



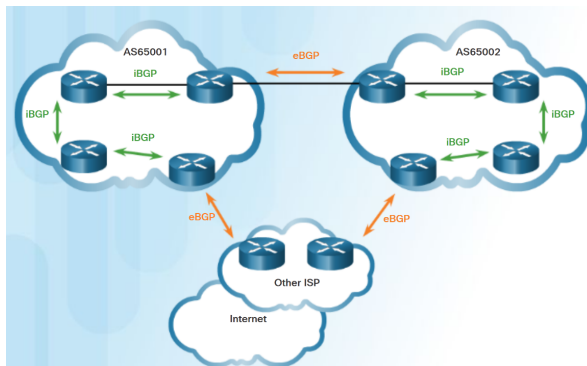
BGP

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IGP VS EGP

IGPs are used to exchange routing information within a company network or an autonomous system (AS).

An Exterior Gateway Protocol (EGP) is used for the exchange of routing information between autonomous systems, such as ISPs.



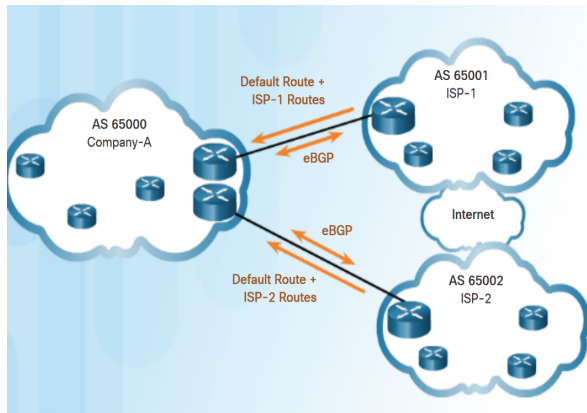
External BGP (eBGP) – External BGP is the routing protocol used between routers in different autonomous systems.

Internal BGP (iBGP) - Internal BGP is the routing protocol used between routers in the same AS.

BGP is used when an AS has connections to multiple autonomous systems. This is known as multi-homed.

BGP should not be used when there is a single connection to the Internet or another AS. Known as single-homed.

Multihomed BGP implementation



Three common ways an organization can implement BGP in a multi-homed environment:

Default Route Only

Default Route and ISP Routes

All Internet Routes (this would include routes to over 550,000 networks)

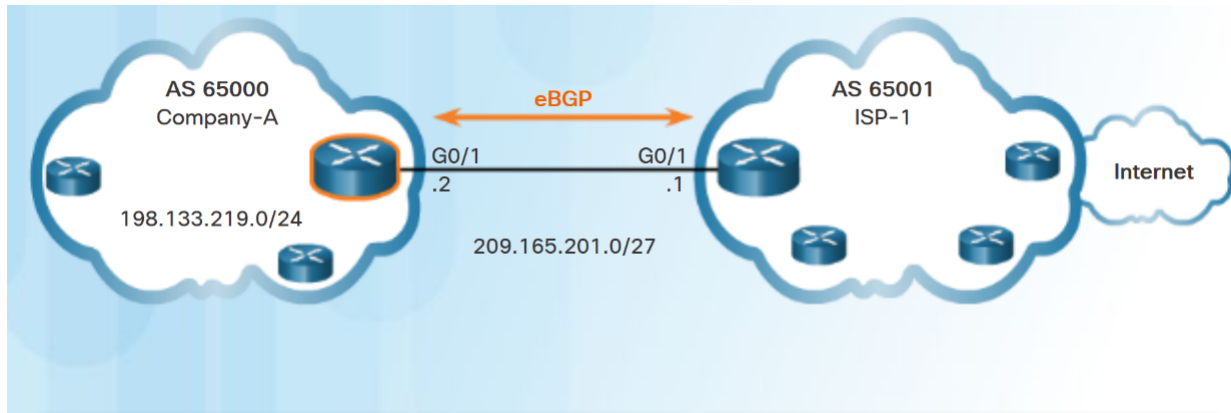
Configuration Example

1. Enable BGP routing.
2. Configure BGP neighbor(s) (peering)
3. Advertise network(s) originating from this AS.

Note: The network-address used in the network command does not have to be a directly connected network.

| Command | Description |
|--|--|
| Router(config)# router bgp <i>as-number</i> | Enables a BGP routing process, and places the router in router configuration mode. |
| Router(config-router)# neighbor <i>ip-address remote-as as-number</i> | Specifies a BGP neighbor. The as-number is the neighbor's AS number. |
| Router(config-router)# network <i>network-address [mask network-mask]</i> | Advertises a network address to an eBGP neighbor as being originated by this AS. The network-mask is the subnet mask of the network. |

BGP Casus



```
Company-A(config)# router bgp 65000
Company-A(config-router)# neighbor 209.165.201.1 remote-as 65001
Company-A(config-router)# network 198.133.219.0 mask 255.255.255.0

ISP-1(config)# router bgp 65001
ISP-1(config-router)# neighbour 209.165.201.2 remote-as 6500
ISP-1(config-router)# network 0.0.0.0
```

Verifying Configuration

Verify the BGP configuration by using the following commands:

```
show ip route
```

```
show ip bgp
```

```
show ip bgp summary
```