

NR500 Series Industrial Cellular VPN Router

Application Note 027

GRE VPN Between NR500 and CISCO

Version: Date: Status:

V1.0.0 2018/09/30 Confidential





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1. Introduction

1.1 Overview

This document contains information regarding the configuration and use of GRE VPN between NR500 router and 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:** V1.0.0 (930.3) 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
2018/09/30	V1.0.0	V1.0.0(930.3)	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 work with static public IP or dynamic public IP with domain name .
- 2. CISCO router run as central router with static public IP or dynamic public IP with domain name.
- 3. GRE VPN tunnel establish between NR500 Pro and CISCO router.



3. Configuration

3.1 Router Configuration

1. Go to VPN>GRE>GRE, Click the Edit button of GRE, like below:

Navigate	Norx					Login: ac Reboot	lmin Logout	
Overview	Status	(GRE					
Link Management	General S	ettings						
Industrial Interface	Index	Enable	Description	Remote Gateway	Local Virtual IP			Ð

2. Configure GRE VPN like below picture:

GRE Settings		
GRE Information		
Index	1	
Enable		
Description	GRE TEST	
Remote Gateway	192.168.111.254	
Local Virtual IP	12.1.1.1	
Local Virtual Netmask	255.255.255.0	
Tunnel key	123456 ?	
Enable NAT		
	Save Close	

3. Click Save>Apply.

4. Go to **Network>Route>Route**, to configure the route to the subnet of cisco, to make sure that the subnet can reach each other.

	M						Login: admin		
Navigatev	vorx						Reboot	Logout	
Overview	Status	Route							
Link Management	Static Rou	ite Settings							
Industrial Interface	Index	Description	IP Address	Netmask	Gateway	Interface		(Ð
Network									

5. The static route setting like below:



Static Route Settings			
Route Table Information			
Index	1	_	
Description	GRE ROUTE	1	
IP Address	192.168.50.0		
Netmask	255.255.255.0		
Gateway			
Interface	gretun1	?	
		Save	Close

3.2 CISCO Router Configuration

```
1. Telnet to cisco route and configure cisco route GRE VPN like below:
```

```
_____
cisco2811#
cisco2811#SHOW RUNning-config
Building configuration...
version 12.4
L
hostname cisco2811
ip name-server 192.168.111.1
ip address-pool local
no ipv6 cef
L
username cisco password 0 cisco
username admin password 0 admin
archive
log config
 hidekeys
ļ
interface Loopback0
ip address 192.168.50.1 255.255.255.0
L
interface Tunnel1
ip address 12.1.1.2 255.255.255.0
 tunnel source 192.168.111.254
 tunnel destination 192.168.111.199
tunnel key 123456
L
interface FastEthernet0/0
 ip address 192.168.111.254 255.255.255.0
 ip nat outside
```



ip nat enable ip virtual-reassembly duplex full speed auto no mop enabled crypto map MAP I interface FastEthernet0/1 ip address 192.168.0.1 255.255.255.0 ip nat inside ip nat enable ip virtual-reassembly duplex auto speed auto ip route 192.168.5.0 255.255.255.0 12.1.1.1 no ip http server no ip http secure-server i ip nat inside source list 10 interface FastEthernet0/0 overload ļ access-list 10 permit 192.168.5.0 0.0.0.255 I end _____



4. Test

1. Ping the virtual IP from NR500 to cisco route.

NavigateV	lorx	Login: admin Reboot	Logout
Overview	Ping Traceroute		
Link Management	Ping Settings		
Industrial Interface	Host Address 12.1.1.2		
Network	Ping Count 5		
Applications	Local IP Address		
VPN Maintenance Upgrade System Configuration	PING 12.1.1.2 (12.1.1.2): 56 data bytes 64 bytes from 12.1.1.2: seq=0 ttl=255 time=2.127 ms 64 bytes from 12.1.1.2: seq=1 ttl=255 time=2.087 ms 64 bytes from 12.1.1.2: seq=2 ttl=255 time=2.084 ms 64 bytes from 12.1.1.2: seq=4 ttl=255 time=2.081 ms 64 bytes from 12.1.1.2: seq=4 ttl=255 time=2.066 ms		
 Debug Tools 	12.1.1.2 ping statistics 5 packets transmitted, 5 packets raceived, 0% packet loss round-trip min/avg/max = 2.066/2.089/2.127 ms		

2. Ping subnet from NR500 to cisco.

No. in stal	1	Login: admin
	VOIX	Reboot Logout
Overview	Ping Traceroute	
Link Management	Ping Settings	
Industrial Interface	Host Address 192.168.50.1	
Network	Ping Count 5	
Applications	Local IP Address	
VPN	PING 192.168.50.1 (192.168.50.1): 56 data bytes	
Maintenance	64 bytes from 192.168.50.1: seq=0 tti=255 time=2.198 ms 64 bytes from 192.168.50.1: seq=1 tti=255 time=2.134 ms	
Upgrade	64 bytes from 192.168.50.1: seq=2 ttl=255 time=2.143 ms 64 bytes from 192.168.50.1: seq=3 ttl=255 time=2.134 ms	
Configuration	64 bytes from 192.168.50.1: seq=4 ttl=255 time=2.104 ms	
 Debug Tools 	192.168.50.1 ping statistics 5 packets transmitted, 5 packets received, 0% packet loss round-trip min/ay/max = 2.104/2.142/2.198 ms	

3. Ping virtual IP and subnet from CISCO to NR500.



4. Test successfully.