

The MULTI_EXIT_DISC Attribute

This section demonstrates how MED can be used by one AS to influence routing decisions of another AS.

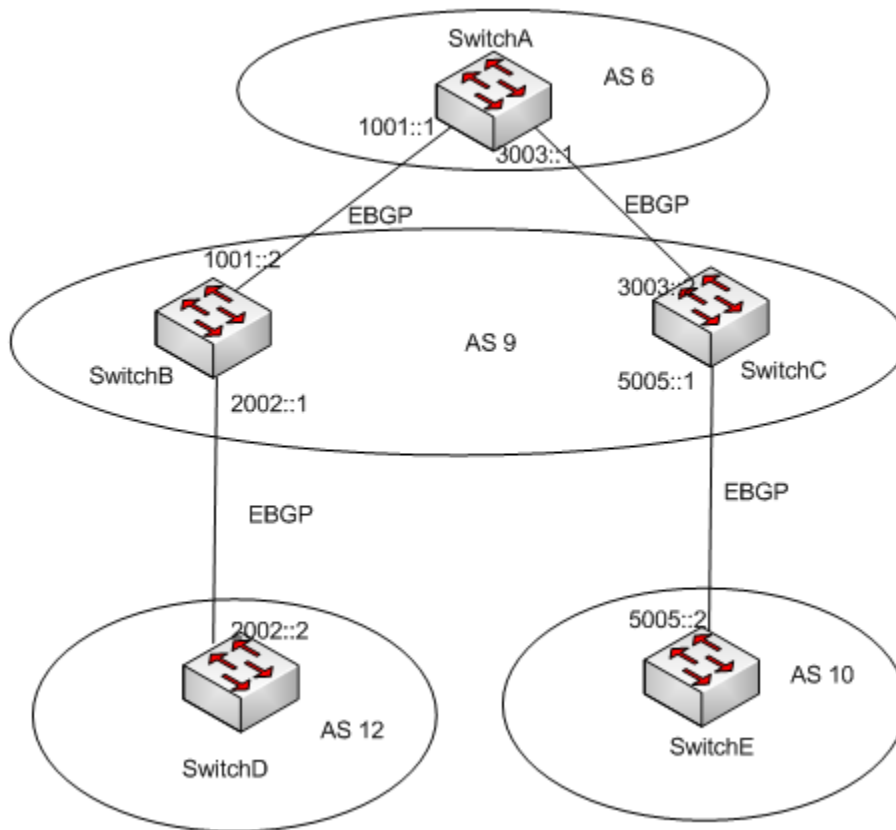


Figure 1-18

Step 1: Configure BGP as TOPO displayed

Switch A:

```
admin@XorPlus#set protocols bgp bgp-id 6.6.6.6
admin@XorPlus#set protocols bgp local-as "6"
admin@XorPlus#set protocols bgp peer 1001::2 local-ip "1001::1"
admin@XorPlus#set protocols bgp peer 1001::2 as "9"
admin@XorPlus#set protocols bgp peer 1001::2 ipv6-unicast true
admin@XorPlus#set protocols bgp peer 3003::2 local-ip "3003::1"
admin@XorPlus#set protocols bgp peer 3003::2 as "9"
admin@XorPlus#set protocols bgp peer 3003::2 ipv6-unicast true
```

Switch B:

```
admin@XorPlus#set protocols bgp bgp-id 26.26.26.26
admin@XorPlus#set protocols bgp local-as "9"
admin@XorPlus#set protocols bgp peer 1001::1 local-ip "1001::2"
admin@XorPlus#set protocols bgp peer 1001::1 as "6"
admin@XorPlus#set protocols bgp peer 1001::1 ipv6-unicast true
admin@XorPlus#set protocols bgp peer 2002::2 local-ip "2002::1"
admin@XorPlus#set protocols bgp peer 2002::2 as "12"
admin@XorPlus#set protocols bgp peer 2002::2 ipv6-unicast true
```

Switch C:

```

admin@XorPlus#set protocols bgp bgp-id 9.9.9.9
admin@XorPlus#set protocols bgp local-as "9"
admin@XorPlus#set protocols bgp peer 3003::1 local-ip "3003::2"
admin@XorPlus#set protocols bgp peer 3003::1 as "6"
admin@XorPlus#set protocols bgp peer 3003::1 ipv6-unicast true
admin@XorPlus#set protocols bgp peer 5005::2 local-ip "5005::1"
admin@XorPlus#set protocols bgp peer 5005::2 as "10"
admin@XorPlus#set protocols bgp peer 5005::2 ipv6-unicast true

```

Switch D:

```

admin@XorPlus#set protocols bgp bgp-id 44.44.44.44
admin@XorPlus#set protocols bgp local-as 12
admin@XorPlus#set protocols bgp peer 2002::1 local-ip "2002::2"
admin@XorPlus#set protocols bgp peer 2002::1 as 9
admin@XorPlus#set protocols bgp peer 2002::1 ipv6-unicast true

```

Switch E:

```

admin@XorPlus#set protocols bgp bgp-id 33.33.33.33
admin@XorPlus#set protocols bgp local-as 10
admin@XorPlus#set protocols bgp peer 5005::1 local-ip "5005::2"
admin@XorPlus#set protocols bgp peer 5005::1 as 9
admin@XorPlus#set protocols bgp peer 5005::1 ipv6-unicast true

```

Step 2: Switch D and Switch E propagate BGP route entry 9999::/64 to Switch B and Switch C

Note: check the BGP route table on Switch A.

Switch B:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

```

Prefix	Nexthop	Peer	AS Path
*> 9999::/64	2002::2	44.44.44.44	12 i

Switch C:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

```

Prefix	Nexthop	Peer	AS Path
*> 9999::/64	5005::2	33.33.33.33	10 i

Switch A:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                Nexthop                Peer                AS Path
  -----                -
* 9999::/64             1001::2                26.26.26.26        9 12 i
*> 9999::/64            3003::2                9.9.9.9            9 10 i
admin@XorPlus#
admin@XorPlus# run show bgp routes ipv6 de
Possible completions:
<IPNet>                Print BGP IPv6 routes of specified prefix
detail                  Print detailed BGP IPv6 routes
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
  From peer: 9.9.9.9
  Route: Winner
  Origin: IGP
  AS Path: 9 10
  Nexthop: 3003::2
  Multiple Exit Discriminator: 0
  Local Preference: 100
9999::/64
  From peer: 26.26.26.26
  Route: Not Used
  Origin: IGP
  AS Path: 9 12
  Nexthop: 1001::2
  Multiple Exit Discriminator: 0
  Local Preference: 100

```

Note: The MED all is 0. The two BGP route entry.

Step 3: Modify the MED value on Switch C

Switch C:

```
admin@XorPlus# set protocols bgp med 100
```

Switch A:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                Nexthop                Peer                AS Path
  -----                -
* 9999::/64             3003::2               9.9.9.9             9 10 i
*> 9999::/64           1001::2               26.26.26.26        9 12 i
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
  From peer: 26.26.26.26
  Route: Winner
  Origin: IGP
  AS Path: 9 12
  Nexthop: 1001::2
  Multiple Exit Discriminator: 0
  Local Preference: 100
9999::/64
  From peer: 9.9.9.9
  Route: Not Used
  Origin: IGP
  AS Path: 9 10
  Nexthop: 3003::2
  Multiple Exit Discriminator: 100
  Local Preference: 100
admin@XorPlus#

```

Note: The best route is coming from Switch B, as the BGP route entry from Switch B has a smaller MED value. It will select the BGP route entry with smaller MED value if other attributes all have the same priority.

Step 4: Modify the MED larger than Switch C

Switch B:

```
admin@XorPlus# set protocols bgp med 200
```

Switch A:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                Nexthop                Peer                AS Path
  -----                -
* 9999::/64             1001::2               26.26.26.26        9 12 i
*> 9999::/64           3003::2               9.9.9.9             9 10 i
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
  From peer: 9.9.9.9
  Route: Winner
  Origin: IGP
  AS Path: 9 10
  Nexthop: 3003::2
  Multiple Exit Discriminator: 100
  Local Preference: 100
9999::/64
  From peer: 26.26.26.26
  Route: Not Used
  Origin: IGP
  AS Path: 9 12
  Nexthop: 1001::2
  Multiple Exit Discriminator: 200
  Local Preference: 100

```

Note: The BGP speaker selects the BGP route entry with the smaller MED.