10.8.0.0	255.255.255.0	0.0.0.0	0	tun1
3	192.168.5.0	255.255.255.0	0.0.0.0	0	lan0
4	192.168.10.0	255.255.255.0	10.8.0.2	0	tun1
5	192.168.111.0	255.255.255.0	0.0.0.0	0	wan

2. Route Table on OpenVPN Client for reference.



Select Administrator: Command Prompt

```
Active Routes:
Network Destination        Netmask          Gateway       Interface  Metric
          0.0.0.0          0.0.0.0    192.168.10.1    192.168.10.10     291
          0.0.0.0          0.0.0.0    192.168.111.1   192.168.111.4      35
         10.8.0.0    255.255.255.0         On-link         10.8.0.2     291
         10.8.0.2  255.255.255.255         On-link         10.8.0.2     291
       10.8.0.255  255.255.255.255         On-link         10.8.0.2     291
        127.0.0.0        255.0.0.0         On-link         127.0.0.1     331
        127.0.0.1  255.255.255.255         On-link         127.0.0.1     331
  127.255.255.255  255.255.255.255         On-link         127.0.0.1     331
      192.168.5.0    255.255.255.0         10.8.0.1         10.8.0.2      35
     192.168.10.0    255.255.255.0         On-link     192.168.10.10     291
    192.168.10.10  255.255.255.255         On-link     192.168.10.10     291
```

5. Testing

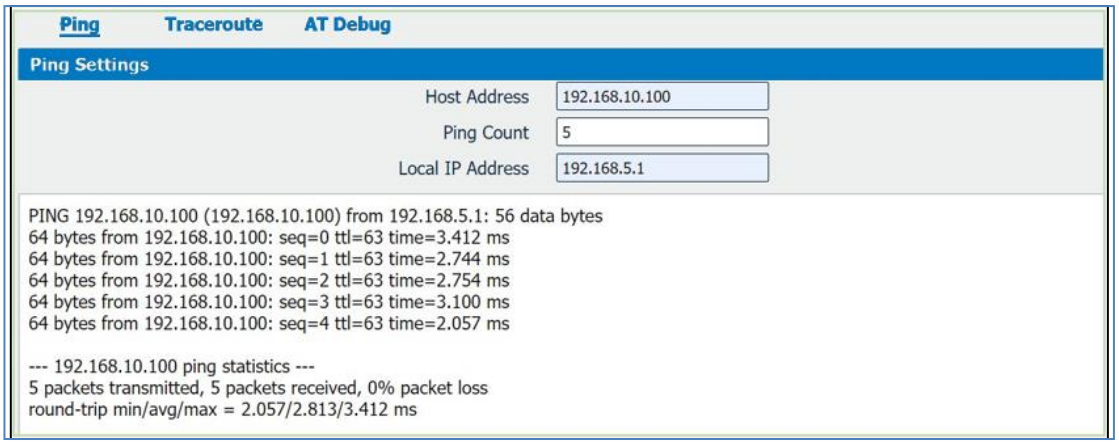
1. Enable CMD and Ping from OpenVPN Client to LAN of OpenVPN Server.

```
C:\Users\Administrator>ping 192.168.5.1 -S 192.168.10.100

Pinging 192.168.5.1 from 192.168.10.100 with 32 bytes of data:
Reply from 192.168.5.1: bytes=32 time=3ms TTL=63
Reply from 192.168.5.1: bytes=32 time=3ms TTL=63
Reply from 192.168.5.1: bytes=32 time=3ms TTL=63
Reply from 192.168.5.1: bytes=32 time=3ms TTL=63

Ping statistics for 192.168.5.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 3ms, Average = 3ms
```

2. Go to **Maintenance>Debug Tool>Ping** and Ping from OpenVPN Server to OpenVPN Client LAN Device.



3. Test successfully.