

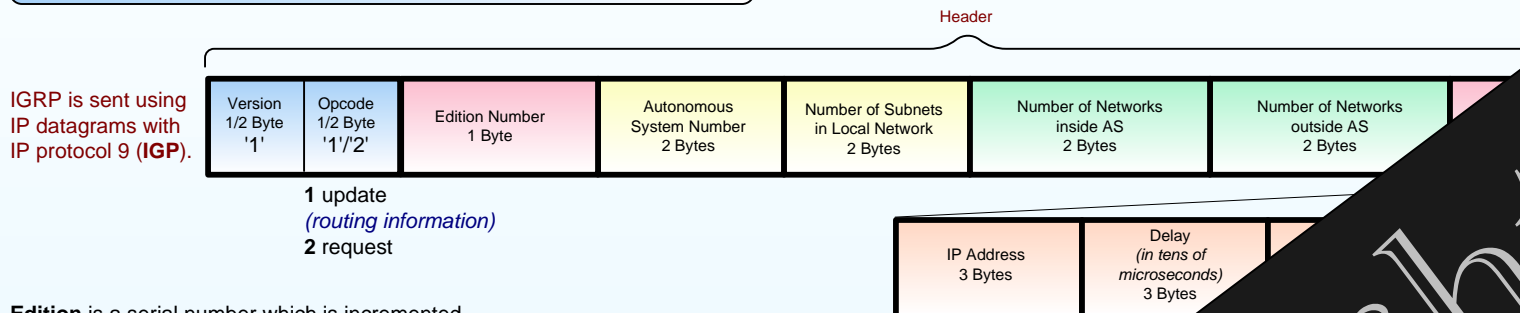
IGRP - Interior Gateway Routing Protocol

(Distance Vector IP Routing Protocol, a type of interior gateway protocol - uses a composite metric composed of Bandwidth & Delay)

Cisco Proprietary - classful (subnet mask information is not sent with the routing updates)

administrative distance - 100

Maximum hop count of **255**, with a default of **100**.



Edition is a serial number which is incremented whenever there is a change in the routing table. (This is done in those conditions in which the pseudo-code above says to trigger a routing update.) The edition number allows gateways to avoid processing updates containing information that they have already seen.

Asystem is the autonomous system number. In Cisco's implementation a gateway can participate in more than one autonomous system. Each such system runs its own IGRP protocol. Conceptually, there are completely separate routing tables for each autonomous system. Routes that arrive via IGRP from one autonomous system are sent only in updates for that AS.

The best path is selected based on a composite metric:
metric = [K1*bandwidth + (K2*bandwidth)/(256 - load) + K3*d

The default constant values are K1=K3=1 and K2=K4=K5=0

	Delay	Bandwidth (outgoing interface)
Satellite	200,000 (2 sec)	20 (500 Mbit)
Ethernet	100 (1 ms)	1,000
1.544 Mbit	2000 (20 ms)	6,476
64 Kbit	2000	156,250
56 Kbit	2000	178,571
10 Kbit	2000	1,000,000
1 Kbit	2000	10,000,000

Reliability is given as

Load is given as

The path

When

the

This is done in accordance with the composite metric for each data path.

Cisco commands:

```
>router igrp 10 (AS number)
In order for EIGRP and IGRP to
automatically redistribute routes that
share the same process ID number
> network 172.16.1.0
```

```
>show ip route
>show ip protocol
>debug ip igrp
>debug ip igrp
```

Routing information - for updates

As many routing entries are included in each update (including IP header) - allows updates to be compressed

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