

NR500 Series Industrial Cellular VPN Router

Application Note 046

L2TP Client With Cisco

Version: V1.0.0
Date: Nov 2019
Status: Confidential



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1. Introduction

1.1 Overview

This document contains information regarding the configuration and use of L2TP client with cisco.

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: NR500 series.

Firmware Version: V1.1.2(3be6e5a) or newer

Other Compatible Models: None

1.3 Version

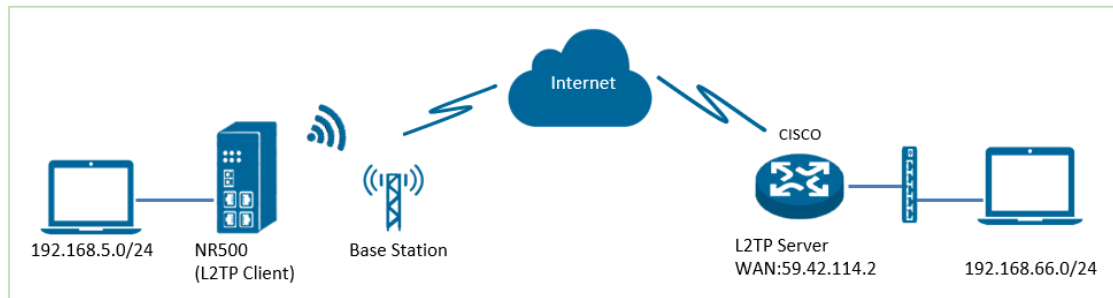
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2019/11/27	V1.0.0	V1.1.2(3be6e5a)	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@navigateworx.com

2. Topology



1. NR500 Pro run as L2TP client and make sure communicate with Internet.
2. CISCO rotuer run as L2TP server with a public IP.
3. L2TP VPN tunnel is established between NR500 routers and CISCO router. The subnet PCs are able to communicate with each other.

3. Configuration

3.1 L2TP Server Configuration


1. The configuration of L2TP server on CISCO like below:

```
-----  
cisco2811 #show run  
Building configuration...  
  
Current configuration : 5447 bytes  
version 12.4  
ip cef  
ip dhcp excluded-address 10.10.10.1  
ip dhcp pool ABC  
    network 10.10.10.0 255.255.255.0  
    default-router 10.10.10.1  
ip name-server 8.8.8.8  
ip name-server 202.96.128.166  
ip address-pool local!  
  
vpdn enable  
vpdn-group l2tp  
! Default L2TP VPDN group  
    accept-dialin  
        protocol l2tp  
        virtual-template 1  
    l2tp tunnel password 0 123456  
username l2tp password 0 l2tp  
  
interface Loopback2  
    ip address 192.168.66.1 255.255.255.0  
!  
interface FastEthernet0/0  
    bandwidth 640  
    no ip address  
    ip nat outside  
    ip nat enable  
    ip virtual-reassembly  
    duplex full  
    speed auto  
    pppoe enable group global  
    pppoe-client dial-pool-number 1
```

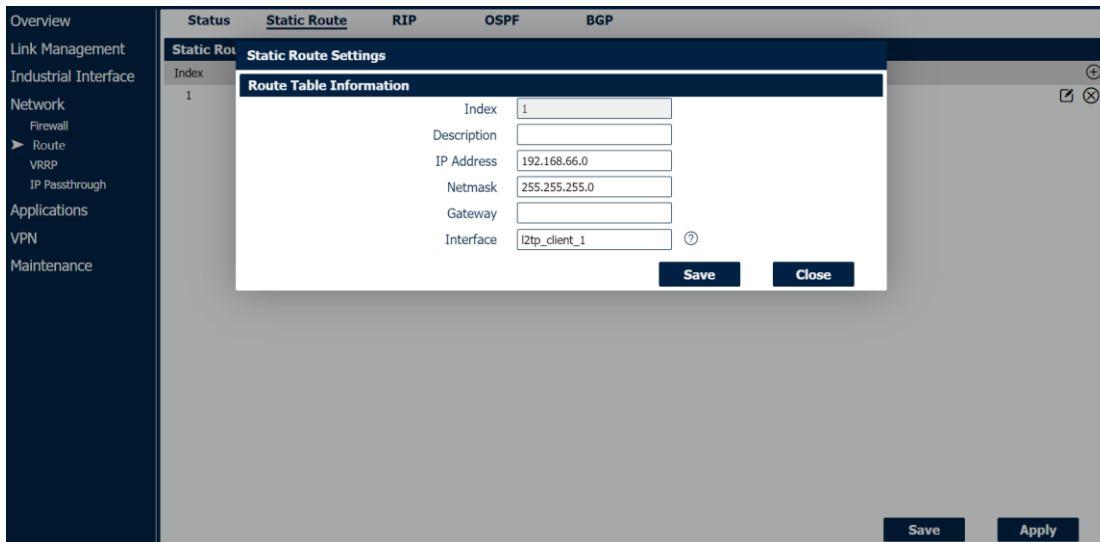
```
no cdp enable
no mop enabled
!
interface FastEthernet0/1
ip address 10.10.10.1 255.255.255.0
ip nat inside
ip nat enable
ip virtual-reassembly
duplex auto
speed auto
no cdp enable
!
interface Virtual-Template1
ip address 10.5.5.1 255.255.255.0
peer default ip address pool I2tp
keepalive 20 3
ppp authentication ms-chap-v2
!
interface Dialer1
bandwidth 640
ip address negotiated
ip mtu 1492
ip nat outside
ip virtual-reassembly
encapsulation ppp
ip tcp adjust-mss 1452
no ip mroute-cache
dialer pool 1
dialer idle-timeout 0
dialer hold-queue 100
dialer persistent
dialer-group 1
no cdp enable
ppp authentication pap chap callin
ppp pap sent-username 020xxxxxxxxx@163.gd password 0 XVGZW
crypto map SMAP
!
ip local pool I2tp 10.5.5.2 10.5.5.200
ip route 0.0.0.0 0.0.0.0 Dialer1
ip route 192.168.5.0 255.255.255.0 10.5.5.2
access-list 10 permit 10.10.10.0 0.0.0.255
cisco2811#
```

3.2 L2TP Client Configuration

1. Go to **VPN>L2TP>L2TP Client**, enable L2TP client and configuration like below:



2. Click Save>Apply.
3. Go to **Network>Route>Static Route**, specify the static route, so that the subnet behind L2TP Client can reach the subnet behind L2TP Server.



4. Click Save>Apply.

4. Testing

1. NR500 L2TP Client had connected CISCO L2TP Server successfully. Go to **VPN>L2TP>Status**, to check the connection status.

Status		L2TP Server		L2TP Client		
L2TP Server Status						
Index	Status	Remote IP	Interface	Uptime		
L2TP Client Status						
Index	Description	Status	Local IP	Remote IP	Interface	Uptime
1		Connected	10.5.5.2	10.5.5.1	l2tp_client_1	00:34:57

2. Ping from NR500 to CISCO's subnet and successful:

Overview

Link Management

Industrial Interface

Network

Applications

VPN

Maintenance

- Upgrade
- Software
- System
- Configuration
- ▶ Debug Tools

Ping	Traceroute	AT Debug
Ping Settings		
Host Address	<input type="text" value="192.168.66.1"/>	
Ping Count	<input type="text" value="5"/>	
Local IP Address	<input type="text" value="192.168.5.1"/>	
<pre> PING 192.168.66.1 (192.168.66.1) from 192.168.5.1: 56 data bytes 64 bytes from 192.168.66.1: seq=0 ttl=255 time=45.784 ms 64 bytes from 192.168.66.1: seq=1 ttl=255 time=41.710 ms 64 bytes from 192.168.66.1: seq=2 ttl=255 time=45.168 ms 64 bytes from 192.168.66.1: seq=3 ttl=255 time=39.965 ms 64 bytes from 192.168.66.1: seq=4 ttl=255 time=102.676 ms --- 192.168.66.1 ping statistics --- 5 packets transmitted, 5 packets received, 0% packet loss round-trip min/avg/max = 39.965/55.060/102.676 ms </pre>		

3. Ping from CISCO to NR500's LAN and successful:

```

cisco2811#ping 192.168.5.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.5.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/36/40 ms
cisco2811#
    
```