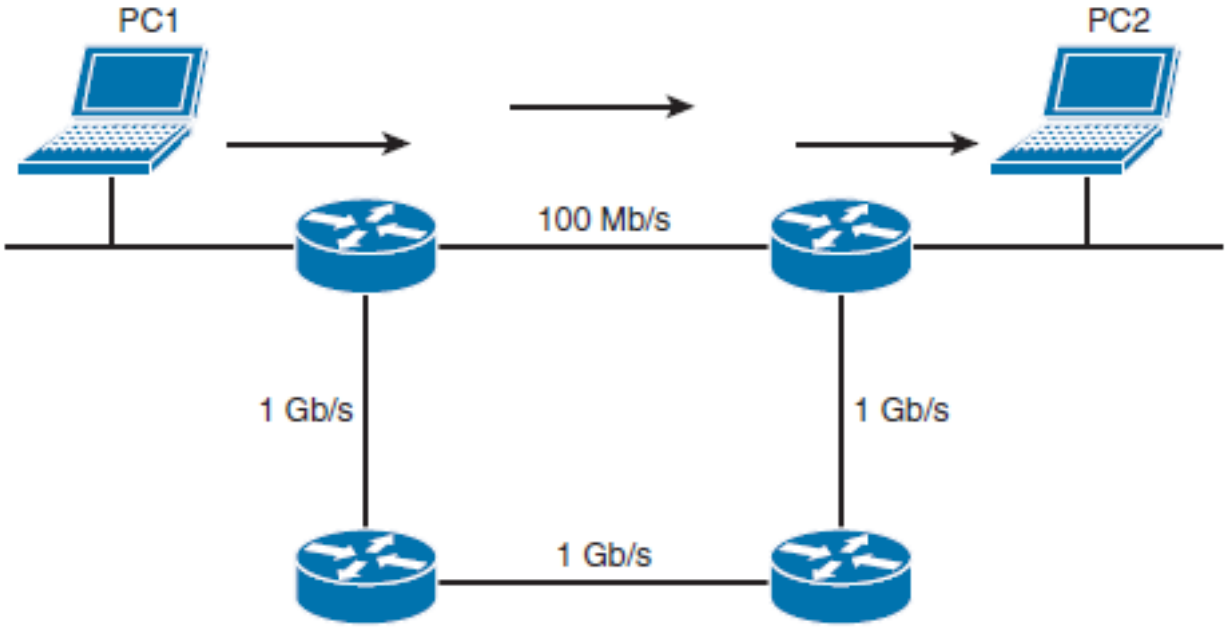
RIP Overview

- RIP is an IGP that is used in smaller networks.
- It is a distance vector routing protocol that uses hop count as a routing metric.
- There are three versions of RIP: RIPv1, RIPv2, and RIPng. RIPv1 and RIPv2 route in IPv4 networks.
- RIPng routes in IPv6 networks.
- RIP is a standardized IGP routing protocol that works in a mixed-vendor router environment.

RIP Overview



- RIP uses hop count, the number of routers, as the metric.
- If a device has two paths to the destination network, the path with fewer hops will be chosen as the path to forward traffic.
- If a network is 16 or more hops away, the router considers it unreachable.

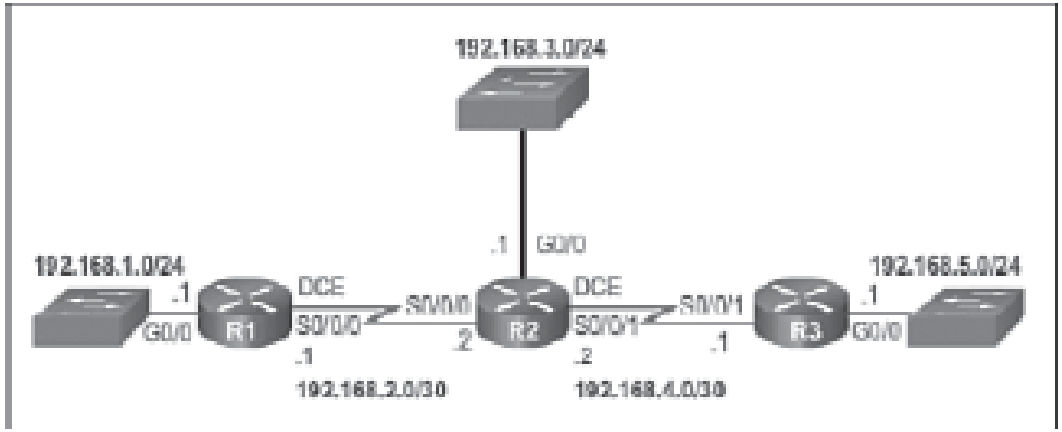
RIP Overview

- As a routing loop-prevention technique, RIP implements split horizon. Split horizon prevents routing information from being sent out the same interface from which it was received.
- Split horizon with poison reverse is a similar technique but sends the update with a metric of 16, which is considered unreachable by RIP.
- RIP is also capable of load balancing traffic over equal-cost paths.
- The default is four equal-cost paths.
- If the maximum number of paths is set to one, load balancing is disabled.

Comparing Features in RIPv2 and RIPng

Feature	RIPv2	RIPng
Advertise routes	IPv4	IPv6
Transport protocol	UDP (port 520)	UDP (port 521)
Multicast address used	224.0.0.9	FF02::9
VLSM support	Yes	Yes
Metric Administrative Distance	Hop count (maximum of 15) 120	Hop count (maximum of 15) 120
Routing updates	Every 30 seconds and with topology change	Every 30 seconds and with topology change
Authentication support	Yes	Yes

RIPv2 Configuration




```
R1(config)# router rip
R1(config-router)# network 192.168.1.0
R1(config-router)# network 192.168.2.0
R1(config-router)# version 2
R1(config-router)#
```

RIPv2 Configuration

- By default, RIPv2 automatically summarizes networks at major network boundaries, summarizing routes to the classful network address
- When route summarization is disabled, the software sends subnet routing information across classful network boundaries.

```
Router(config-router)# no auto-summary
```

- The **ip summary-address rip** *ip-address network-mask* interface command is used to summarize an address or subnet under a specific interface.

```
Router(config-if)# ip summary-address rip 10.2.0.0 255.255.0.0
```