



Key Attributes

Protocol Type/Class:	Classless / Distance Vector (1993)
Algorithm:	DUAL (Diffusing Update Algorithm)
Standard:	Cisco Propriety (Partial RFC7868 2016)
Metric:	Composite (BW, Load, Delay, Reliability and MTU)
Authentication	MD5
No. of packet types:	5
Admin Distance:	Internal: 90 / External: 170 / Summary: 5
Multicast Address:	224.0.0.10
Protocols supported:	IP & Old protocols like IPX, AppleTalk
Transport:	IP (Port88)
VLSM Supported:	YES
Route Summarization:	YES
Load Balancing:	YES (Equal and Unequal Cost)

EIGRP Packet Types



EIGRP Router ID Selection Criteria



Cisco routers uses the following order to select router ID:

- Router ID** (manually configured)
- Highest loopback** interface, if router ID is not configured
- Highest Physical** interface in "up/up" state (if loopback interface is not configured)



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EIGRP Timers (Intervals)

EIGRP Link Type	Hello Interval	HoldDown Interval
High Speed Links (Broadcast / LAN) > T1	5 seconds	15 seconds
Low Speed Links (NBMA / WAN) < T1	60 second	180 seconds

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EIGRP Stub Router



- A Router connected to the network core or distribution layer through which core transit traffic should not flow
- It advertises only a subset of routes, and is omitted from the route query process



EIGRP Terms



Stuck In Active (SIA)

"The condition when a route becomes unreachable and not all queries for it are answered"

Feasible Distance

"Cost to the next hop as well as Administrative Distance"

Reported Distance

"The distance (metric) towards a destination as advertised by an upstream neighbor"

Feasible Successor

"A backup route that can be used in the event of a topology change without having to recalculate routes"

"A particular destination to a next hop router that is guaranteed not to be a part of a routing loop"

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EIGRP Metric Calculation

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$$\text{EIGRP Metric} = 256 * \left(K1 * BW + \frac{K2 * BW}{256 - \text{load}} + K3 * \text{Delay} \right) * \frac{K5}{\text{Rel} + K4}$$

- BW** = 10⁷ / Minimum path BW in kb/s
- Delay** = Interface delay in μsecs / 10

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