

IP Routing Protocol Comparison

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I have created a quick reference table for the most popular IGP (Interior Gateway) Routing Protocols. This table covers RIP v1, RIP v2, IGRP, EIGRP, OSPF, and IS-IS. I find it much easier to memorize the details when you can see them all in one place.

Thanks to Dan Sheehan for contributing some of the content to this chart.

Enjoy!

Note that IS-IS is a CCNP level objective and is not a part of the CCNA objectives. RIP V1 RIP V2 IGRP EIGRP OSPF IS-IS Link State/Distance Vector Distance Vector Distance Vector Hybrid Link State Link State Classful/Classless Classful Classless Classful Classless Classless Discontiguous Problem Yes Yes Yes Administrative Distance 120 120 100 90 110 How does it transfer routing updates?

Broadcast

255.255.255.255

Multicast

224.0.0.9

Broadcast

255.255.255.255

Multicast

224.0.0.10

Multicast

224.0.0.6 - Routers to DR/BDR

224.0.0.5 - DR to all Routers CLNS How often does it send full updates? (Distance Vector)

30 Seconds

(180 Holddown)

30 Seconds

(180 Holddown)

90 Seconds

(270 Holddown) How often does it send hello packets? (Link State)

5 Seconds (LAN)

(15 Holddown)

60 Seconds (WAN)

(180 Holddown)

10 Seconds (LAN)

(40 Seconds Flush)

30 Seconds (WAN)

(40 Seconds Flush?) 10 Seconds Metric

Hop Count

(Max=15)

Hop Count

(Max=15)

Composite Metric (Bandwidth + Delay)

(Max=255, Default=128)

Composite Metric (Bandwidth + Delay)

(Max=224, Default=128)

Cost

10^8/BandwidthCostAuthenticationNoYesNoYesYesYesBandwidth UsageHighHighHighLowLowLogCPU
UsageLowLowLowHighHighHighSpeed to ConvergeSlowSlowSlowFastFastFastProne to LoopsYesYesYesNoNoNo