

NR500 Series Industrial Cellular VPN Router

Application Note 033

RIP with CISCO

Version: V1.0.0
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Status: Confidential



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1. Introduction

1.1 Overview

This document contains information regarding the configuration and use of RIP 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: devel(f6eb5e7) or newer

Other Compatible Models: None

1.3 Version

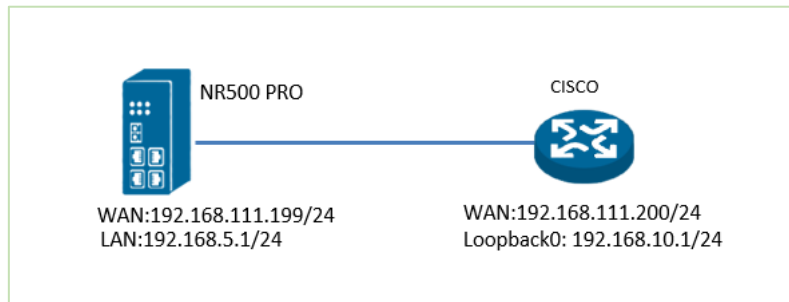
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2018/12/12	V1.0.0	devel(f6eb5e7)	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 and CISCO run the dynamic routing RIP.
2. NR500 Pro and CISCO declare the IP of LAN and loopback0.

3. Configuration

3.1 CISCO Configuration

1. The configuration of **CISCO** like below:

=====

```
CISCO7200#show running-config
Building configuration...
```

```
Current configuration : 1165 bytes
```

```
!
upgrade fpd auto
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname CISCO7200
!
boot-start-marker
boot-end-marker
!
no aaa new-model
no ip icmp rate-limit unreachable
ip cef
!
no ip domain lookup
ip auth-proxy max-nodata-conns 3
ip admission max-nodata-conns 3
!
multilink bundle-name authenticated
!

archive
 log config
  hidekeys
!
ip tcp synwait-time 5
!
interface Loopback0
  ip address 192.168.10.1 255.255.255.0
!
```

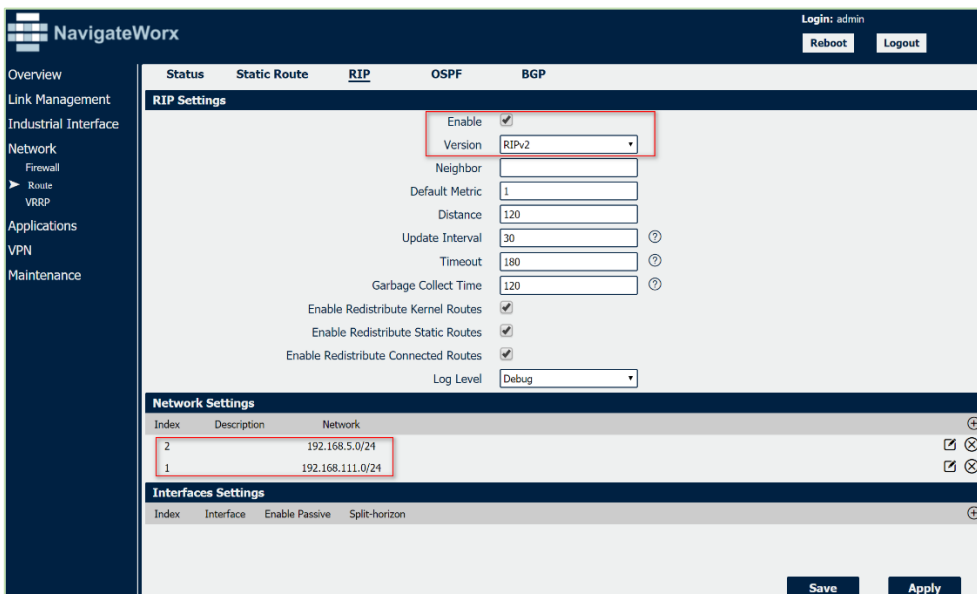
```
interface FastEthernet0/0
  ip address 192.168.111.200 255.255.255.0
  duplex auto
  speed auto
!
interface FastEthernet0/1
  no ip address
  shutdown
  duplex auto
  speed auto
!
router rip
  version 2
  network 192.168.10.0
  network 192.168.111.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
  privilege level 15
  logging synchronous
  stopbits 1
line aux 0
  exec-timeout 0 0
  privilege level 15
  logging synchronous
  stopbits 1
line vty 0 4
  login
!
!
end
```

CISCO7200#

=====

3.2 NR500 Pro Configuration

1. Go to **Network>Route>RIP**, enable RIP and configure RIP as below picture.



The screenshot shows the 'RIP Settings' configuration page in the NavigateWorx interface. The 'Enable' checkbox is checked, and the 'Version' is set to 'RIPv2'. Other settings include 'Neighbor', 'Default Metric' (1), 'Distance' (120), 'Update Interval' (30), 'Timeout' (180), and 'Garbage Collect Time' (120). There are also checkboxes for 'Enable Redistribute Kernel Routes', 'Enable Redistribute Static Routes', and 'Enable Redistribute Connected Routes', all of which are checked. The 'Log Level' is set to 'Debug'. Below the settings, the 'Network Settings' table lists two entries: index 2 for network 192.168.5.0/24 and index 1 for network 192.168.111.0/24. The 'Interfaces Settings' table is also visible below.

2. Click Save>Apply.

4. Route Table

1. Route Table on CISCO for reference.

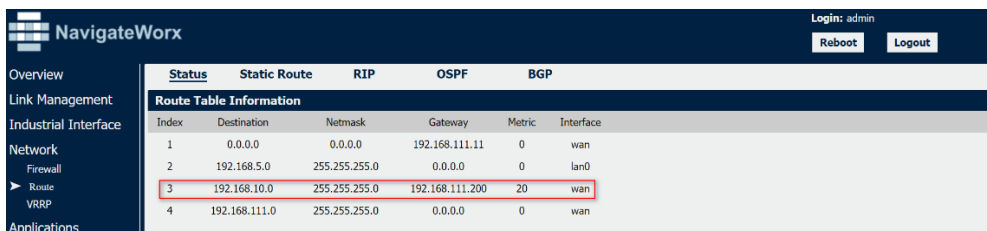
```

CISCO7200#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.111.0/24 is directly connected, FastEthernet0/0
C    192.168.10.0/24 is directly connected, Loopback0
R    192.168.5.0/24 [120/1] via 192.168.111.199, 00:00:29, FastEthernet0/0
CISCO/200#
    
```

2. Route Table on NR500 Pro for reference.



The screenshot shows the 'Route Table Information' table in the NavigateWorx interface. The table has columns for Index, Destination, Netmask, Gateway, Metric, and Interface. The entry for index 3 is highlighted with a red box.

Index	Destination	Netmask	Gateway	Metric	Interface
1	0.0.0.0	0.0.0.0	192.168.111.11	0	wan
2	192.168.5.0	255.255.255.0	0.0.0.0	0	lan0
3	192.168.10.0	255.255.255.0	192.168.111.200	20	wan
4	192.168.111.0	255.255.255.0	0.0.0.0	0	wan

5. Testing

1. Ping from CISCO to NR500 Pro.

```
CISCO7200#ping 192.168.5.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.5.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/18/36 ms
CISCO7200#
```

2. Test successfully.