



ASSIGNMENT-4

AIMS : EIGRP, RIPV2, WLAN

PROBLEM STATEMENT: USING A NETWORK SIMULATOR, CONFIGURE EIGRP, RIPV2 AND EIGRP ON SAME NETWORK, WLAN WITH STATIC IP ADDRESSING AND DHCP WITH MAC SECURITY AND FILTERS.

THEORY :

- **EIGRP :**
 - Enhanced interior gateway protocol (EIGRP) is an interior gateway protocol suited for many different topologies & media. In a well designed network, EIGRP scales well & provides extremely quick convergence times with minimal n/w traffic.
 - It is a hybrid routing protocol, & has characters of both vector & link state protocols.
 - It uses Diffusing update algorithm to select best path & reliable transport protocol to communicate with neighbours.
- **CONFIGURATION VALUES :**
 - An EIGRP router checks the following configuration values to ensure that the requesting router is eligible to become his neighbour or not.
 - i. Active Hello packets
 - ii. AS Number
 - iii. K-Values

- ACTIVE HELLO PACKETS :

- Used to maintain membership between routers , neighbour discovery & recovery process.
- Hello packets are sent periodically from all active interfaces.
- By default, when we enable EIGRP routing, all interfaces that meet N/w criteria , become participant of it .

- PASSIVE INTERFACE :

- This command is used to exclude an interface from EIGRP.
- An EIGRP router must receive hello packets continuously from its neighbours . If it does not receive any from a neighbour in hold down time , it will mark that neighbour dead .

- ADJACENCY :

- Neighbourship is adjacency in EIGRP.

- AS NUMBER :

- AS is a group of N/w's running under a single administrative control .
- Used to break a large n/w in smaller n/w.

- creates a boundary for routing protocol
- 2 types of AS numbers :
 - i. Public AS numbers
 - ii. Private AS numbers.
- K-VALUES :
- EIGRP may use 5 metric components to select the best route for routing table.

K-VALUES	METRIC COMPONENTS
K1	Bandwidth
K2	Load
K3	Delay
K4	Reliability
K5	MTU

- 2 routers must use same K-values in order to become neighbours.

- CONFIGURE EIGRP :
- It is a 2-step process :
 - i. Enable EIGRP protocol from global configuration mode
 - ii. Tell EIGRP which interfaces we want to include

CONCLUSION:

In this assignment, we configured EIGRP, RIPV2, EIGRP on the same N/w, WLAN with static IP addressing & DHCP using MAC security & filters.