

## ISIS Redistribute BGP

<b>Purpose</b>	<b>Redistribute BGP learned routes in to ISIS.</b>
<b>Test setup</b>	
<b>Test configuration</b>	<pre> <b>Router 1</b> ! interface Loopback0 ip address 1.1.1.1 255.255.255.255 no ip directed-broadcast ! interface GigaEthernet0/1 ip address 192.168.2.1 255.255.255.0 no ip directed-broadcast ipv6 enable ipv6 address 10::1/64 ipv6 dhcp server IPv6 ip ospf message-digest-key 1 md5 0 test ip http firewalltype 0 ! interface GigaEthernet0/2 ip address 172.16.254.29 255.255.255.0 no ip directed-broadcast ip http firewalltype 0 ! router bgp 64000 no synchronization bgp log-neighbor-changes network 1.1.1.1/32 network 192.168.2.0/32 neighbor 192.168.2.10 remote-as 65000  <b>Router 2</b> interface GigaEthernet0/2 ip address 192.168.1.1 255.255.255.0 no ip directed-broadcast ip router isis 1 ip http firewalltype 0 ! interface Loopback20 ip address 20.20.20.20 255.255.255.255 </pre>

	<pre> no ip directed-broadcast ! router isis 1 net 00.0001.0000.0000.0001.00 redistribute bgp 65000 ! router bgp 65000 no synchronization bgp log-neighbor-changes network 20.20.20.20/32 redistribute connected  <b>Router 3</b> interface GigaEthernet0/2 ip address 192.168.1.2 255.255.255.0 no ip directed-broadcast ip router isis 1 ip http firewalltype 0 ! router isis 1 net 00.0001.0000.0000.0002.00 </pre>
<b>Procedure</b>	<p>Configure ISIS between neighbors R2 and R3.  Redistribute BGP learned routes into ISIS on R2  Configure BGP between neighbors R1 and R2.  Redistribute connected networks into BGP on R2 (For R1 to learn network to send reply to R3 when request comes from R3)</p>
<b>Test result</b>	<pre> Router_3_62#sh ip route Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected D - BEIGRP, DEX - external BEIGRP, O - OSPF, OIA - OSPF inter area ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2 OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2 IA - ISIS inter-level, I - IPSEC type  VRF ID: 0  L2    1.1.1.1/32          [118,10] via 192.168.1.1(on GigaEthernet0/2) C     2.2.2.1/32          is directly connected, Loopback1 C     5.5.5.5/32          is directly connected, Loopback5 L1    10.10.10.10/32       [115,20] via 192.168.1.1(on GigaEthernet0/2) S     172.16.253.0/24      [1,0] via 172.16.254.1(on GigaEthernet0/0) C     172.16.254.0/24    is directly connected, GigaEthernet0/0 C     192.168.1.0/24     is directly connected, GigaEthernet0/2 Router_3_62# Router_3_62# Router_3_62#ping 1.1.1.1 PING 1.1.1.1 (1.1.1.1): 56 data bytes !!!! --- 1.1.1.1 ping statistics --- 5 packets transmitted, 5 packets received, 0% packet loss round-trip min/avg/max = 0/1/5 ms Router_3_62# Router_3_62# </pre>

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Router_2_20#sh ip route
Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected
D - BEIGRP, DEX - external BEIGRP, O - OSPF, OIA - OSPF inter area
ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2
OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local
DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2
IA - ISIS inter-level, I - IPSEC type

VRF ID: 0

B    1.1.1.1/32          [20,0] via 192.168.2.1
L1   5.5.5.5/32         [115,20] via 192.168.1.2 (on GigaEthernet0/2)
C    10.10.10.10/32     is directly connected, Loopback0
C    20.20.20.20/32     is directly connected, Loopback20
S    172.16.253.0/24    [1,0] via 172.16.254.1 (on GigaEthernet0/0)
C    172.16.254.0/24    is directly connected, GigaEthernet0/0
C    192.168.1.0/24     is directly connected, GigaEthernet0/2
C    192.168.2.0/24     is directly connected, GigaEthernet0/1
Router_2_20#
Router_2_20#
Router_2_20#sh ip route bgp
VRF ID: 0

B    1.1.1.1/32          [20,0] via 192.168.2.1
Router_2_20#
Router_2_20#
Router_2_20#sh isis route

Codes: C - connected, E - external, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, D - discard, e - external metric

INSTANCE 1 ::
      Destination      Metric      Next-Hop      Interface
E    1.1.1.1           0           --            --
L1   5.5.5.5           20          192.168.1.2   GigaEthernet0/2
L2   5.5.5.5           20          192.168.1.2   GigaEthernet0/2
C    10.10.10.10       10          --            --
C    192.168.1.0       10          --            --
Router_2_20#

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Router_1_10#sh ip route
Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected
D - BEIGRP, DEX - external BEIGRP, O - OSPF, OIA - OSPF inter area
ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2
OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local
DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2
IA - ISIS inter-level, I - IPSEC type

VRF ID: 0

C    1.1.1.1/32          is directly connected, Loopback0
B    10.10.10.10/32     [20,0] via 192.168.2.10
B    20.20.20.20/32     [20,0] via 192.168.2.10
S    172.16.253.0/24    [1,0] via 172.16.254.1 (on GigaEthernet0/2)
C    172.16.254.0/24    is directly connected, GigaEthernet0/2
B    192.168.1.0/24     [20,0] via 192.168.2.10
C    192.168.2.0/24     is directly connected, GigaEthernet0/1
Router_1_10#

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Status

Routing table in R3 will get updated with BGP learned routes on R2.