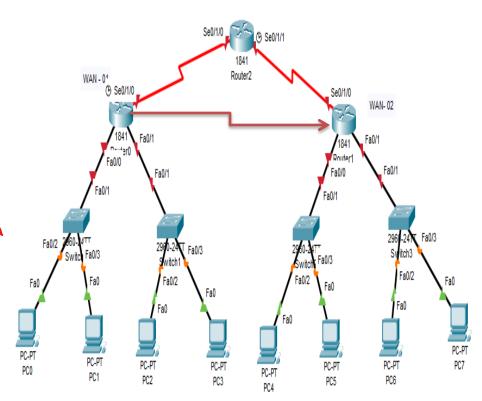


Routing Information Protocol(RIP) Version-2



Routing Information Protocol(RIP) Version-2:

- **✓** Classless Routing Protocols
- ✓ Update Routing Table in every 30 seconds
- ✓ Invalid after 180 seconds.
- **√** Communicate in small distance path
- **✓ Not concern about trafic, speed.**
- ✓ Max hopcount is 15.





Routing Protocol Operating Fundamentals Cold Start

Directly Connected Networks Detected



R2

Network	Interface	Нор
10.1.0.0	Fa0/0	0
10.2.0.0	S0/0/0	0

R1

	1 12	
Network	Interface	Нор
10.2.0.0	S0/0/0	0
10.3.0.0	S0/0/1	0

Network	Interface	Нор
10.3.0.0	S0/0/1	0
10.4.0.0	Fa0/0	0

R3

Routers running RIPv2

- R1 adds the 10.1.0.0 network available through interface FastEthernet 0/0 and 10.2.0.0 is available through interface Serial 0/0/0.
- R2 adds the 10.2.0.0 network available through interface Serial 0/0/0 and 10.3.0.0 is available through interface Serial 0/0/1.
- R3 adds the 10.3.0.0 network available through interface Serial 0/0/1 and 10.4.0.0 is available through interface FastEthernet 0/0.

Routing Protocol Operating Fundamentals Network Discovery

 D_{4}



	R1			R2			R3			
Network	Interface	Нор	Network	Interface	Нор	Network	Interface	Нор		
10.1.0.0	Fa0/0	0	10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/0	0		
10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0	10.4.0.0	Fa0/0	0		
10.3.0.0	S0/0/0	1	10.1.0.0	S0/0/0	1	10.2.0.0	S0/0/1	1		
			10.4.0.0	S0/0/1	1					

R1:

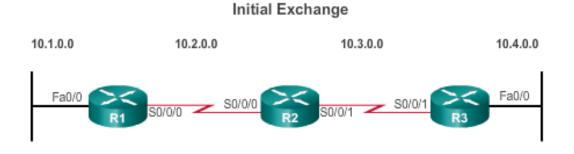
D2

- Sends an update about network 10.1.0.0 out the Serial0/0/0 interface
- Sends an update about network 10.2.0.0 out the FastEthernet0/0 interface
- Receives update from R2 about network 10.3.0.0 with a metric of
- Stores network 10.3.0.0 in the routing table with a metric of 1

Routers running RIPv2

Routing Protocol Operating Fundamentals Network Discovery (cont.)

R1



			112				173	
Network	Interface	Нор	Network	Interface	Нор	Network	Interface	Нор
10.1.0.0	Fa0/0	0	10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/0	0
10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0	10.4.0.0	Fa0/0	0
10.3.0.0	S0/0/0	1	10.1.0.0	S0/0/0	1	10.2.0.0	S0/0/1	1
			10.4.0.0	S0/0/1	1			

R2

Routers running RIPv2

R2:

D3

- Sends an update about network 10.3.0.0 out the Serial 0/0/0 interface
- Sends an update about network 10.2.0.0 out the Serial 0/0/1 interface
- Receives an update from R1 about network 10.1.0.0 with a metric of 1
- Stores network 10.1.0.0 in the routing table with a metric of 1
- Receives an update from R3 about network 10.4.0.0 with a metric of 1
- Stores network 10.4.0.0 in the routing table with a metric of 1

Routing Protocol Operating Fundamentals Network Discovery (cont.)

R1



DO

				RZ			K3	
Network	Interface	Нор	Network	Interface	Нор	Network	Interface	Нор
10.1.0.0	Fa0/0	0	10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/0	0
10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0	10.4.0.0	Fa0/0	0
10.3.0.0	S0/0/0	1	10.1.0.0	S0/0/0	1	10.2.0.0	S0/0/1	1
			10.4.0.0	S0/0/1	1			

R3:

D₂

- Sends an update about network 10.4.0.0 out the Serial 0/0/1 interface
- Sends an update about network 10.3.0.0 out the FastEthernet0/0
- Receives an update from R2 about network 10.2.0.0 with a metric of 1
- Stores network 10.2.0.0

 in the routing table with a metric of 1

Routers running RIPv2

Routing Protocol Operating Fundamentals

R1

Exchanging the Routing Information



				R 2		IX3		
Network	Interface	Нор	Network	Interface	Нор	Network	Interface	Нор
10.1.0.0	Fa0/0	0	10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0
10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0	10.4.0.0	Fa0/0	0
10.3.0.0	S0/0/0	1	10.1.0.0	S0/0/0	1	10.2.0.0	S0/0/1	1
10.4.0.0	S0/0/0	2	10.4.0.0	S0/0/1	1	10.1.0.0	S0/0/1	2

Routers running RIPv2

R1:

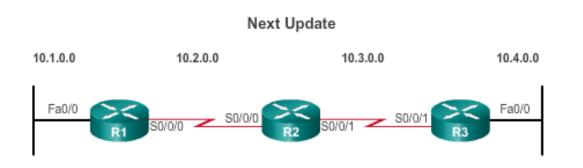
R3

- Sends an update about network 10. 1. 0. 0 out the Serial 0/0/0 interface
- Sends an update about networks 10. 2. 0. 0 and 10. 3. 0. 0 out the FastEthernet0/0 interface
- Receives an update from R2 about network 10. 4. 0. 0 with a metric of 2
- Stores network 10. 4. 0. 0 in the routing table with a metric of 2
- Same update from R2 contains information about network 10. 3. 0. 0 with a metric of 1. There is no change; therefore, the routing information remains the same

Routing Protocol Operating Fundamentals

R1

Exchanging the Routing Information (cont.)



Network	Interface	Нор	Network	Interface	Нор	Network	Interface	Нор
10.1.0.0	Fa0/0	0	10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0
10.2.0.0	S0/0/0	0	10.3.0.0	S0/0/1	0	10.4.0.0	Fa0/0	0
10.3.0.0	S0/0/0	1	10.1.0.0	S0/0/0	1	10.2.0.0	S0/0/1	1
10.4.0.0	S0/0/0	2	10.4.0.0	S0/0/1	1	10.1.0.0	S0/0/1	2

R2

Routers running RIPv2

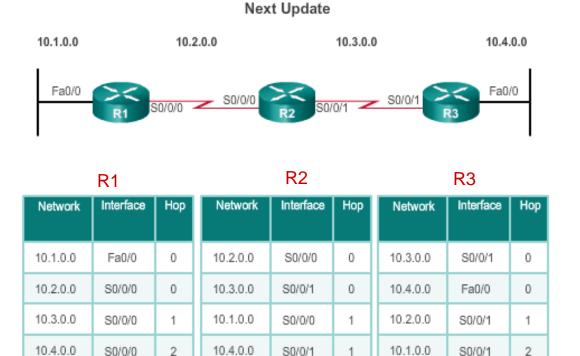
R2:

R3

- Sends an update about networks 10. 3. 0. 0 and 10. 4. 0. 0 out of Serial 0/0/0 interface
- Sends an update about networks 10. 1. 0. 0 and 10. 2. 0. 0 out of Serial 0/0/1 interface
- Receives an update from R1 about network 10. 1. 0. 0. There is no change; therefore, the routing information remains the same.
 - Receives an update from R3 about network 10. 4. 0. 0. There is no change; therefore, the routing information remains the same.

Routing Protocol Operating Fundamentals

Exchanging the Routing Information (cont.)



Routers running RIPv2

R3:

- Sends an update about network 10. 4. 0. 0 out the Serial 0/0/1 interface
- Sends an update about networks 10. 2. 0. 0 and 10. 3. 0. 0 out the FastEthernet0/0 interface
- Receives an update from R2 about network 10. 1. 0. 0 with a metric of 2
- Stores network 10. 1. 0. 0 in the routing table with a metric of 2
 - Same update from R2 contains information about network 10. 2. 0. 0 with a metric of 1. There is no change; therefore, the routing information remains the same.