EIGRP Quick notes

AD of EIGRP Internal Route is 90
AD of EIGRP external Route is 170
AD of EIGRP summary Route is 5

Passive Interface: In EIGRP (and OSPF) the passive interface command stops sending outgoing hello packets, hence the router cannot form any neighbor relationship via the passive interface. This behavior stops both outgoing and incoming routing updates

Feasible successor is a route whose Advertised Distance is less than the Feasible Distance of the current best path. A feasible successor is a backup route, which is not stored in the routing table but stored in the topology table.

EIGRP stub advertises summary and directly connected routes. EIGRP stub routing feature improves network stability, reduce resources utilization and simplifies stub router configuration. Any neighbor that receives a packet informing it of the stub status will not query the stub router for any routes. EIGRP stub configuration command increases scalability by limiting the EIGRP query range

Active State: When a route (current successor) goes down, the router first checks its topology table for a feasible successor but it can't find one. So it goes active on the that route to find a new successor by sending queries out to its neighbors requesting a path to the lost route.

Below is the order of the events happen when EIGRP topology change is detected:

- Dual is notified
- The neighbor adjacency is deleted
- Remove all topology entries learned from that neighbor
- The feasible route is used

Possible causes for EIGRP stuck-In-Active Routers ?

- Some query or reply packets are lost between the routers
- A failure causes traffic on a link between two neighboring routers to flow in only one direction(unidirectional link)

Prefix lists are configured to match an exact prefix length or prefix range. The **ge** and **le** keywords ae used to specify a range Prefix lists are configured with permit or deny keywords to either permit or deny the prefix based on matching condition.

EIGRP manual summarization is configured on a per interface basis. The summary address is entered into the routing table and is shown to be sourced from the null0 interface
NOTE : EIGRP performs an auto-summarization each time it crosses a border between two different major networks.

Key Concept of configuring EIGRP stub routing feature in a hub and spoke network ?

- Only remote routers are configured as stubs
- Stub routers are not queried for routes
- A stub router should have only EIGRP hub routers as neighbors

In a frame-relay environment, spoke routers can be configured as EIGRP stubs

Variance 1 in EIGRP means unequal load balancing is disabled ,it support equal-cost load balancing

In EIGRP, If the multipoint network has different speeds allocated to the VCs, take the lowest CIR and simply multiply it by the number of circuits. This is because in Frame-relay all neighbors share the bandwidth equally, regardless of the actual CIR of each individual PVC, so we have to get the lowest speed CIR rate and multiply it by the number of circuits. This result will be applied on the main interface (or multipoint connection interface).

EIGRP Bandwidth: By default, EIGRP will limit itself to using no more than 50% of the interface bandwidth. The primary benefit of controlling EIGRP's bandwidth usage is to avoid losing EIGRP packets, which could occur when EIGRP generates data faster than the interface line can absorb it. This is of particular benefit on Frame Relay networks, where the access interface bandwidth and the PVC capacity may be very different.

Notice that the "**maximum-paths**" command is used to share traffic to equal cost path while the "**variance**" command can share traffic to unequal cost path.

The **ip summary-address eigrp** {AS number} {address mask} command is used to configure a summary aggregate address for a specified interface.