



SNS COLLEGE OF TECHNOLOGY

Coimbatore-36.

An Autonomous Institution

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

COURSE NAME : 19CSB301 COMPUTER NETWORKS

III YEAR/ V SEMESTER

UNIT – III Internetworking and Routing

Topic: Routing Algorithms - RIP

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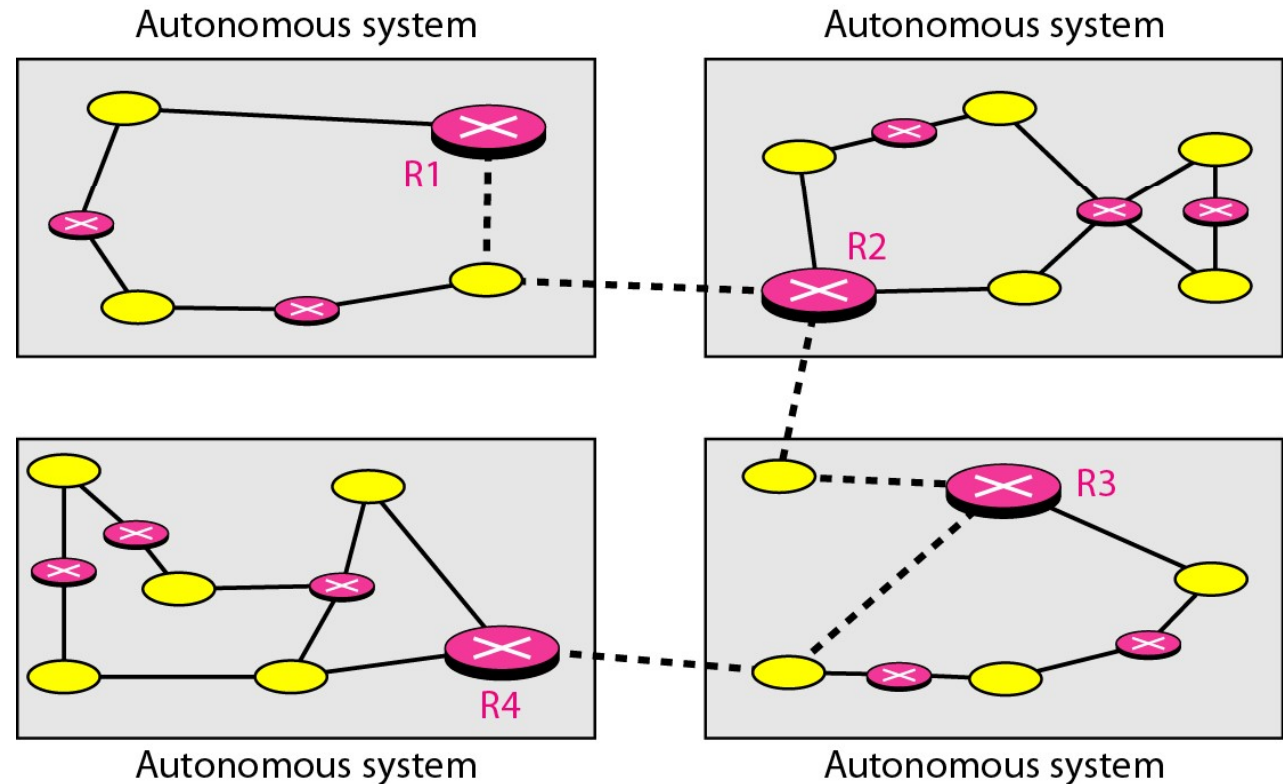


UNICAST ROUTING PROTOCOLS



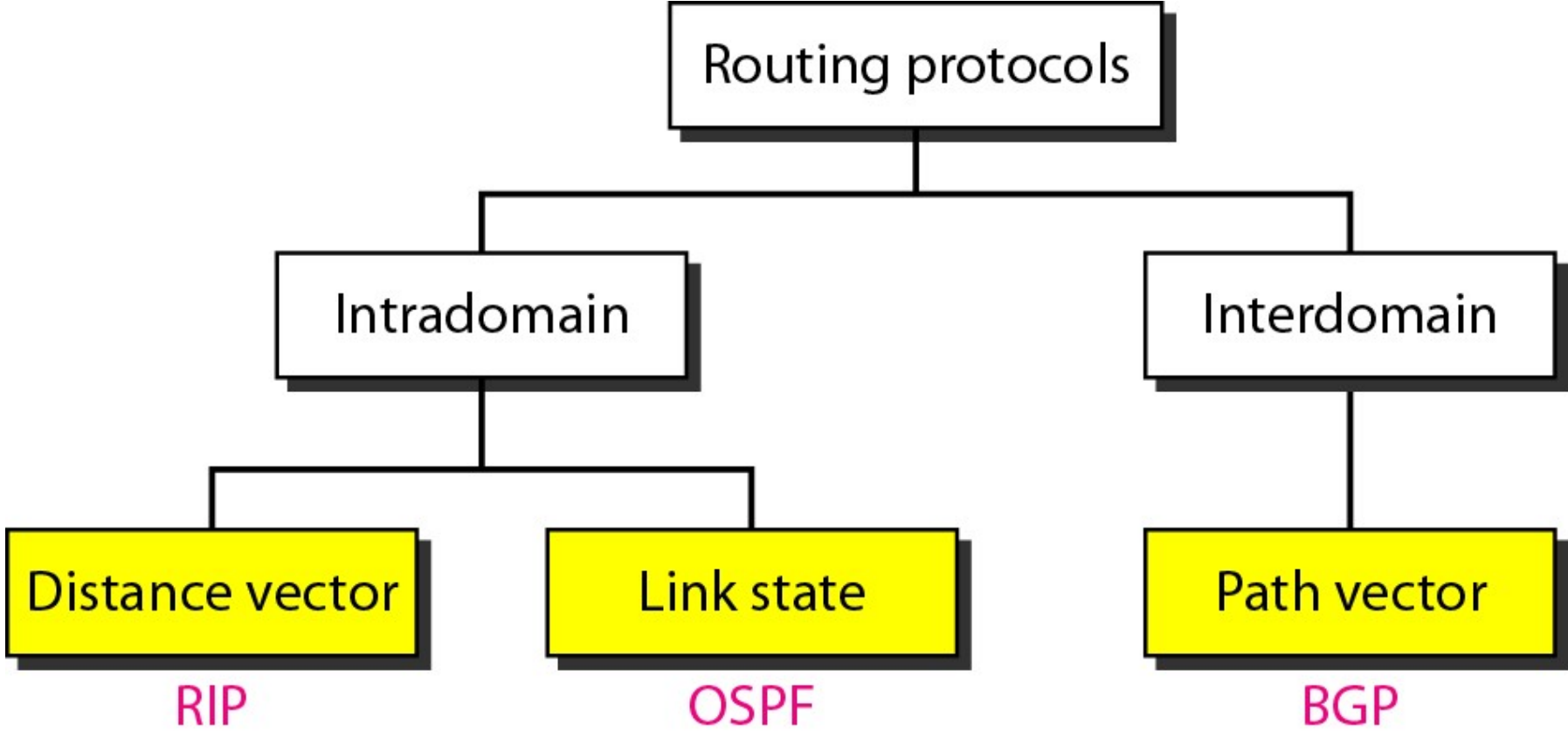
A routing table can be either static or dynamic. A static table is one with manual entries. A dynamic table is one that is updated automatically when there is a change somewhere in the Internet. A routing protocol is a combination of rules and procedures that lets routers in the Internet inform each other of changes.

Autonomous systems





Popular routing protocols



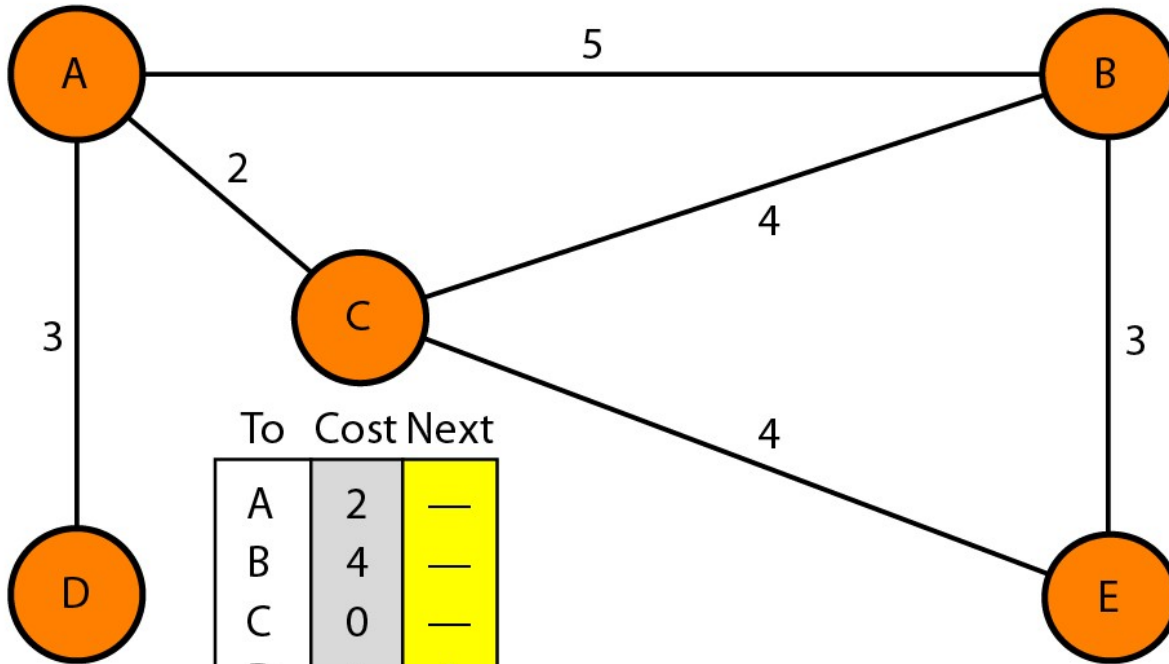


Distance vector routing tables

To Cost Next

To	Cost	Next
A	0	—
B	5	—
C	2	—
D	3	—
E	6	C

A's table



To Cost Next

To	Cost	Next
A	5	—
B	0	—
C	4	—
D	8	A
E	3	—

B's table

To Cost Next

To	Cost	Next
A	3	—
B	8	A
C	5	A
D	0	—
E	9	A

D's table

To Cost Next

To	Cost	Next
A	2	—
B	4	—
C	0	—
D	5	A
E	4	—

C's table

To Cost Next

To	Cost	Next
A	6	C
B	3	—
C	4	—
D	9	C
E	0	—

E's table



Initialization of tables in distance vector routing

To Cost Next

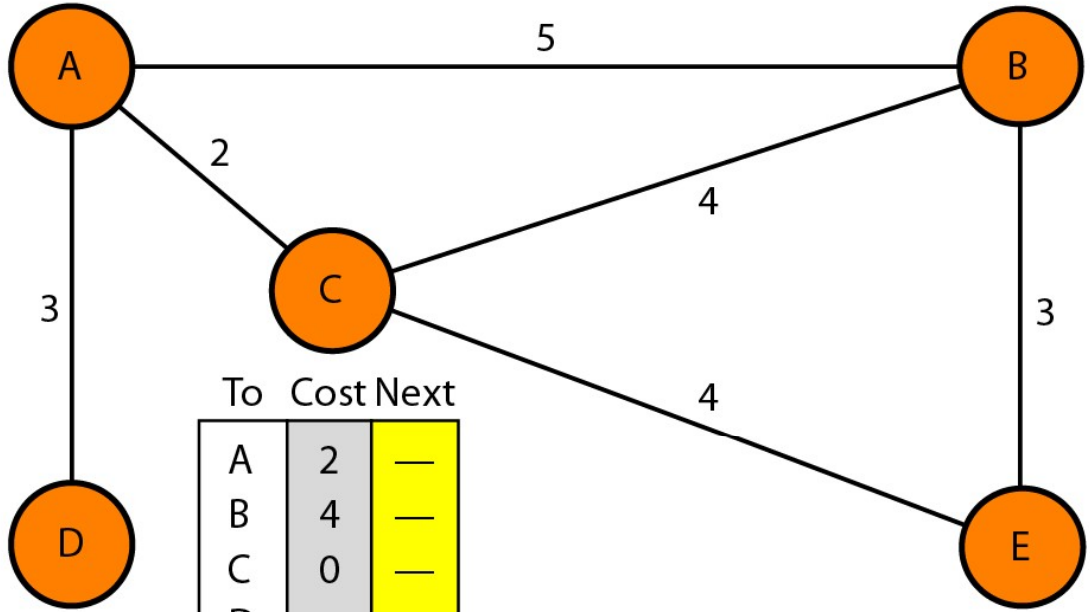
A	0	—
B	5	—
C	2	—
D	3	—
E	∞	—

A's table

To Cost Next

A	3	—
B	∞	—
C	∞	—
D	0	—
E	∞	—

D's table



To Cost Next

A	5	—
B	0	—
C	4	—
D	∞	—
E	3	—

B's table

To Cost Next

A	∞	—
B	3	B
C	4	C
D	∞	—
E	0	D

E's table

To Cost Next

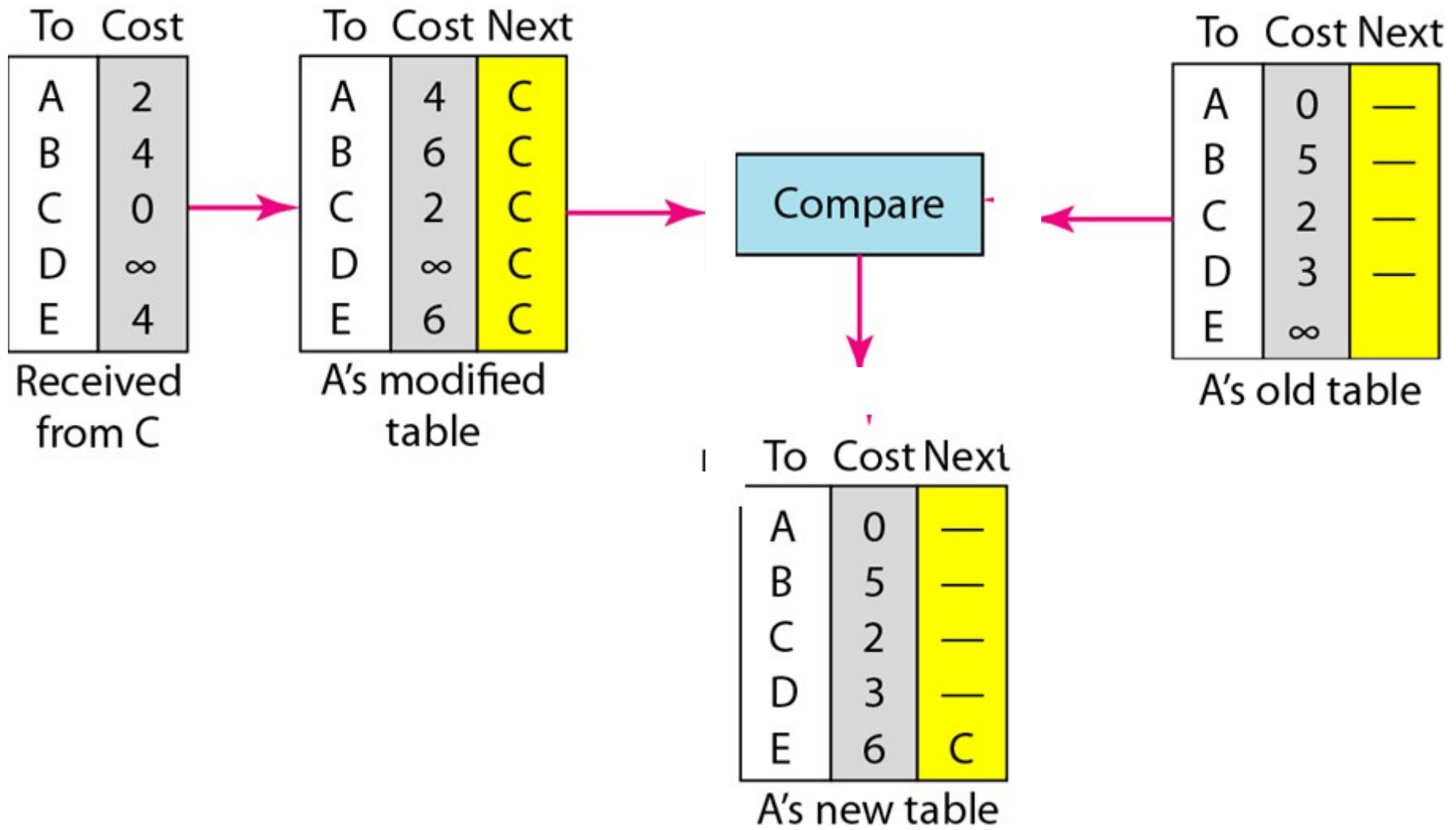
A	2	—
B	4	—
C	0	—
D	∞	—
E	4	—

C's table

In distance vector routing, each node shares its routing table with its immediate neighbors periodically and when there is a change.



Updating in Distance vector Routing

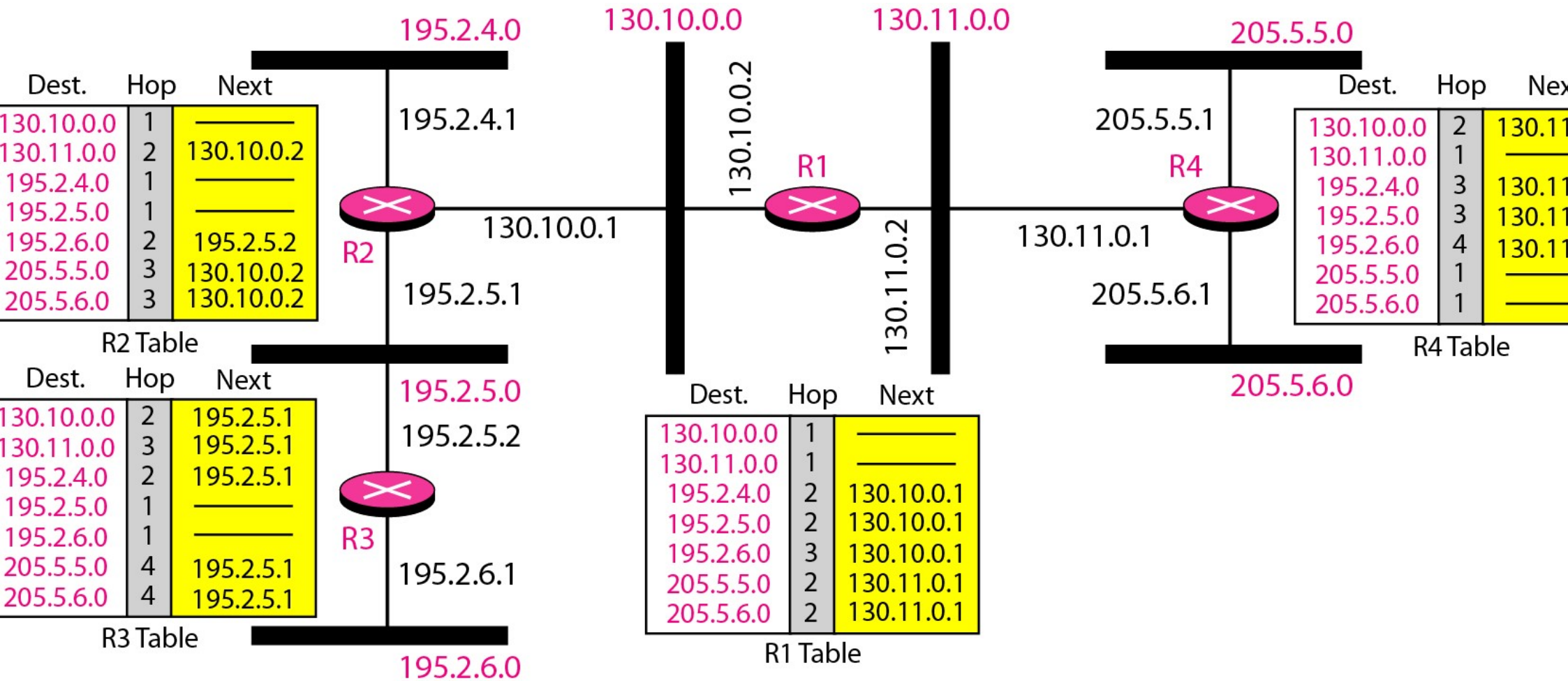




Discussion

Observe how many networks available in the given diagram? Which are the routers available?

How routing tables of each router got updated?





References

- Behrouz A. Forouzan, “Data communication and Networking”, Fourth Edition, Tata McGraw – Hill, 2011
- Larry L. Peterson, Bruce S. Davie, “Computer Networks: A systems approach”, Fifth Edition, Morgan Kaufmann Publishers, 2011.
- James F. Kurose, Keith W. Ross, “Computer Networking - A Top-Down Approach Featuring the Internet”, Fifth Edition, Pearson Education, 2009

