

Verizon Wireless Dynamic Mobile Network Routing LTE - Cisco Integrated Services Router (ISR) and Connected Grid Router

Mobile Router Configuration Guide for
Primary Verizon Wireless Access

Revision 3.9

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Introduction

Verizon Wireless Dynamic Mobile Network Routing is a network-based Mobile IP technology capable of providing dynamic routing and support for mobile or stationary enterprise routers in primary wireless access or automatic wireless backup configurations. It enables integration between wireless and wireline enterprise services (4G Wireless WAN) by making use of the Mobile IPv4 Network MObility (NeMo) protocol and without the need for end to end overlay tunneling.

Dynamic Mobile Network Routing (DMNR) is part of the Verizon Wireless Mobile Private Network. DMNR is compatible with the Cisco IOS Mobile IP Mobile Networks feature. Please note that not all Cisco-specific features are supported by the DMNR service. DMNR makes use of the Collocated-Care-of-Address (CCOA) option and supports IP subnet registration, routing and forwarding. DMNR does not support any other Cisco Mobile IP Mobile Networks features such as "mobile networks multi-path" or "mobile networks multicast".

This configuration guide shows an example of using the Cisco Mobile IP Mobile Networks feature with Verizon Wireless Dynamic Mobile Network Routing service to provide primary communications over Verizon Wireless Long Term Evolution/evolved high-rate packet data (LTE/eHRPD) access and Mobile Private Networks (MPNs) between an enterprise branch office and a data center connected to the Verizon Wireless Private IP Multiprotocol Label Switching (MPLS)/VPN network.

There are three example configurations, for ISR G2 LTE eHWIC, ISR 4K LTE NIM, and 819. GRWIC and 899 configurations are similar to eHIWC and 819 respectively.

Notes

1. Supported platforms include Cisco Integrated Services Routers Generation 2 (ISR G2) and CGR routers with integrated 4G LTE cards (V or VZ SKUs, 1900, 2900, 3900, and CGR2010 Series with LTE GRWIC), Cisco 819 and 899 ISRs with embedded LTE, Cisco ISR 4Ks (4321, 4331, 4351, 4431, 4451) with LTE NIM.
2. The minimum Cisco IOS software release depends on the LTE modem firmware level (seen via IOS command "show cell 0/x/0 hardware" for LTE /NIM/ eHWIC/CGM/GRWIC, "show cell 0 hardware" for 819/899/809/829).

ISR LTE SKU	LTE Modem	Recommended firmware	Recommended IOS Release
NIM-LTEA-EA	EM7455	02.20.03.22	XE 16.3.3
NIM-4G-LTE-VZ	MC7350	5.5.58.01	XE 3.16.5 or 16.3.3
C819G-4G-VZ-K9	MC7350	5.5.58.01	15.5.3M5 or 15.6.3.M2
C899G-LTE-VZ-K9	MC7350	5.5.58.01	15.5.3M5 or 15.6.3.M2
C819G-LTE-MNA-K9	MC7354	5.5.58.01	15.6.3.M2
C819GW-LTE-MNA-K9	MC7354	5.5.58.01	15.5.3M5 or 15.6.3.M2
CGM-4G-LTE-MNA	MC7354	5.5.58.01	15.5.3M5 or 15.6.3.M2
IR809G-LTE-VZ-K9	MC7350	5.5.58.01	15.5.3M5 or 15.6.3.M2
IR829-2LTE-EA-AK9	MC7455	02.20.03.22	15.6.3.M2
IR829GW-LTE-VZ-AK9	MC7350	5.5.58.01	15.5.3M5 or 15.6.3.M2
C819G-4G-V-K9	MC7750	3.5.10.6	15.5.3M5 or 15.6.3.M2
C819HG-4G-V-K9	MC7750	3.5.10.6	15.5.3M5 or 15.6.3.M2
EHWIC-4G-LTE-VZ	MC7350	5.5.58.01	15.5.3M5 or 15.6.3.M2
EHWIC-4G-LTE-V	MC7750	3.5.10.6	15.5.3M5 or 15.6.3.M2

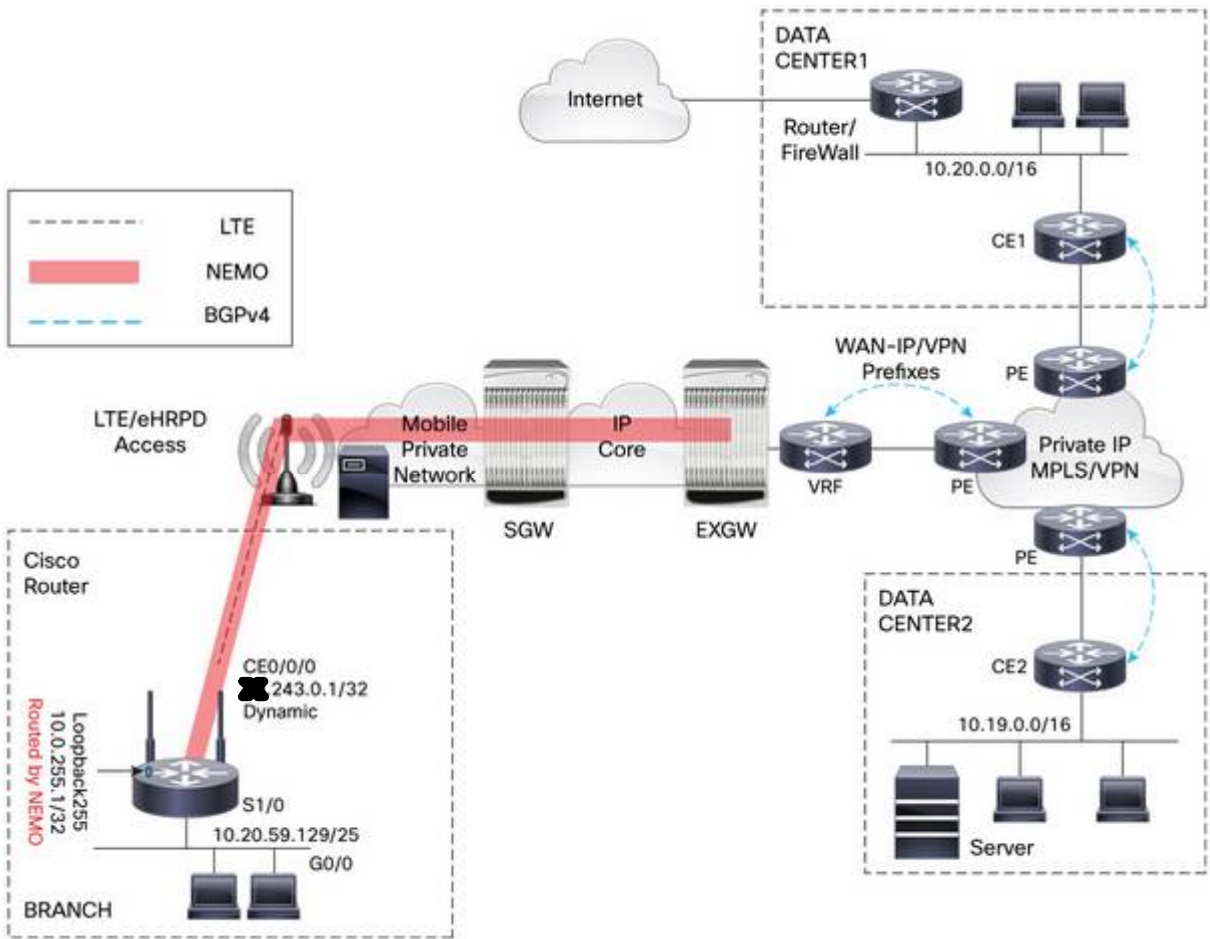
3. ISR 1900, 2900, 3900 and 4000 series require an IOS Software data license for MPN/DMNR (NeMo support). This is included by default with 800 series. The data license is acquired by ordering the AppX license. A 60 day temporary data license can be immediately generated using an IOS configuration mode command (requires an IOS reload to take effect). Below are examples for ISR G2 and 4K series.
`license boot module c1900 technology-package datak9`. The keyword following "module" varies based on ISR model c1900, c2900, c3900. For ISR 4000 series, the configuration mode command is as follows:
`license boot level appxk9` the command is the same for all ISR 4K models.
4. To connect a Network Mobility (NEMO) session to the Verizon Wireless Enterprise GateWay (EXGW), the enterprise MPN must be provisioned for 4G, and the subscriber mobile line (subscriber identity module [SIM]) used by the mobile router enhanced high-speed WAN interface card (eHWIC, NIM or GRWIC or embedded in an 819 or 899) must have NEMO permission provisioned by Verizon Wireless.
The enterprise Access Point Name (APN) must be correctly provisioned in the Verizon Wireless network in order to make a successful private network connection. In addition, the APN must be appropriately set on the modem for LTE and eHRPD profiles, either automatically through Over-The-Air Device Management (OTA-DM) or locally on the ISR. If OTA-DM does not update the APN, it can be set manually on the ISR. The method of manually setting the APN is via a single enable-mode IOS command. An example is shown below:
`cellular 0/0/0 lte profile create 3 ne01.VZWSTATIC`
(Note that the Data APN is profile 3). The middle "0" can be 0, 1, 2 or 3 depending on which ISR slot the LTE module is installed. For 819 and 899, use "cellular 0". The value "ne01.VZWSTATIC" is a sample APN. The appropriate APN must be provided by Verizon Wireless.
5. To connect a NEMO session to the EXGW, the mobile router must be configured with the correct Security Parameter Index (SPI) and key. For DMNR, the correct values are provided in this guide.
6. To connect a NEMO session to the EXGW, the mobile router must be configured with the correct IP address of the NEMO High Availability (NEMO-HA) service. The address depends on the location of the EXGW. For the appropriate address, please contact your Verizon representative.
7. At least one ISR interface must be registered by the mobile router when the NEMO call is made to the EXGW. The interface must be in UP/UP state (loopback interface is recommended).
8. Directly connected and non-connected mobile network prefixes may be configured for registration by the mobile router. The mobile networks are registered by specifying the connected interface name or by using the "non-connected-network" command. If non-connected subnets are required, please refer to the guide "DMNR with Secondary IP and Nonconnected Subnets" available here: www.cisco.com/c/en/us/support/interfaces-modules/high-speed-wan-interface-cards/products-installation-and-configuration-guides-list.html
9. It is not recommended to configure secondary IP addresses on the interfaces that are registered by the mobile router unless it is intended by design. In Cisco IOS Software a secondary IP address is listed first under the interface configuration, and its subnet will be the only one that is inserted into the NEMO prefix list from that interface. If secondary IP addresses are required, please refer to configuration guide "DMNR with Secondary IP and Nonconnected Subnets" mentioned above.
10. The EXGW will accept up to 8 subnets in the NEMO registration prefix list. Subnets in excess of 8 will be silently ignored. Registering a summary address using "non-connected-network" stated above may assist.
11. After a successful NEMO registration, the mobile router will automatically bring up a generic-routing-encapsulation (GRE) tunnel interface (Tunnel0) and will install a dynamic Mobile Default route to that interface.
12. Ensure that no static routes pointing to interface **Cellular 0/x/0** (Cellular 0 for 819 or 899) exist in the mobile router configuration.

13. The dynamic Tunnel0 interface will have the IP maximum transmission unit (MTU) of 1476 bytes. IP packets whose lengths exceed 1440 bytes will require fragmentation. For TCP traffic the **ip tcp adjust-mss** command may be used as shown in this guide to avoid fragmentation. If the mobile router needs to handle large non-TCP packets that have the Don't Fragment (DF) bit set, a route-map that clears the DF bit should be applied to the LAN interface of the mobile router.
14. Ensure that the **ip virtual-reassembly** command is not present on interface **Cellular 0/x/0**.
15. The Verizon Wireless Network will preserve the quality-of-service (QoS) markings (type of service/differentiated services code point [ToS/DSCP]) that have been set in the original IP packet header.
16. The changes to the subnet (prefix) list registered by the mobile router take effect on EXGW immediately while the NEMO session is running. No coordination is needed to advertise new subnets beyond ISR configuration.
17. While the Wireless/NEMO session is on periodic (~every 10 min) NEMO re-registration packets (~200 bytes) will be sent by the router and replies sent by EHA. At all other times the backup connection state will be maintained but the radio traffic channel will be in a dormant state.
18. The administrative distance for routes learned via NEMO (M routes) can be changed from the default value of 3. The "distance" command can be configured under the "router mobile" stanza.
19. Please refer to the notes in the configuration syntax for an explanation of the commands.

Design Requirements and Recommendations

1. If an LTE connection cannot be made, the APN value on the LTE eHWIC modem should be checked (ISR command **show cellular 0/x/0 profile**). If it is not the enterprise APN, please refer to planning section above.
2. Although this configuration guide should be used first, additional information is available at:
 - www.cisco.com/go/4g under "Configuration and Deployment Guides"
 - LTE eHWIC (ISR G2) hardware overview, SIM installs, antenna connection, and module install: www.cisco.com/en/US/docs/routers/access/interfaces/ic/hardware/installation/guide/EHWIC-4G-LTEHW.html.
 - LTE eHWIC (ISR G2) Cisco IOS Software configuration monitoring and troubleshooting: www.cisco.com/en/US/docs/routers/access/interfaces/software/feature/guide/EHWIC-4G-LTESW.html.
 - LTE NIM (ISR 4K) hardware overview, SIM installs, antenna connection, and module install: www.cisco.com/c/en/us/td/docs/routers/access/interfaces/NIM/hardware/installation/guide/4GLTENIM_HIG.html
 - LTE NIM (ISR 4K) IOS XE Software configuration guide www.cisco.com/c/en/us/td/docs/routers/access/interfaces/NIM/software/configuration/guide/4GLTENIM_SW.html
 - The CGR-2010 LTE GRWIC is configured in the same manner as the LTE eHWIC.

Figure 1 shows the customer design scenario.



NEMO Router Configuration for ISR G2 EHWIC-4G-LTE-V, EHWIC-4G-LTE-VZ

```
##### command allowing for "LTE test cellular" enable mode commands ###
service internal
!
##### Load appropriate IOS Image ###
boot system flash:c800-universalk9-mz.SPA.155-3.M5.bin
!
ip cef
!
##### CHAT Script to make a data call, name is case-sensitive ###
chat-script LTE "" "AT!CALL1" TIMEOUT 20 "OK"
!
##### This Loopback and IP are required to setup NEMO. This address is not
routable and is used as a placeholder "dummy" address. It may be the same on
all customer routers. Any interface number and any IP can be used. Please
use 1.2.3.4 for consistency if possible. ###
!
interface Loopback1234
  description ### NEMO Router Home Address - Dummy non-Routable IP ###
  ip address 1.2.3.4 255.255.255.255
!
##### This Subnet will be routed by NEMO ###
!
interface Loopback255
  ip address 10.0.255.1 255.255.255.255
!
##### This subnet is routed by NEMO. TCP MSS 1390 bytes, clear DF bits. ###
!
interface GigabitEthernet0/0
  ip address 10.20.59.129 255.255.255.128
  ip tcp adjust-mss 1390
  ip policy route-map clear-df
!
##### This subnet is not routed by NEMO. ###
interface GigabitEthernet0/1
  ip address 10.10.20.233 255.255.255.0
!
##### Interface Cellular - the LTE and NEMO interface. Receives Pool/WAN IP
(dynamic or static) from EXGW. ###
interface Cellular0/0/0
  ip address negotiated
  no ip unreachable
  ip mobile router-service roam
  ip mobile router-service collocated ccoa-only
  encapsulation slip
  load-interval 30
  dialer in-band
  dialer idle-timeout 0
  dialer enable-timeout 1
  dialer string LTE
  dialer watch-group 1
  async mode interactive
  pulse-time 0
```

```

!
!### This stanza enables NEMO Routing. Admin distance can be adjusted ###
!
router mobile
!
!### This command configures NEMO Authentication with EXGW. Use the
appropriate EXGW IP address based on the geographic location (page 3). Note
that SPI and KEY must match to what is set on the EXGW under the NEMO
service. Note that the algorithm must be set to "hmac-md5". ###
!
ip mobile secure home-agent 66.174.X.Y spi decimal 256 key ascii VzWNeMo
algorithm hmac-md5
!
!### This section configures the NEMO Mobile Router parameters and defines
what router interfaces and their subnets to be included into the NEMO
registration with EXGW. Use the appropriate EXGW IP address as above. ###
!
ip mobile router
  address 1.2.3.4 255.255.255.0
  collocated single-tunnel
  home-agent 66.174.X.Y
  mobile-network Loopback255
  mobile-network GigabitEthernet0/0
  register extend expire 10 retry 3 interval 5
  reverse-tunnel
  tunnel mode gre
!
no cdp run
!
!### This route-map clears the DF-bit in packets from VLAN1 interface. ###
!
route-map clear-df permit 10
  set ip df 0
!
!### This section defines wireless call activation triggers and timers. ###
!
!### The call will be triggered by this statement. The address "5.6.7.8" is
a "dummy" route. Any "dummy" value can be used. ###
dialer watch-list 1 ip 5.6.7.8 0.0.0.0
!### ISR will wait 60 sec. to activate the call after the initial boot. ###
dialer watch-list 1 delay route-check initial 60
!### The router will wait 1 sec. before activating the call. ###
dialer watch-list 1 delay connect 1
!
line 0/0/0
  script dialer LTE
  modem InOut
  no exec
  transport input telnet

```

NEMO Router Configuration for ISR C819G-4G-LTE-V, C819G-4G-VZ, C899G-LTE-VZ

```
!### command allowing for "LTE test cellular" enable mode commands ###
service internal
!
hostname c819-Internet
!
!### Load appropriate IOS Image ###
boot system flash:c800-universalk9-mz.SPA.155-3.M5.bin
!
ip cef
!
!### CHAT Script to make a data call, name is case-sensitive ###
chat-script LTE "" "AT!CALL1" TIMEOUT 20 "OK"
!
!### This Loopback and IP are required to setup NEMO. This address is not
routable and is used as a placeholder "dummy" address. It may be the same on
all customer routers. Any interface number and any IP can be used. Please
use 1.2.3.4 for consistency if possible. ###
!
interface Loopback1234
  description ### NEMO Router Home Address - Dummy non-Routable IP ###
  ip address 1.2.3.4 255.255.255.255
!
!### This Subnet will be routed by NEMO ###
!
interface Loopback255
  ip address 10.0.255.1 255.255.255.255
!
!### This subnet is routed by NEMO. TCP MSS 1390 bytes, clear DF bits. ###
!
interface VLAN1
  ip address 10.20.59.129 255.255.255.128
  ip tcp adjust-mss 1390
  ip policy route-map clear-df
!
!### This subnet is not routed by NEMO. ###
!
interface GigabitEthernet0
  ip address 10.10.20.233 255.255.255.0
!
!### Interface Cellular - the LTE and NEMO interface. Receives Pool/WAN IP
(dynamic or static) from EXGW. ###
!
interface Cellular0
  ip address negotiated
  no ip unreachable
  ip mobile router-service roam
  ip mobile router-service collocated ccoa-only
  encapsulation slip
  load-interval 30
  dialer in-band
  dialer idle-timeout 0
  dialer enable-timeout 1
```



```

dialer string LTE
dialer watch-group 1
async mode interactive
pulse-time 0
!
!### This stanza enables NEMO Routing. Admin distance can be adjusted ###
!
router mobile
!
!### This command configures NEMO Authentication with EXGW. Use the
appropriate EXGW IP address based on the geographic location (page 3). Note
that SPI and KEY must match to what is set on the EXGW under the NEMO
service. Note that the algorithm must be set to "hmac-md5". ###
!
ip mobile secure home-agent 66.174.X.Y spi decimal 256 key ascii VzWNeMo
algorithm hmac-md5
!
!### This section configures the NEMO Mobile Router parameters and defines
what router interfaces and their subnets to be included into the NEMO
registration with EXGW. Use the appropriate EXGW IP address as above. ###
!
ip mobile router
address 1.2.3.4 255.255.255.0
collocated single-tunnel
home-agent 66.174.X.Y
mobile-network Loopback255
mobile-network VLAN1
register extend expire 10 retry 3 interval 5
reverse-tunnel
tunnel mode gre
!
no cdp run
!
!### Route-map clears the DF-bit in IP packets from the VLAN1 interface. ###
!
route-map clear-df permit 10
set ip df 0
!
!### This section defines the 4G call activation triggers and timers. ###
!
!### The call will be triggered by this statement. The address "5.6.7.8" is
a "dummy" route. Any "dummy" value can be used. ###
dialer watch-list 1 ip 5.6.7.8 0.0.0.0
!### The router will wait for 60 sec. before activating the call after the
initial boot. ###
dialer watch-list 1 delay route-check initial 60
!### The router will wait 1 sec. before activating the call. ###
dialer watch-list 1 delay connect 1
!
line 3
script dialer LTE
modem InOut
no exec
transport input telnet

```

NEMO Router Configuration for ISR 4K NIM-4G-LTE-VZ

```
!### Chat script and cellular line definitions not needed w/ISR4K ###
!### command allowing for "LTE test cellular" enable mode commands ###
service internal
!
hostname C4321-4G
!
!### IOS XE 3.16 or later ###
boot-start-marker
boot system bootflash: isr4300-universalk9.16.03.03.SPA.bin
boot-end-marker
!
ip dhcp pool 10dot250dot1
 network 10.250.1.0 255.255.255.0
 default-router 10.250.1.1
 dns-server 10.20.45.20
 domain-name test.verizon.com
 option 150 ip 10.20.80.9
!
username cisco privilege 15 secret 5 xxxxxxxxxxxxxxxx
!
controller Cellular 0/1/0
!
interface Loopback1234
 description ### NEMO Router Home Address
 ip address 1.2.3.4 255.255.255.255
!
!### This Subnet will be routed by NEMO ###
!
interface Loopback255
 ip address 10.0.255.1 255.255.255.255
!
!### This subnet is routed by NEMO. TCP MSS 1390 bytes, clear DF bits. ###
!
interface GigabitEthernet0/0/0
 ip address 10.250.1.1 255.255.255.0
 ip tcp adjust-mss 1390
 ip policy route-map clear-df
!
interface GigabitEthernet0/0/1
 ip address 10.0.3.1 255.255.255.0
 ip tcp adjust-mss 1390
!
!### Interface Cellular - the LTE and NEMO interface. Receives Pool/WAN IP
(dynamic or static) from EXGW. ###
!
interface Cellular0/1/0
 ip address negotiated
 ip mobile router-service roam
 ip mobile router-service collocated ccoa-only
 dialer in-band
 dialer idle-timeout 0
 dialer enable-timeout 1
```

```

dialer watch-group 1
pulse-time 0
!
interface GigabitEthernet0
vrf forwarding Mgmt-intf
ip address 10.0.0.2 255.255.255.254
negotiation auto
!
!### This stanza enables NEMO Routing. Admin distance can be adjusted ###
router mobile
!
!### This command configures NEMO Authentication with EXGW. Use the
appropriate EXGW IP address based on the geographic location (page 3). Note
that SPI and KEY must match to what is set on the EXGW under the NEMO
service. Note that the algorithm must be set to "hmac-md5". ###
!
ip mobile secure home-agent 66.174.X.Y spi decimal 256 key ascii VzWNeMo
algorithm hmac-md5
!
!### This section configures the NEMO Mobile Router parameters and defines
what router interfaces and their subnets to be included into the NEMO
registration with EXGW. Use the appropriate EXGW IP address as above. ###
!
ip mobile router
address 1.2.3.4 255.255.255.0
collocated single-tunnel
home-agent 66.174.X.Y
mobile-network Loopback255
mobile-network GigabitEthernet0/0/1
mobile-network GigabitEthernet0/0/0
register extend expire 10 retry 3 interval 5
reverse-tunnel
tunnel mode gre
!
!### Route-map clears the DF-bit in IP packets from the VLAN1 interface. ###
!
route-map clear-df permit 10
set ip df 0
!
!### This section defines the 4G call activation triggers and timers. ###
!
!### The call will be triggered by this statement. The address "5.6.7.8" is
a "dummy" route. Any "dummy" value can be used. ###
dialer watch-list 1 ip 5.6.7.8 0.0.0.0
!### The router will wait for 60 sec. before activating the call after the
initial boot. ###
dialer watch-list 1 delay route-check initial 60
!### The router will wait 1 sec. before activating the call. ###
dialer watch-list 1 delay connect 1
!
End

```

Operation and Show Commands

NEMO Call Comes Up

```
*May 20 19:18:00.779: %LINK-3-UPDOWN: Interface Cellular0/0/0, changed state to up
*May 20 19:18:00.803: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Cellular0/0/0, changed state to up
*May 20 19:18:01.967: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0,
changed state to up
```

```
c1941-NEMO#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

M*   0.0.0.0/0 is directly connected, Tunnel0
C     10.0.255.0/24 is directly connected, Loopback255
L     10.0.255.1/32 is directly connected, Loopback255
C     10.20.59.128/25 is directly connected, GigabitEthernet0/0
L     10.20.59.129/32 is directly connected, GigabitEthernet0/0
      50.0.0.0/32 is subnetted, 1 subnets
C     XX 243.0.1 is directly connected, Cellular0/0/0
      66.0.0.0/32 is subnetted, 2 subnets
C     66.92.XXXX is directly connected, Cellular0/0/0
M     66.174.XXXX [3/1] via 0.0.0.0, 00:15:59, Cellular0/0/0
```

```
c1941-NEMO#show ip mobile router

Mobile Router
  Enabled 05/20/10 19:17:28
  Last redundancy state transition NEVER

Configuration:
  Home Address 1.2.3.4 Mask 255.255.255.0
  Home Agent 66.174.XXXX Priority 100 (best) (current)
  Registration lifetime 65534 sec
  Retransmit Init 1000, Max 5000 msec, Limit 3
  Extend Expire 10, Retry 3, Interval 5
  Reverse tunnel required
  Request GRE tunnel
```

```
Mobile Networks: Loopback255 (10.0.255.0/255.255.255.0)
                  GigabitEthernet0/0 (10.20.59.128/255.255.255.128)
```

Monitor:

Mobile Router

```
Status -Registered-
Using collocated care-of address 50.243.0.1
On interface Cellular0/0/0
Tunnel0 mode GRE/IP
```

```
c1941-NEMO#show ip mobile tunnel
```

Mobile Tunnels:

Total mobile ip tunnels 1

Tunnel0:

```
src XXXXXXXXXX 243.0.1, dest 66.174.XXXXXX, key 0
encap GRE/IP, mode reverse-allowed, tunnel-users 1
Input ACL users 0, Output ACL users 0
IP MTU 1476 bytes
Path MTU Discovery, mtu: 0, ager: 10 mins, expires: never
outbound interface Cellular0/0/0
MR created, CEF switching enabled, ICMP unreachable enabled
5 minute input rate 0 bits/sec, 1 packets/sec
5 minute output rate 0 bits/sec, 1 packets/sec
1308 packets input, 113352 bytes, 0 drops
1614 packets output, 133239 bytes
```

```
c1941-NEMO#show dialer
```

```
Ce0/0/0 - dialer type = IN-BAND ASYNC NO-PARITY
Idle timer (never), Fast idle timer (20 secs)
Wait for carrier (30 secs), Re-enable (15 secs)
Dialer state is data link layer up
Dial reason: Dialing on watched route loss
Time until disconnect never
Current call connected 00:20:07
Connected to LTE
```

Dial String	Successes	Failures	Last DNIS	Last status
LTE	1	0	00:20:07	successful

Default

```
c1941-NEMO#ping 11.11.11.11 source 10.20.59.129

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 11.11.11.11, timeout is 2 seconds:
Packet sent with a source address of 10.20.59.129
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 60/68/72 ms
```

Sample command output: ISR 4K “show ip mobile router” (output will vary from configuration example):

```
C4321-4G#show ip mobile router
```

Mobile Router

```
Enabled 07/30/15 18:14:15
Last redundancy state transition NEVER
```

Configuration:

```
Home Address 1.2.3.4 Mask 255.255.255.0
Home Agent 66.174.251.2 Priority 100 (best) (current)
    66.174.192.225 Priority 100
Registration lifetime 65534 sec
Retransmit Init 1000, Max 5000 msec, Limit 3
Extend Expire 10, Retry 3, Interval 5
Reverse tunnel required
Request GRE tunnel
Multi-path denied by HA, Requested metric: bandwidth
Mobile Networks: GigabitEthernet0/0/1 (Down)
    GigabitEthernet0/0/0 (10.250.1.0/255.255.255.0)
    non connected subnet (192.168.222.0/255.255.255.0)
```

Monitor:

```
Status -Registered-
Using collocated care-of address 10.14.12.11
On interface Cellular0/1/0
Tunnel0 mode GRE/IP
```

```
C4321-4G#
```



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