

EIGRP (Enhanced Interior Gateway Routing Protocol):

- o EIGRP stands for Enhanced Interior Gateway Routing Protocol.
- o EIGRP is a Cisco Proprietary routing protocol however open in 2013.
- o It is hybrid routing protocol sometime called Advanced Distance Vector.
- o It has characteristics of both distance vector and link state protocols.
- o It uses **DUAL (Diffusing Update Algorithm)** algorithm to select best path.
- o It uses RTP (Reliable Transport Protocol) to communicate with neighbors.
- o Enhanced Interior Gateway Routing Protocol uses multicast for updates.
- o EIGRP supports Both Internet Protocol V4 and IPV6 routed protocols.
- o EIGRP includes subnet mask information in the routing updates message.
- o EIGRP supports route summarization and discontinuous networks.
- o EIGRP protocol supports VLSM, CIDR also supports trigger updates.
- o It sends partial or full update only when something is change in network.
- o The Default Internal Administrative Distance of EIGRP protocol is **90**.
- o The Default External Administrative Distance of EIGRP protocol is 170.
- o The EIGRP default hop count support is **100 but it can be tune to 255**.
- o EIGRP protocol support Equal cost Load and Unequal Cost load balancing.
- o EIGRP take load balancing by default **up-to 4 paths can configure up to 32**.
- o Hello time of EIGRP protocol is 5 seconds and the dead time is 15 seconds.
- o EIGRP updates are sent to **224.0.0.10** on Multicast Internet Protocol address.
- o EIGRP Support MD5 Authentication & by default, **Auto Summarization** is enabled.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	10.1.12.1	224.0.0.10	EIGRP	74	Hello
2	0.545340745	10.1.12.2	224.0.0.10	EIGRP	74	Hello
5	5.595125050	10.1.12.1	224.0.0.10	EIGRP	74	Hello
6	6.140916356	10.1.12.2	224.0.0.10	EIGRP	74	Hello
8	10.452536628	10.1.12.1	224.0.0.10	EIGRP	74	Hello
9	11.130690668	10.1.12.2	224.0.0.10	EIGRP	74	Hello

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▼ Cisco EIGRP
  Version: 2
  Opcode: Hello (5)
  Checksum: 0xe2d1 [correct]
  [Checksum Status: Good]
  ▶ Flags: 0x00000000
  Sequence: 0
  Acknowledge: 0
  Virtual Router ID: 0 (Address-Family)
  Autonomous System: 1
  ▼ Parameters
    Type: Parameters (0x0001)
    Length: 12
    K1: 1
    K2: 0
    K3: 1
    K4: 0
    K5: 0
    K6: 0
    Hold Time: 15
  ▶ Software Version: EIGRP=23.0, TLV=2.0
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Routing Protocol is "eigrp 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP-IPv4 Protocol for AS(1)
    Metric weight K1=1, K2=0, K3=1, K4=0, K5=0
    Soft SIA disabled
    NSF-aware route hold timer is 240
    Router-ID: 4.4.4.1
    Topology : 0 (base)
      Active Timer: 3 min
      Distance: internal 90 external 170
      Maximum path: 4
      Maximum hopcount 100
      Maximum metric variance 1

Automatic Summarization: disabled
Maximum path: 4
Routing for Networks:
  10.1.12.0/30
  10.1.13.0/30
Routing Information Sources:
  Gateway          Distance      Last Update
  10.1.13.2        90          00:03:07
  10.1.12.2        90          00:03:07
Distance: internal 90 external 170

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