

NR500 Series Industrial Cellular VPN Router

Application Note 045

L2TP Server with Window OS

Version:V1.0.0Date:Feb 2020Status:Confidential





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1. Introduction

1.1 Overview

This document contains information regarding the configuration and use of L2TP server with Windows OS.

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:** V1.1.1(d053368) 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
2020/02/29	V1.0.0	V1.1.1(d053368)	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 Router run as L2TP server with the public IP address.
- 2. A PC run with Microsoft Windows OS works as L2TP client.
- 3. L2TP VPN tunnel is established between NR500 router and the PC, PC can access to the LAN device behind NR500 Router.



3. Configuration

3.1 L2TP Server Configuration

1. Go to **Link Management>Ethernet>LAN**, specify the LAN IP address as 192.168.5.0/24, like below:

Overview	Status	Port Assignment	WAN	LAN VL/	AN			
Link Management	General Se	LAN Settings						
Connection Manager	Index Int	General Settings						\oplus
Cellular ► Ethernet	1 L	ge	Index	1				\boxtimes
WiFi	Multiple IP		Interface	LANO	•			
Industrial Interface	Index Int		IP Address	192.168.5.1				\oplus
Network			Netmask	255.255.255.0				
Applications			MTU	1500				
VPN		DHCP Settings						
Maintenance			Enable	A			-	
			Mode	Server	•			
			IP Pool Start	192.168.5.2				
			IP Pool End	192.168.5.200				
			Netmask	255.255.255.0				
			Lease Time	120				
			Gateway					
			Primary DNS					
			Secondary DNS					
			WINS Server					
					Save	Close		
					Jave	elose		
							Save	Apply

- 2. Click Save>Apply.
- 3. Go to VPN>L2TP>L2TP Server, enable L2TP server and configuration like below:

Overview	Status	L2TP Server	L2TP Client		
Link Management	L2TP Setting	s			
Industrial Interface			Enable		
Network			Challenge Secrets		0
Applications			Local IP	172.16.1.1	
VPN			Start IP	172.16.1.2	
OpenVPN			End IP	172.16.1.10	
IPSec			Enable Debug		
GRE DMVPN	PPP Settings				
► L2TP			Authentication	CHAP •	
рртр			Username	nwtest	
Maintenance			Password	nwtest	
			MTU	1500	
			Enable Debug	A	
	Advanced Se	ttings			
			Binding Interface		0
			Enable Over IPsec		
			Enable NAT		
					Save Apply

4. Click Save>Apply.



3.2 L2TP Client Configuration

1. Open the PC and go to Network and Sharing Center, click "Set up a new connection or network:



2. Choose "Connect to a workplace" and click "Next":

~	💐 Set Up a Connection or Network		
	Choose a connection option		
	Connect to the Internet Set up a broadband or dial-up connection to the Internet.		
	Set up a new network Set up a new router or access point.		
	Manually connect to a wireless network Connect to a hidden network or create a new wireless profile.		
	Connect to a workplace Set up a dial-up or VPN connection to your workplace.		
		Next	Cancel

3. Click "Use my Internet connection (VPN).



←	Connect to a Workplace	
	How do you want to connect?	
	→ Use my Internet connection (VPN) Connect using a virtual private network (VPN) connection through the Internet.	
	ing	
	→ Dial directly Connect directly to a phone number without going through the Internet.	
	ing in the second	
		Cancel

4. Enter the L2TP Server IP address and Destination name, click "Create".

~	Connect to a Workplace	ie
	Type the Internet a	ddress to connect to
	Your network administrate	or can give you this address.
	Internet address:	116.23.94.181
	Destination name:	L2TP VPN
	Use a smart card	
	Remember my cre	dentials
	Allow other peopl This option allows	e to use this connection anyone with access to this computer to use this connection.
		Create Cancel



5	After that	we had	created L2TP	connection	like helow.
J.	Aner mar,	WEITUU		CONNECTION,	

· 🛧 🎍	* > Control Panel > All Co	ontrol Panel Items 🔉	Network Connections		
-					
× 8	Bluetooth Network Connection 2 Not connected	N	Broadband Connection Disconnected WAN Miniport (PPPOE)	Broadband Connection 2 Disconnected	Ethernet Network cable unplugg Realtek USB GbE Family
×	Ethernet 5 Network cable unplugg TeamViewer VPN Adap		Incoming Connections No clients connected	L2TP VPN Disconnected WAN Miniport (IKEv2)	VMware Network Adapter VMnet1 Enabled
×	VPN - VPN Client Network cable unplugg VPN Client Adapter - V		宽带连接 Disconnected WAN Miniport (PPPOE)	Wi-Fi CISCO 2 Marvell AVASTAR Wirel	

6. Right Click "L2TP VPN", and choose "Properties", go to "Security" and specify the Type of VPN and Authentication, like below:

	Disconnected	
	L2TP VPN	■ L2TP VPN Properties ×
20	WAN Miniport (IKEv2)	General Options Security Networking Sharing
	Wi-Fi	Type of VPN:
	CISCO 2	
4111	Marvell AVASTAR Wirel	Advanced settings
		Optional encryption (connect even if no encryption)
		Authentication
		O Use Extensible Authentication Protocol (EAP)
		· · · · · · · · · · · · · · · · · · ·
		Properties
		Allow these protocols
		Unencrypted password (PAP)
		Challenge Handshake Authentication Protocol (CHAP)
		Microsoft CHAP Version 2 (MS-CHAP v2)
		Automatically use my Windows logon name and
		password (and domain, if any)
		OK Cancel

7. After finishing all above settings, click to connect "L2TP VPN", and sign in with the Username and Password, Click "OK", like below:



	જી	L2TP	VPN Connect	ing to L21	TP VPN	1	
						Cancel	
Windows Sec Sign in	urity						×
nwtest					0		
	OK				Can	ncel	ı,

8. L2TP Client had connected to L2TP Server successfully. Right Click the "L2TP VPN", choose "Status", go to "Details", then we can see that the L2TP Server had assigned the IP address to the L2TP Client.

L2TP VPN Status			
Conoral D. L. I	Network Connection Deta	ils	X
Details	Network Connection Details		
Connection	Property	Value	
IPv4 Connectivity:	Connection-specific DNS	Value	
IPv6 Connectivity:	Description	L2TP VPN	
Media State:	Physical Address		
Duration:	DHCP Enabled	No	
	IPv4 Address	172.16.1.2	
Datalla	IPv4 Subnet Mask	255.255.255.255	
Details	IPv4 Default Gateway		
Activity	IPv4 DNS Server		
,	IPv4 WINS Server		
Sent —	NetBIOS over Tcpip Enab	Yes	
Bytes: 93.181			
Compression: 0 %			
Errors: 0			
Properties Disconnect			



4. Testing

1. Ping from L2TP Client to L2TP Server and successfully.

