

sh run

```
Current configuration : 1535 bytes

version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption

hostname POP_Carrier2_MS

boot-start-marker
boot-end-marker

no logging buffered
no logging console
no logging monitor

no aaa new-model

resource policy

ip cef

voice-card 0

interface Loopback0
ip address 3.4.5.6 255.255.255.255

interface FastEthernet0/0
description TO-POP_ISP2_MS
ip address 172.17.0.10 255.255.255.252
duplex auto
speed auto

interface FastEthernet0/1
description TO-Carrier2
ip address 10.2.0.3 255.255.255.0
duplex auto
speed auto

interface Serial0/1/0
no ip address
shutdown
clock rate 2000000

interface Serial0/1/1
no ip address
shutdown
clock rate 2000000

router bgp 20
no synchronization
bgp log-neighbor-changes
network 172.17.0.8 mask 255.255.255.252
neighbor 1.2.3.4 remote-as 20
neighbor 1.2.3.4 update-source Loopback0
neighbor 2.3.4.5 remote-as 20
neighbor 2.3.4.5 update-source Loopback0
neighbor 200.3.3.3 remote-as 200
neighbor 200.3.3.3 ebgp-multihop 10
neighbor 200.3.3.3 update-source Loopback0
neighbor 200.3.3.3 next-hop-self
no auto-summary

ip route 1.2.3.4 255.255.255.255 FastEthernet0/1
ip route 2.3.4.5 255.255.255.255 FastEthernet0/1
ip route 200.3.3.3 255.255.255.255 FastEthernet0/0

no ip http server
no ip http secure-server

control-plane

line con 0
line aux 0
```

```
line vty 0 4
login

scheduler allocate 20000 1000
end
```

sh 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

```
1.0.0.0/32 is subnetted, 1 subnets
S 1.2.3.4 is directly connected, FastEthernet0/1
2.0.0.0/32 is subnetted, 1 subnets
S 2.3.4.5 is directly connected, FastEthernet0/1
3.0.0.0/32 is subnetted, 1 subnets
C 3.4.5.6 is directly connected, Loopback0
172.17.0.0/30 is subnetted, 3 subnets
C 172.17.0.8 is directly connected, FastEthernet0/0
B 172.17.0.4 [200/0] via 1.2.3.4, 00:39:18
B 172.17.0.0 [200/0] via 2.3.4.5, 01:18:39
200.3.3.0/32 is subnetted, 1 subnets
S 200.3.3.3 is directly connected, FastEthernet0/0
10.0.0.0/24 is subnetted, 1 subnets
C 10.2.0.0 is directly connected, FastEthernet0/1
```

sh ip bgp

BGP table version is 16, local router ID is 3.4.5.6
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

Network	Next Hop	Metric	LocPrf	Weight	Path
*>i172.17.0.0/30	2.3.4.5	0	100	0	i
*>i172.17.0.4/30	1.2.3.4	0	100	0	i
*> 172.17.0.8/30	0.0.0.0	0	32768	i	
* i209.225.100.0	200.2.2.2	0	100	0	200 i
* i209.225.254.0	200.1.1.1	0	100	0	200 i

sh ip bgp summ

```
BGP router identifier 3.4.5.6, local AS number 20
BGP table version is 16, main routing table version 16
5 network entries using 645 bytes of memory
5 path entries using 260 bytes of memory
4/2 BGP path/bestpath attribute entries using 496 bytes of memory
1 BGP AS-PATH entries using 24 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 1425 total bytes of memory
BGP activity 9/4 prefixes, 11/6 paths, scan interval 60 secs

Neighbor V AS MsgRcvd MsgSent TblVer InQ OutQ Up/Down State/PfxRcd
1.2.3.4 4 20 118 118 16 0 0 00:40:54 2
2.3.4.5 4 20 108 113 16 0 0 01:30:21 2
200.3.3.3 4 200 46 52 16 0 0 00:43:21 0
```

sh ip bgp ne

```
BGP neighbor is 1.2.3.4, remote AS 20, internal link
BGP version 4, remote router ID 1.2.3.4
BGP state = Established, up for 00:40:56
Last read 00:00:56, last write 00:00:56, hold time is 180, keepalive interval is 60 seconds
Neighbor capabilities:
Route refresh: advertised and received(old & new)
Address family IPv4 Unicast: advertised and received
Message statistics:
InQ depth is 0
OutQ depth is 0
Sent Rcvd
Opens: 4 4
Notifications: 0 0
Updates: 8 8
Keepalives: 106 106
Route Refresh: 0 0
Total: 118 118
Default minimum time between advertisement runs is 0 seconds
```

```
For address family: IPv4 Unicast
BGP table version 16, neighbor version 16/0
Output queue size : 0
Index 1, Offset 0, Mask 0x2
1 update-group member
Sent Rcvd
Prefix activity: ---- ----
Prefixes Current: 1 2 (Consumes 104 bytes)
Prefixes Total: 1 2
Implicit Withdraw: 1 0
Explicit Withdraw: 0 0
Used as bestpath: n/a 1
Used as multipath: n/a 0
```

```
Outbound Inbound
Local Policy Denied Prefixes: -----
Bestpath from this peer: 1 n/a
Bestpath from iBGP peer: 1 n/a
Total: 2 0
Number of NLRI in the update sent: max 1, min 0
```

```
Connections established 4; dropped 3
Last reset 00:40:56, due to Peer closed the session
Connection state is ESTAB, I/O status: 1, unread input bytes: 0
Connection is ECN Disabled, Mininum incoming TTL 0, Outgoing TTL 255
Local host: 3.4.5.6, Local port: 179
Foreign host: 1.2.3.4, Foreign port: 18475
Connection tableid (VRF): 0
```

```
Enqueued packets for retransmit: 0, input: 0 mis-ordered: 0 (0 bytes)
```

```
Event Timers (current time is 0x692E5C):
Timer Starts Wakeups Next
Retrans 43 0 0x0
TimeWait 0 0 0x0
AckHold 45 42 0x0
SendWnd 0 0 0x0
KeepAlive 0 0 0x0
GiveUp 0 0 0x0
PmtuAger 0 0 0x0
DeadWait 0 0 0x0
Linger 0 0 0x0
ProcessQ 0 0 0x0
```

```
iss: 3711270646 snduna: 3711271565 sndnxt: 3711271565 sndwnd: 16004
irs: 1807216059 rcvnxt: 1807217037 rcvwnd: 15947 delrcvwnd: 437
```

```
SRTT: 299 ms, RTTO: 308 ms, RTV: 9 ms, KRTT: 0 ms
minRTT: 0 ms, maxRTT: 300 ms, ACK hold: 200 ms
Status Flags: passive open, gen tcbs
Option Flags: nagle
IP Precedence value : 6
```

```
Datagrams (max data segment is 536 bytes):
Rcvd: 49 (out of order: 0), with data: 45, total data bytes: 977
```

Sent: 87 (retransmit: 0, fastretransmit: 0, partialack: 0, Second Congestion: 0), with data: 43, total data bytes: 918
Packets received in fast path: 0, fast processed: 0, slow path: 0
fast lock acquisition failures: 0, slow path: 0

BGP neighbor is 2.3.4.5, remote AS 20, internal link
BGP version 4, remote router ID 2.3.4.5
BGP state = Established, up for 01:30:24
Last read 00:00:24, last write 00:00:24, hold time is 180, keepalive interval is 60 seconds
Neighbor capabilities:
Route refresh: advertised and received(old & new)
Address family IPv4 Unicast: advertised and received
Message statistics:
InQ depth is 0
OutQ depth is 0
Sent Rcvd
Opens: 3 3
Notifications: 0 0
Updates: 7 2
Keepalives: 103 103
Route Refresh: 0 0
Total: 113 108
Default minimum time between advertisement runs is 0 seconds

For address family: IPv4 Unicast
BGP table version 16, neighbor version 16/0
Output queue size : 0
Index 1, Offset 0, Mask 0x2
1 update-group member
Sent Rcvd
Prefix activity: ---- ----
Prefixes Current: 1 2 (Consumes 104 bytes)
Prefixes Total: 4 2
Implicit Withdraw: 0 0
Explicit Withdraw: 3 0
Used as bestpath: n/a 1
Used as multipath: n/a 0

Outbound Inbound
Local Policy Denied Prefixes: -----
Bestpath from this peer: 4 n/a
Bestpath from iBGP peer: 1 n/a
Total: 5 0
Number of NLRI in the update sent: max 1, min 0

Connections established 3; dropped 2
Last reset 01:30:28, due to User reset
Connection state is ESTAB, I/O status: 1, unread input bytes: 0
Connection is ECN Disabled, Minimum incoming TTL 0, Outgoing TTL 255
Local host: 3.4.5.6, Local port: 54988
Foreign host: 2.3.4.5, Foreign port: 179
Connection tableid (VRF): 0

Enqueued packets for retransmit: 0, input: 0 mis-ordered: 0 (0 bytes)

Event Timers (current time is 0x6937A4):
Timer Starts Wakeups Next
Retrans 101 0 0x0
TimeWait 0 0 0x0
AckHold 94 69 0x0
SendWnd 0 0 0x0
KeepAlive 0 0 0x0
GiveUp 0 0 0x0
PmtuAger 0 0 0x0
DeadWait 0 0 0x0
Linger 0 0 0x0
ProcessQ 0 0 0x0

iss: 402406831 snduna: 402408952 sndnxt: 402408952 sndwnd: 15909
irs: 1438857477 rcvnxt: 1438859405 rcvwnd: 16099 delrcvwnd: 285

SRTT: 300 ms, RTTO: 303 ms, RTV: 3 ms, KRTT: 0 ms
minRTT: 0 ms, maxRTT: 300 ms, ACK hold: 200 ms
Status Flags: active open
Option Flags: nagle
IP Precedence value : 6

```
Datagrams (max data segment is 536 bytes):
Rcvd: 126 (out of order: 0), with data: 94, total data bytes: 1927
Sent: 174 (retransmit: 0, fastretransmit: 0, partialack: 0, Second Congestion: 0), with
data: 100, total data bytes: 2120
Packets received in fast path: 0, fast processed: 0, slow path: 0
fast lock acquisition failures: 0, slow path: 0

BGP neighbor is 200.3.3.3, remote AS 200, external link
BGP version 4, remote router ID 200.3.3.3
BGP state = Established, up for 00:43:30
Last read 00:00:11, last write 00:00:30, hold time is 180, keepalive interval is 60 seconds
Neighbor capabilities:
Route refresh: advertised and received(old & new)
Address family IPv4 Unicast: advertised and received
Message statistics:
InQ depth is 0
OutQ depth is 0
Sent Rcvd
Opens: 1 1
Notifications: 0 0
Updates: 5 0
Keepalives: 46 45
Route Refresh: 0 0
Total: 52 46
Default minimum time between advertisement runs is 30 seconds

For address family: IPv4 Unicast
BGP table version 16, neighbor version 16/0
Output queue size : 0
Index 2, Offset 0, Mask 0x4
2 update-group member
NEXT_HOP is always this router
Sent Rcvd
Prefix activity: ---- ----
Prefixes Current: 3 0
Prefixes Total: 4 0
Implicit Withdraw: 0 0
Explicit Withdraw: 1 0
Used as bestpath: n/a 0
Used as multipath: n/a 0

Outbound Inbound
Local Policy Denied Prefixes: -----
Total: 0 0
Number of NLRI in the update sent: max 1, min 0

Connections established 1; dropped 0
Last reset never
External BGP neighbor may be up to 10 hops away.
Connection state is ESTAB, I/O status: 1, unread input bytes: 0
Connection is ECN Disabled, Minimum incoming TTL 0, Outgoing TTL 10
Local host: 3.4.5.6, Local port: 179
Foreign host: 200.3.3.3, Foreign port: 62565
Connection tableid (VRF): 0

Enqueued packets for retransmit: 0, input: 0 mis-ordered: 0 (0 bytes)

Event Timers (current time is 0x694A2C):
Timer Starts Wakeups Next
Retrans 50 1 0x0
TimeWait 0 0 0x0
AckHold 46 43 0x0
SendWnd 0 0 0x0
KeepAlive 0 0 0x0
GiveUp 0 0 0x0
PmtuAger 0 0 0x0
DeadWait 0 0 0x0
Linger 0 0 0x0
ProcessQ 0 0 0x0

iss: 756606757 snduna: 756607896 sndnxt: 756607896 sndwnd: 16346
irs: 463900804 rcvnxt: 463901713 rcvwnd: 16023 delrcvwnd: 361

SRTT: 300 ms, RTTO: 307 ms, RTV: 7 ms, KRTT: 0 ms
minRTT: 0 ms, maxRTT: 300 ms, ACK hold: 200 ms
Status Flags: passive open, gen tcbs
Option Flags: nagle
```


IP Precedence value : 6

Datagrams (max data segment is 536 bytes):

Rcvd: 96 (out of order: 0), with data: 46, total data bytes: 908

Sent: 95 (retransmit: 1, fastretransmit: 0, partialack: 0, Second Congestion: 0), with data: 49, total data bytes: 1138

Packets received in fast path: 0, fast processed: 0, slow path: 0

fast lock acquisition failures: 0, slow path: 0

sh ip int br

```
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 172.17.0.10 YES manual up up
FastEthernet0/1 10.2.0.3 YES manual up up
Serial0/1/0 unassigned YES NVRAM administratively down down
Serial0/1/1 unassigned YES NVRAM administratively down down
Loopback0 3.4.5.6 YES manual up up
```