



# Running Cohesive Routing Agent as Background Service

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## Overview

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Windows `routing-agent.exe` executable are a software agent written by Cohesive Networks. It allow machines on a VNS3 virtual network to receive route pushes of changing routes in the overlay network. This is of significant value when a new route appears to the overlay network via a new VLAN isolated segment such as in Amazon VPC being added, or a new datacenter subnet via an IPsec connection.

Currently this route management is the only function the agent has. It does not send any data anywhere on the virtual network or off of the server where it is running. It listens for a multicast message (encrypted) from the VNS3 Manager it is attached to announcing that a new route has appeared or been deleted. The route is not communicated in the encrypted multicast message. The agent then uses its credentials that allow it to communicate with the VNS3 Manager to use an internal API call which can only be executed from the VNS3 Virtual Network to get the updated route information.

In subsequent releases this agent may perform additional functions to allow greater ease and flexibility of fail-over strategies.

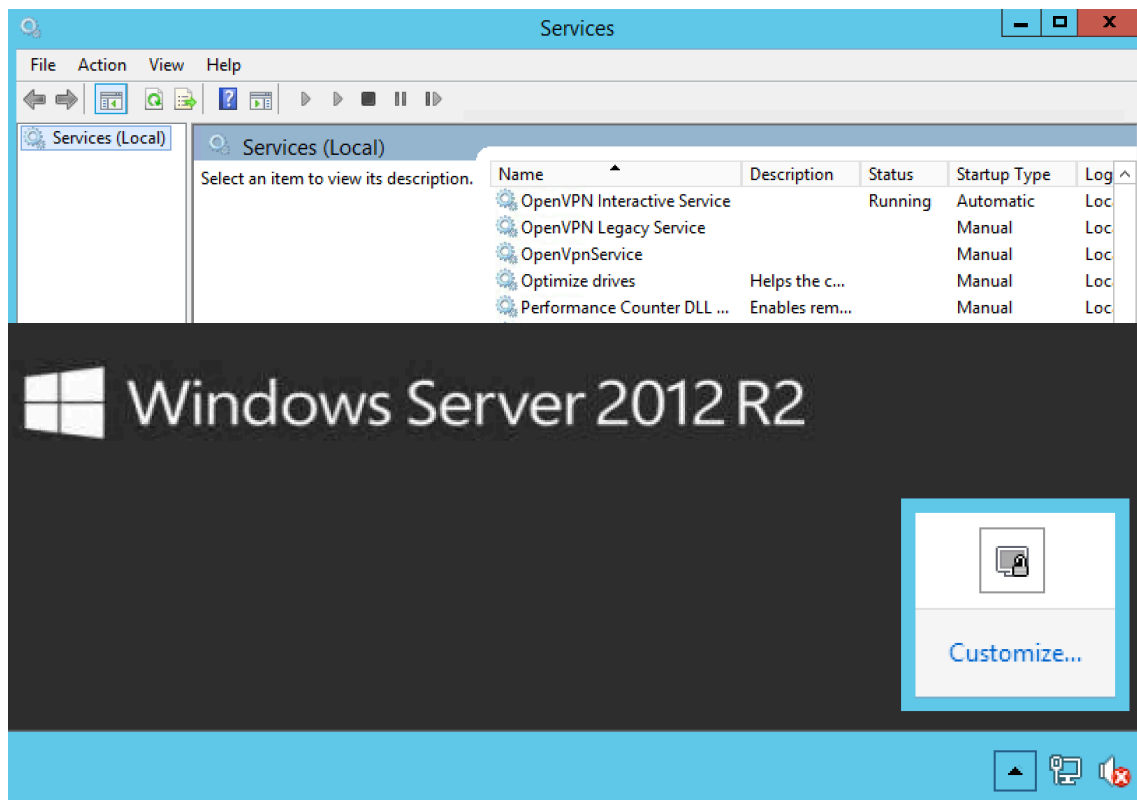
## Download

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Download the Cohesive Routing Agent [here](https://cn-dnld.s3.amazonaws.com/cohesive-ra-1.1.1_x86_64.exe) ([https://cn-dnld.s3.amazonaws.com/cohesive-ra-1.1.1\\_x86\\_64.exe](https://cn-dnld.s3.amazonaws.com/cohesive-ra-1.1.1_x86_64.exe)).

# Background Information

Before installing verify that you have OpenVPN installed at your windows server. This way, Cohesive Routing Agent will run as a dependency, and will start and stop whenever the service take action.



If you installed Cohesive Routing Agent before OpenVPN, you can use the same installer to overwrite previous installation. Just follow the instructions again.

Cohesive Networks assume that you have installed and configured the windows server as part of a VNS3 overlay network and that a virtual VNS3 interface is available on a Windows "tap" adapter. To verify, evoke a terminal window and at the prompt type `ipconfig`

```
C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

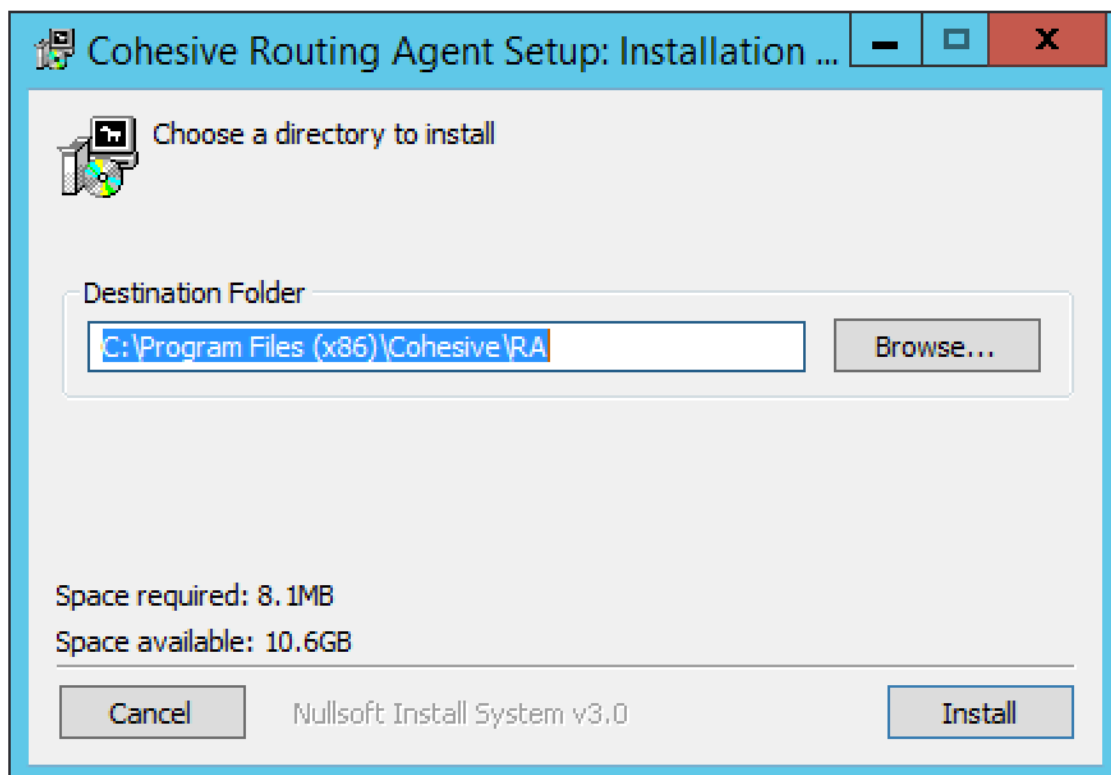
    Connection-specific DNS Suffix  . : sa-east-1.compute.internal
    Link-local IPv6 Address . . . . . : fe80::219b:dec0:c0b5:cdda%3
    IPv4 Address. . . . . : 10.11.12.7
    Subnet Mask . . . . . : 255.255.255.240
    Default Gateway . . . . . : 10.11.12.1

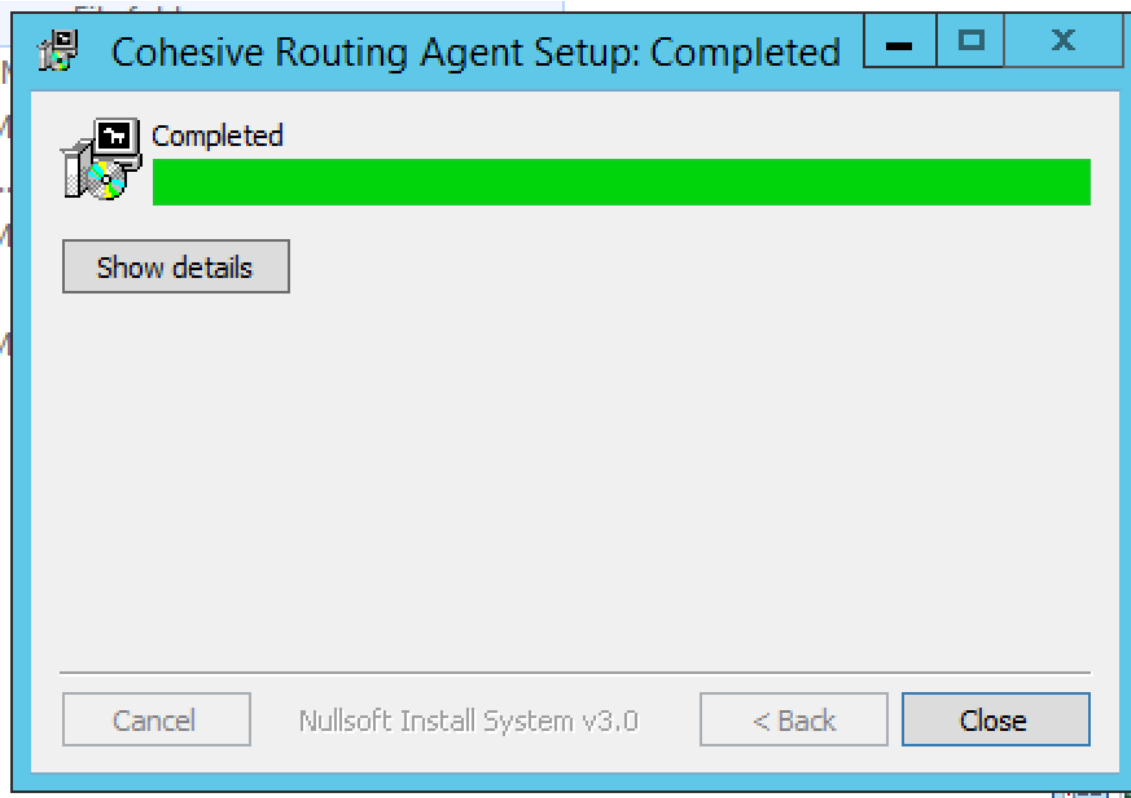
Ethernet adapter Ethernet 3:

    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::e82f:a95b:b5ed:c8ce%26
    IPv4 Address. . . . . : 10.35.35.25
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :
```

## Installation

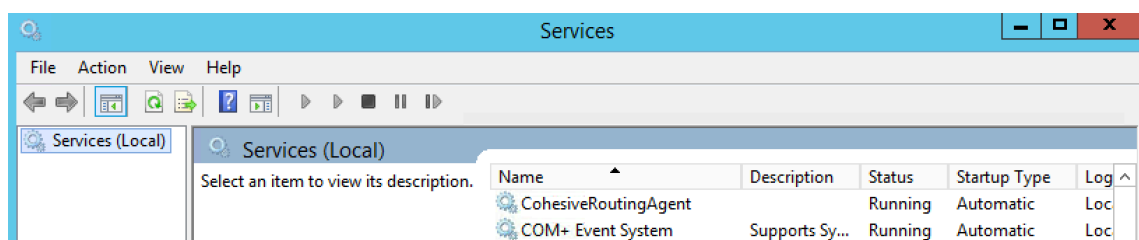
Execute `cohesive-ra-1.1.1_x86_64.exe` and follow instructions:





## Service

For the routing agent mechanism to function as intended, you should now see `CohesiveRoutingAgent` service running (as well as your OpenVPN client agent):



## Confirming the Routing Agent Operation

You can test the routing agent by checking your routes in a terminal via "netstat -nr" and look at the IPV4 routes, then adding a route and checking the local routing table again.

- In an administrator's terminal `netstat -nr`

```

Administrator: Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>netstat -nr
=====
Interface List
15...00 ff d3 bb 21 f0 .....TAP-Windows Adapter U9
12...0a 5b 84 07 66 2b .....AWS PU Network Device #0
1.....Software Loopback Interface 1
14...00 00 00 00 00 00 00 e0 Microsoft ISATAP Adapter
16...00 00 00 00 00 00 00 e0 Microsoft ISATAP Adapter #2
=====

IPv4 Route Table
=====
Active Routes:
Network Destination        Netmask          Gateway           Interface        Metric
0.0.0.0                    0.0.0.0          10.11.12.1        10.11.12.4       10
10.11.12.0                 255.255.255.240  On-link          10.11.12.4       266
10.11.12.4                 255.255.255.255  On-link          10.11.12.4       266
10.11.12.15                255.255.255.255  On-link          10.11.12.4       266
127.0.0.0                  255.0.0.0        On-link          127.0.0.1        306
127.0.0.1                  255.255.255.255  On-link          127.0.0.1        306
127.255.255.255           255.255.255.255  On-link          127.0.0.1        306
169.254.169.250           255.255.255.255  10.11.12.1        10.11.12.4       10
169.254.169.251           255.255.255.255  10.11.12.1        10.11.12.4       10
169.254.169.254           255.255.255.255  10.11.12.1        10.11.12.4       10
172.31.0.0                 255.255.252.0    172.31.1.2        172.31.1.1       20
172.31.1.0                 255.255.255.252  On-link          172.31.1.1       276
172.31.1.1                 255.255.255.255  On-link          172.31.1.1       276
172.31.1.3                 255.255.255.255  On-link          172.31.1.1       276
224.0.0.0                  240.0.0.0        On-link          127.0.0.1        306
224.0.0.0                  240.0.0.0        On-link          172.31.1.1       276
224.0.0.0                  240.0.0.0        On-link          10.11.12.4       266
224.0.0.0                  240.0.0.0        172.31.1.2        172.31.1.1       20
255.255.255.255           255.255.255.255  On-link          127.0.0.1        306
255.255.255.255           255.255.255.255  On-link          172.31.1.1       276
255.255.255.255           255.255.255.255  On-link          10.11.12.4       266
=====

Persistent Routes:
None

IPv6 Route Table
=====
Active Routes:
If Metric Network Destination      Gateway
1       306 ::1/128                      On-link
15      276 fe80::/64                    On-link
12      266 fe80::/64                    On-link
12      266 fe80::1113:87f2:2b16:fd83/128 On-link
15      276 fe80::5164:b4f0:6025:3468/128 On-link
1       306 ff00::/8                      On-link
15      276 ff00::/8                      On-link
12      266 ff00::/8                      On-link
=====

Persistent Routes:
None

C:\Users\Administrator>_

```

- Using the VPN3/VNS3 Manager "Other Routes" function, enter a "nonsense" route (one that is not a part of your network setup.

# VNS3 Administration Tool

cohesive networks

Runtime

Status

Network Sniffer

Overlay

Snapshot Import

Manager Peering

Clientpacks

Connections

IPsec and eBGP

Firewall

Routes

Container

Network

Images

Containers

Maintenance

Snapshots

License Upgrade

Remote Support

## Add Route

Enter CIDR for new route:

100.100.100.1/32

Route description:

nonsense

Route type:

Route advertisement

Add route

## Current Routes

224.0.0.0/4 (tun0) [x]

Multicast (auto-added)

- Wait approximately 30 seconds for the route to broadcast (the manager sends out route update notifications every 5 seconds when needed).

- Repeat the `netstat -nr` command and confirm the presence of your newly added route.

```

Administrator: Command Prompt
C:\Users\Administrator>netstat -nr
=====
Interface List
15...00 ff d3 bb 21 f0 .....TAP-Windows Adapter V9
12...0a 5b 84 07 66 2b .....AWS PU Network Device #0
1.....Software Loopback Interface 1
14...00 00 00 00 00 00 00 e0 Microsoft ISATAP Adapter
13...00 00 00 00 00 00 00 e0 Teredo Tunneling Pseudo-Interface
16...00 00 00 00 00 00 00 e0 Microsoft ISATAP Adapter #2
=====

IPv4 Route Table
=====
Active Routes:
Network Destination        Netmask          Gateway           Interface        Metric
0.0.0.0                    0.0.0.0          10.11.12.1        10.11.12.4        10
10.11.12.0                 255.255.255.240  On-link          10.11.12.4        266
10.11.12.4                 255.255.255.255  On-link          10.11.12.4        266
10.11.12.15                255.255.255.255  On-link          10.11.12.4        266
100.100.100.1              255.255.255.255  172.31.1.2       172.31.1.1        20
127.0.0.0                  255.0.0.0        On-link          127.0.0.1        306
127.0.0.1                  255.255.255.255  On-link          127.0.0.1        306
127.255.255.255            255.255.255.255  On-link          127.0.0.1        306
169.254.169.250            255.255.255.255  10.11.12.1       10.11.12.4        10
169.254.169.251            255.255.255.255  10.11.12.1       10.11.12.4        10
169.254.169.254            255.255.255.255  10.11.12.1       10.11.12.4        10
172.31.0.0                 255.255.252.0    172.31.1.2       172.31.1.1        20
172.31.1.0                 255.255.255.252  On-link          172.31.1.1        276
172.31.1.1                 255.255.255.255  On-link          172.31.1.1        276
172.31.1.3                 255.255.255.255  On-link          172.31.1.1        276
224.0.0.0                  240.0.0.0        On-link          127.0.0.1        306
224.0.0.0                  240.0.0.0        On-link          172.31.1.1        276
224.0.0.0                  240.0.0.0        On-link          10.11.12.4        266
224.0.0.0                  240.0.0.0        172.31.1.2       172.31.1.1        20
255.255.255.255            255.255.255.255  On-link          127.0.0.1        306
255.255.255.255            255.255.255.255  On-link          172.31.1.1        276
255.255.255.255            255.255.255.255  On-link          10.11.12.4        266
=====
Persistent Routes:
None

IPv6 Route Table
=====
Active Routes:
If Metric Network Destination      Gateway
13      306 :::/0                        On-link
1       306 ::1/128                     On-link
13      306 2001::/32                   On-link
13      306 2001:0:d58:1ef1:1095:397a:f5f4:f3fb/128
                                           On-link
15      276 fe80::/64                     On-link
12      266 fe80::/64                     On-link
13      306 fe80::/64                     On-link
13      306 fe80::1095:397a:f5f4:f3fb/128
                                           On-link
12      266 fe80::1113:87f2:2b16:fd83/128
                                           On-link
15      276 fe80::5164:b4f0:6025:3468/128
                                           On-link
1       306 ff00::/8                      On-link
15      276 ff00::/8                      On-link
12      266 ff00::/8                      On-link
13      306 ff00::/8                      On-link
=====
Persistent Routes:
None
C:\Users\Administrator>

```

## Support

If it does not appear to be working contact Cohesive Networks support if you have a current support contract.