BGP (BORDER GATEWAY PROTOCOL)

- BGP is a standardized exterior gateway protocol (EGP), as opposed to RIP, OSPF, and EIGRP which are interior gateway protocols (IGP's). BGP Version 4 (BGPv4) is the current standard deployment.

- BGP is considered a "Path Vector" routing protocol. BGP was not built to route within an Autonomous System (AS), but rather to route between AS's. BGP maintains a separate routing table based on shortest AS Path and various other attributes, as opposed to IGP metrics like distance or cost.

- BGP is the routing protocol of choice on the Internet. Essentially, the Internet is a collection of interconnected Autonomous Systems.

- BGP Autonomous Systems are assigned an Autonomous System Number (ASN), which is a 16-bit number ranging from 1 – 65535. A specific subset of this range, 64512 – 65535, has been reserved for private (or internal) use. BGP utilizes TCP for reliable transfer of its packets, on port 179.

BGP CONFIGURATION:

Syntax:

Router(config)# router bgp <ASN>

network <network address>

neighbour <near router ip address> remote-as <asn>

Example:

FIRST ROUTER

- Router(config)#router bgp 100
- Router(config-router)#network 192.168.1.0
- Router(config-router)#network 10.0.0.0
- Router(config-router)#neighbor 10.0.0.2 remote-as 200
- Router(config-router)#exit

MIDDLE ROUTER

- Router(config)#router bgp 200
- Router(config-router)#network 10.0.0.0
- Router(config-router)#network 11.0.0.0
- Router(config-router)#neighbor 10.0.0.1 remote-as 100
- Router(config-router)#neighbor 11.0.0.2 remote-as 300
- Router(config-router)#exit

LAST ROUTER

- Router(config)#router bgp 300
- Router(config-router)#network 192.168.2.0
- Router(config-router)#network 11.0.0.0
- Router(config-router)#neighbor 11.0.0.1 remote-as 200
- Router(config-router)#exit

TO PERFORM REDISTRIBUTION

- Router(config)#router ospf 1
- Router(config-router)#redistribute connected metric 5000 metric-type 2 subnets

- Router(config)#router bgp 2
- Router(config-router)#redistribute connected