



RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

DCS-503 Computer Networks

Lecture-31

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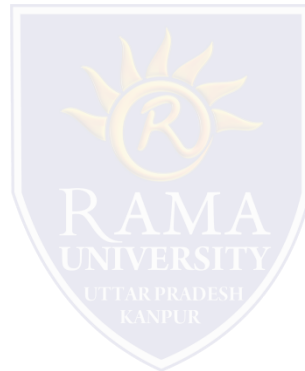
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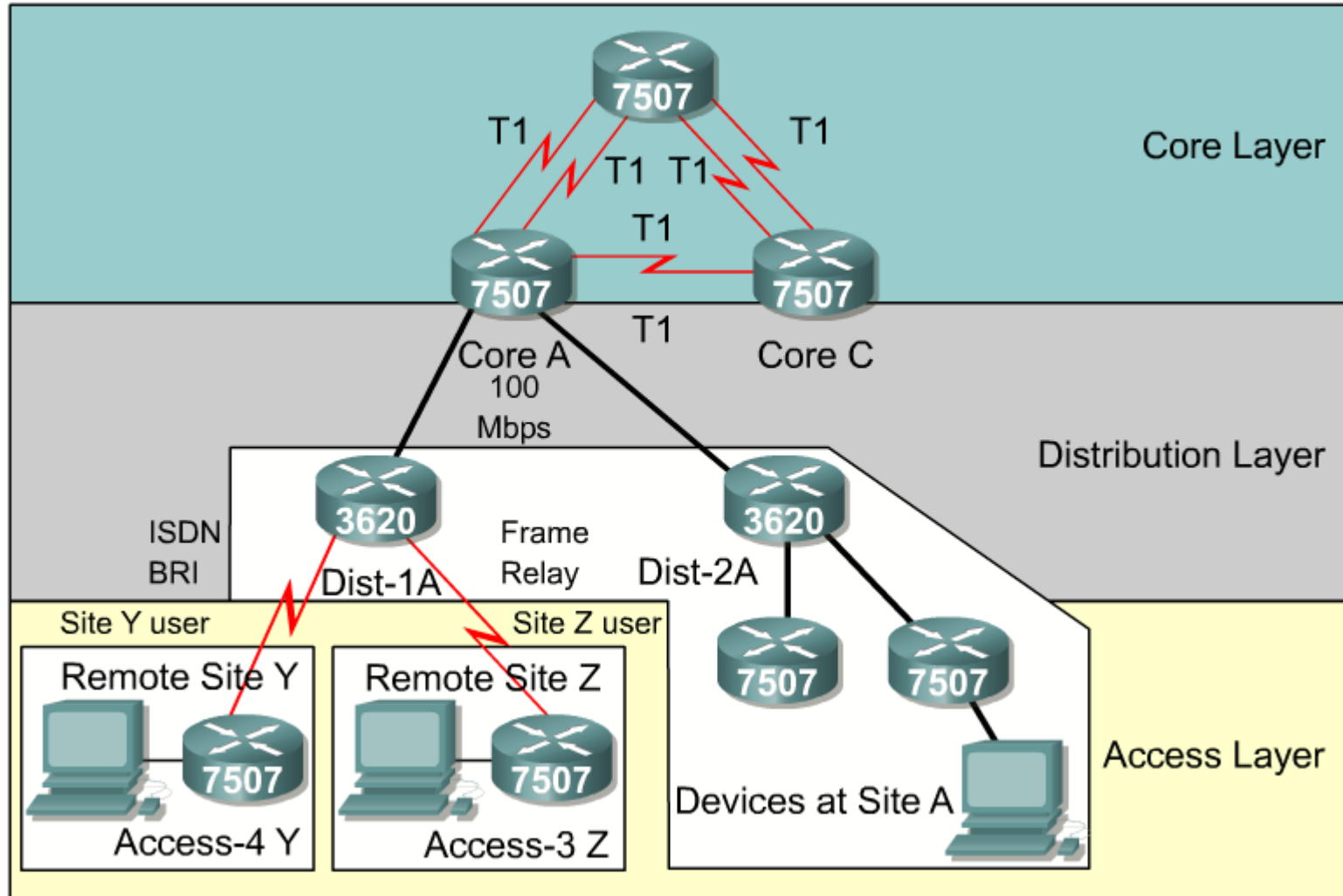
OUTLINE

➤ WAN COMMUNICATION

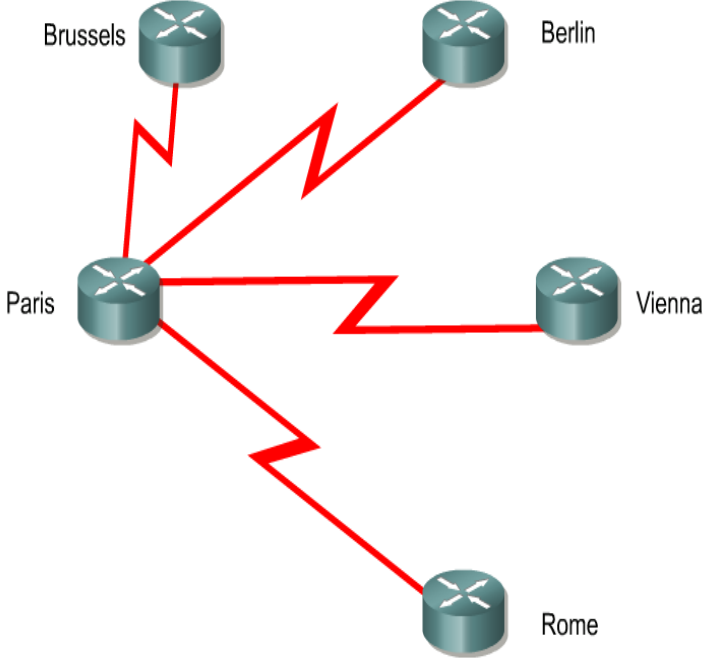
➤ WAN TOPOLOGIES



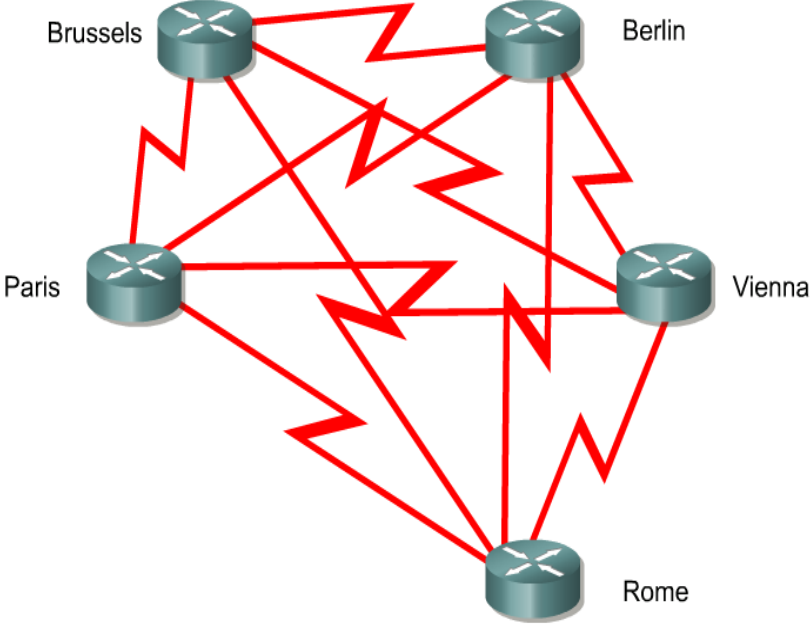
ANOTHER THREE LAYER MODEL



WAN TOPOLOGIES

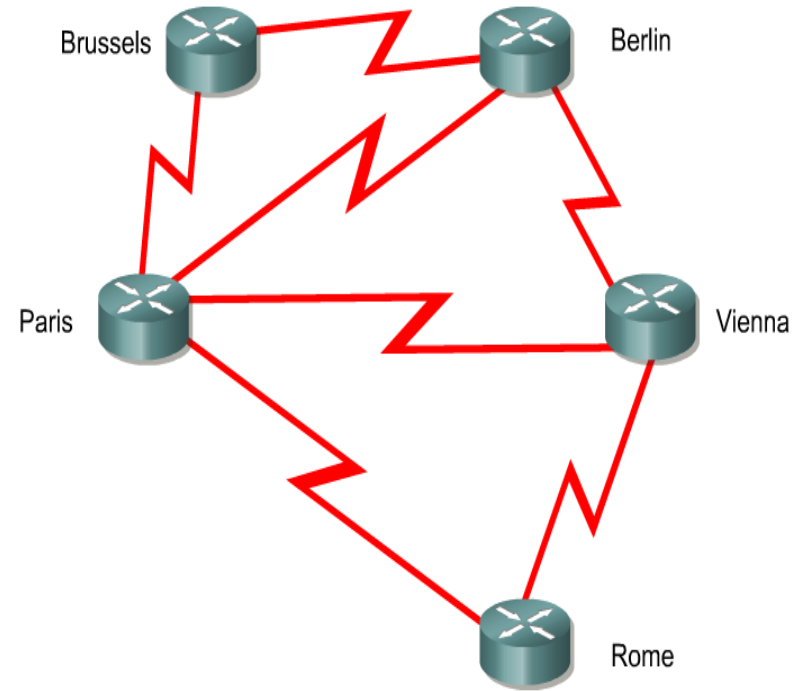


Star or Hub-and-Spoke



Full-Mesh

WAN TOPOLOGIES



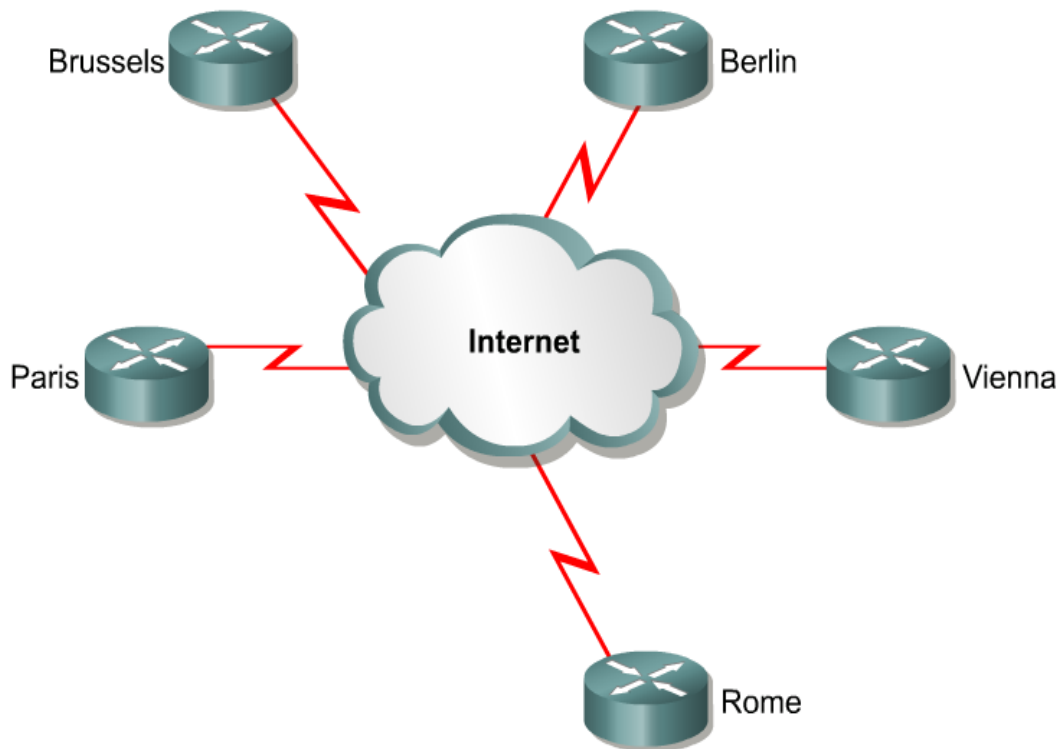
Partial-Mesh

WAN TOPOLOGIES

Technology	Charge	Max Bit Rate	Other
Leased Line	Distance, capacity	Unlimited	Permanent fixed capacity
Basic Telephone	Distance, time	33 kbps	Dialed, slow connection
ISDN	Distance, capacity	64 or 128 kbps <2 Mbps, PRI	Dialed, fast connection
X.25	Volume	<48 kbps	Switched fixed capacity
Frame Relay	Capacity	<4 Mbps	Permanent variable capacity
ATM	Capacity	<155 Mbps	Permanent variable capacity

WAN CONSIDERATIONS

- The disadvantage of permitting multiple links, is that the whole enterprise WAN is open to Internet-based attacks.
- It is also difficult to monitor and secure the many connection points.
- A single connection point is more easily monitored and secured, even though the enterprise WAN will be carrying some traffic that would otherwise have been carried on the Internet.



Multiple Choice Question

MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	LSP stands for _____	Link Stable Packet	Link State Packet	Link State Protocol	Link State Path
2	Which type of Ethernet framing is used for TCP/IP and DECnet?	Ethernet 802.3	Ethernet 802.2	Ethernet II	Ethernet SNAP
3	Which NetWare protocol provides link-state routing?	NLSP	RIP	SAP	NCP
4	Which NetWare protocol works on layer 3—network layer—of the OSI model?	IPX	NCP	SPX	NetBIOS
5	A _____ is an extension of an enterprise's private intranet across a public network such as the internet, creating a secure private connection.	VNP	VPN	VSN	VSPN

REFERENCES

- <http://www.engppt.com/2009/12/networking-fourzan-ppt-slides.html>

