

# RIP - Routing Information Protocol

(Distance Vector IP Routing Protocol, a type of interior gateway protocol)

UDP Port 520

Request / Response Messages

**RIP v1 - classful** - (RFC1058 - 1988)

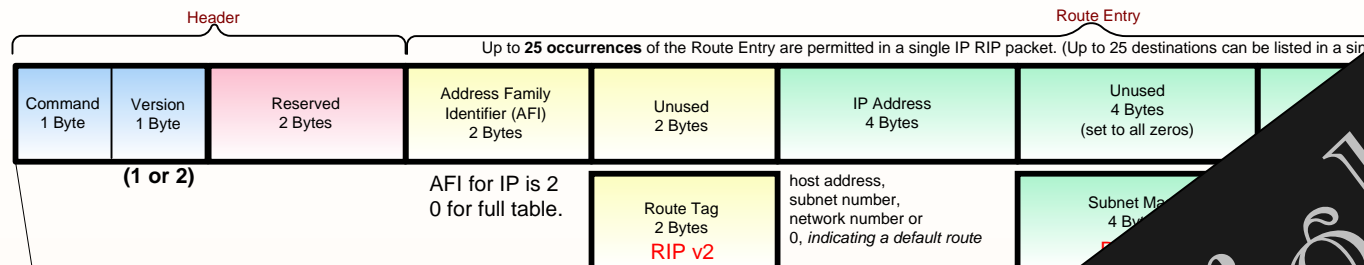
**RIP v2 - classless** - (RFC1723 - 1994)  
administrative distance - 120

The maximum datagram size is 512 bytes not including the IP or UDP headers.

If the AFI for the first entry in the message is **0xFFFF**, the remainder of the entry contains authentication information. Currently, the only authentication type is simple password.

**Poison Reverse Updates:** Prevent larger loops in a network by setting the metric (cost) of neighboring routers to infinity, and therefore, unreachable.

**Split Horizon Update:** Prevents loop by not advertising broadcast route information out of the same interface on which it was learned. Prevents loop by not advertising one routing information back into the interface from which it was learned.



- 1 Request - for the responding system to send all or part of its routing table.
- 2 Response - message containing all or part of the sender's routing table. This message may be sent in response to a request, or it may be an unsolicited routing update generated by the sender.
- 3 Trace on. Obsolete.
- 4 Trace off. Obsolete.
- 5 SUN reserved.
- 6 Triggered request - RFC 1582
- 7 Triggered response - RFC 1582
- 8 Triggered acknowledgment - RFC 1582
- 9 Update Request - RFC 2091
- 10 Update Response - RFC 2091
- 11 Update Acknowledge - RFC 2091

Route Tag  
2 Bytes  
RIP v2  
Provides a method for distinguishing between internal routes (learned by RIP) and external routes (learned from other protocols).

Cisco commands

```
>router rip
> net
```

## RIP Issues

Networks may not stabilize  
Broadcast traffic grows  
RIP does not scale  
RIP has a slow  
Chooses  
RIP v1  
RIP