FACULTY OF ENGINEERING & TECHNOLOGY

DCS-503 Computer Networks

Lecture-29

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OUTLINE

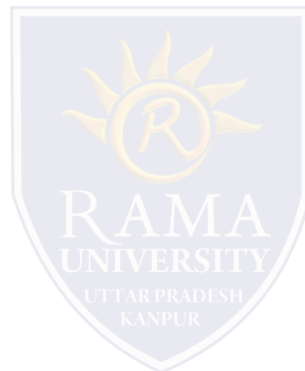➢ **LEASED LINES**

➢ **FRAME RELAY**

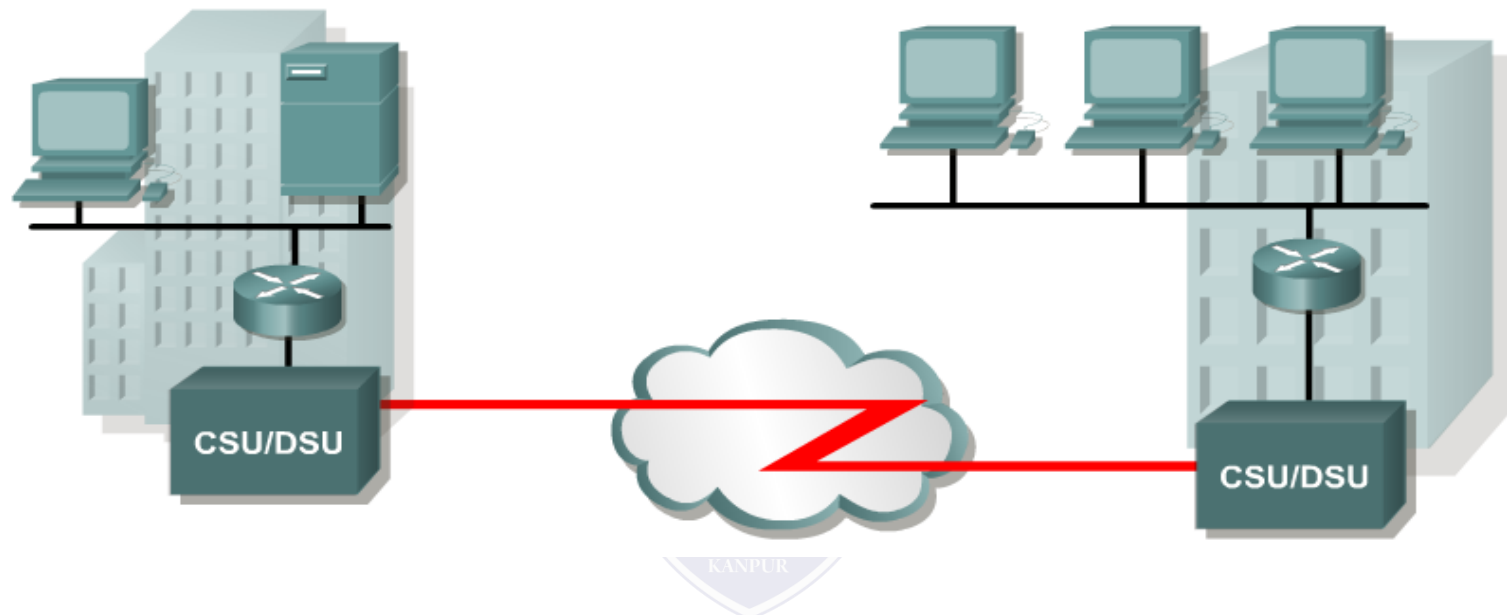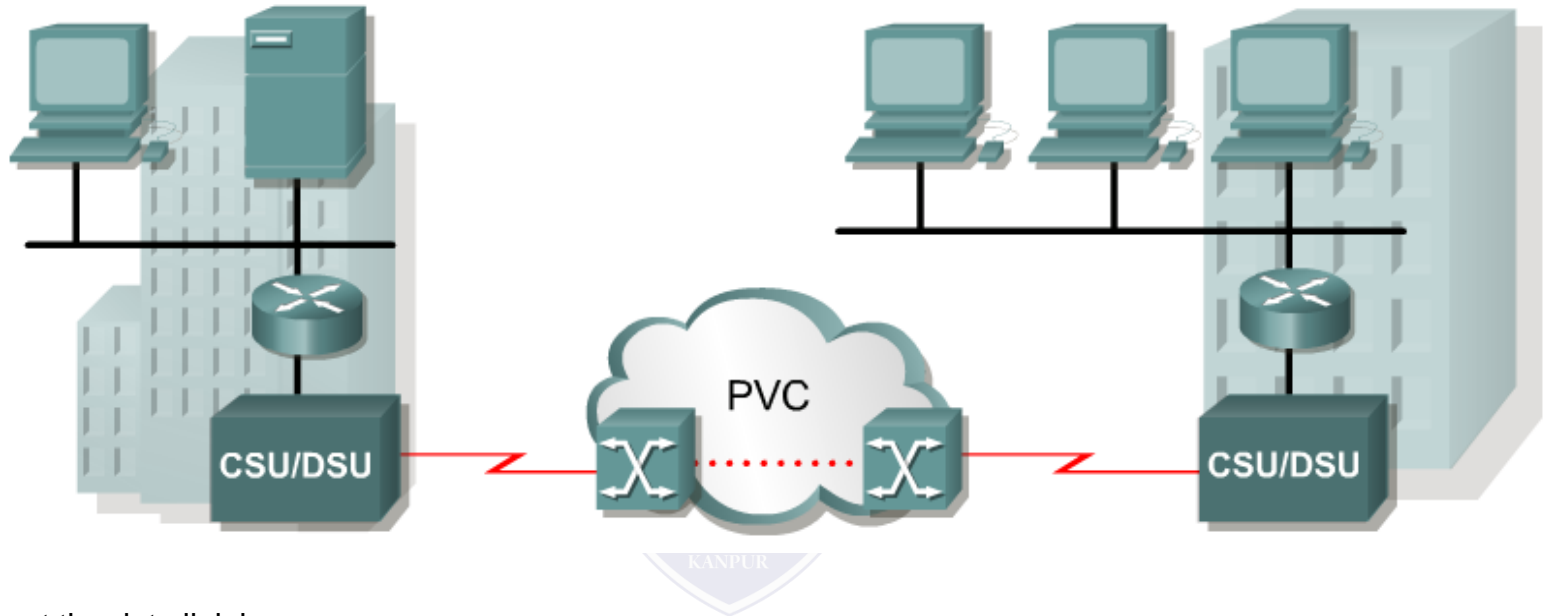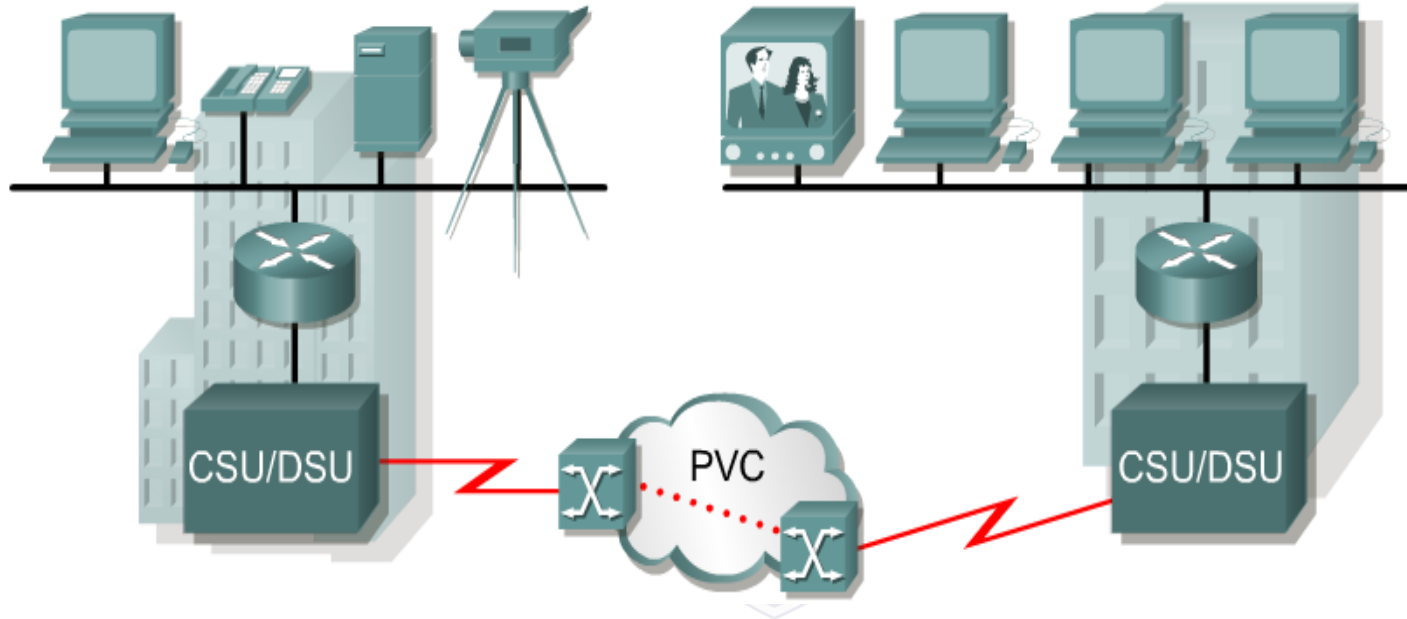➢ **ATM**

➢ **DSL**

➢ **CABLE MODEM**

LEASED LINES

▪A point-to-point link provides a pre-established WAN communications path from the customer premises through the provider network to a remote destination.

▪Point-to-point lines are usually leased from a carrier and are called leased lines.

▪Leased lines are available in different capacities.

▪Leased lines provide direct point-to-point connections between enterprise LANs and connect individual branches to a packet-switched network.

FRAME RELAY

- Works at the data link layer.

- Frame Relay implements no error or flow control.

- The simplified handling of frames leads to reduced latency, and measures taken to avoid frame build-up at

intermediate switches help reduce jitter.

- Most Frame Relay connections are PVCs

- Frame Relay provides permanent shared medium bandwidth connectivity that carries both voice and data traffic.
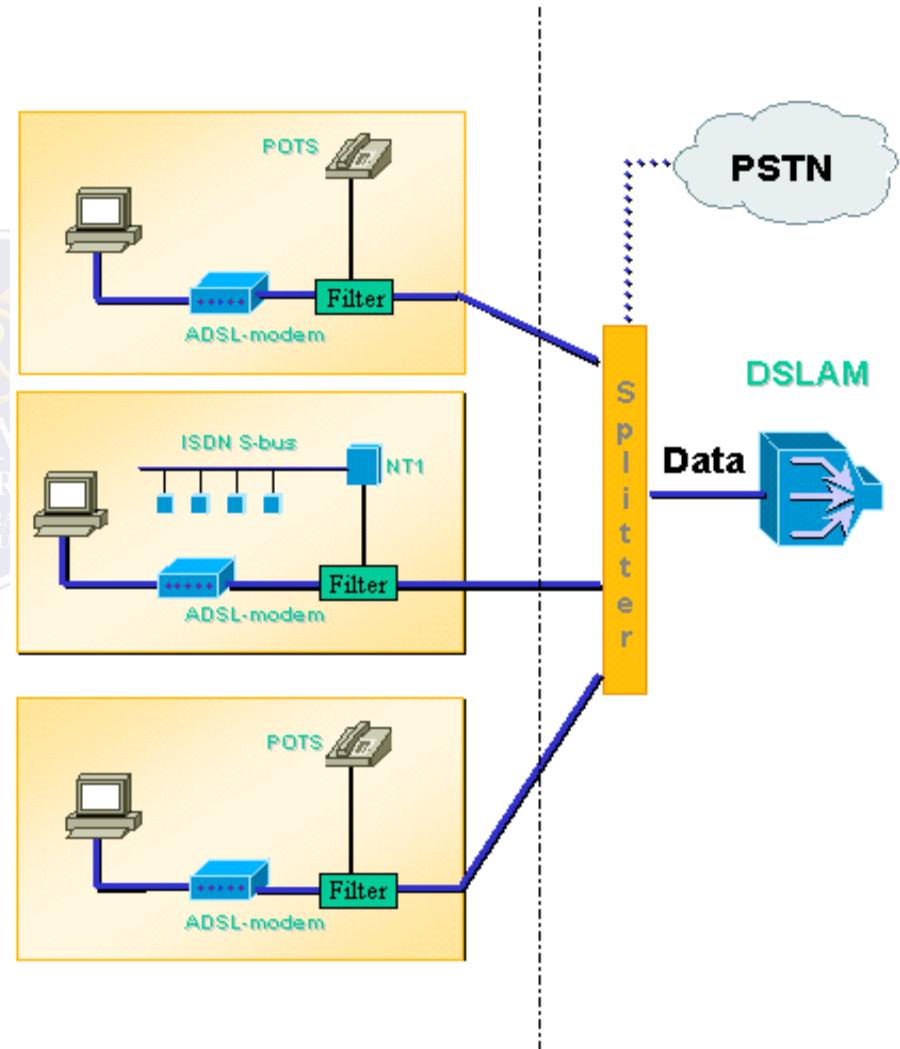
ATM

▪Communications providers saw a need for a permanent shared network technology that offered very low latency and jitter at much higher bandwidths.

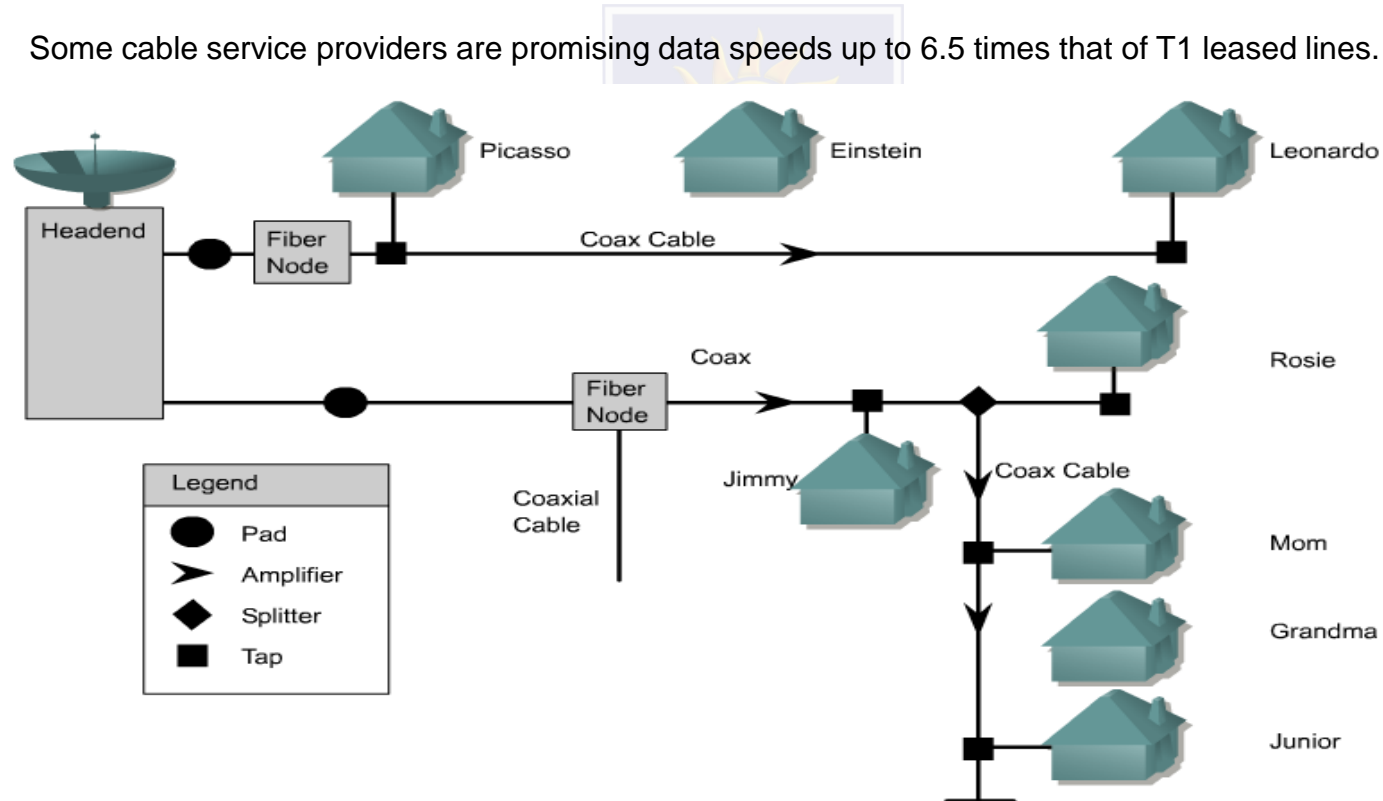▪Their solution was Asynchronous Transfer Mode (ATM). ATM has data rates beyond 155 Mbps.

DSL

▪Multiple DSL subscriber lines are multiplexed into a single,

high capacity link by the use of a DSL Access Multiplexer

(DSLAM) at the provider location.

▪DSLAMs incorporate TDM technology to aggregate many

subscriber lines into a less cumbersome single medium,

generally a T3/DS3 connection techniques to achieve data
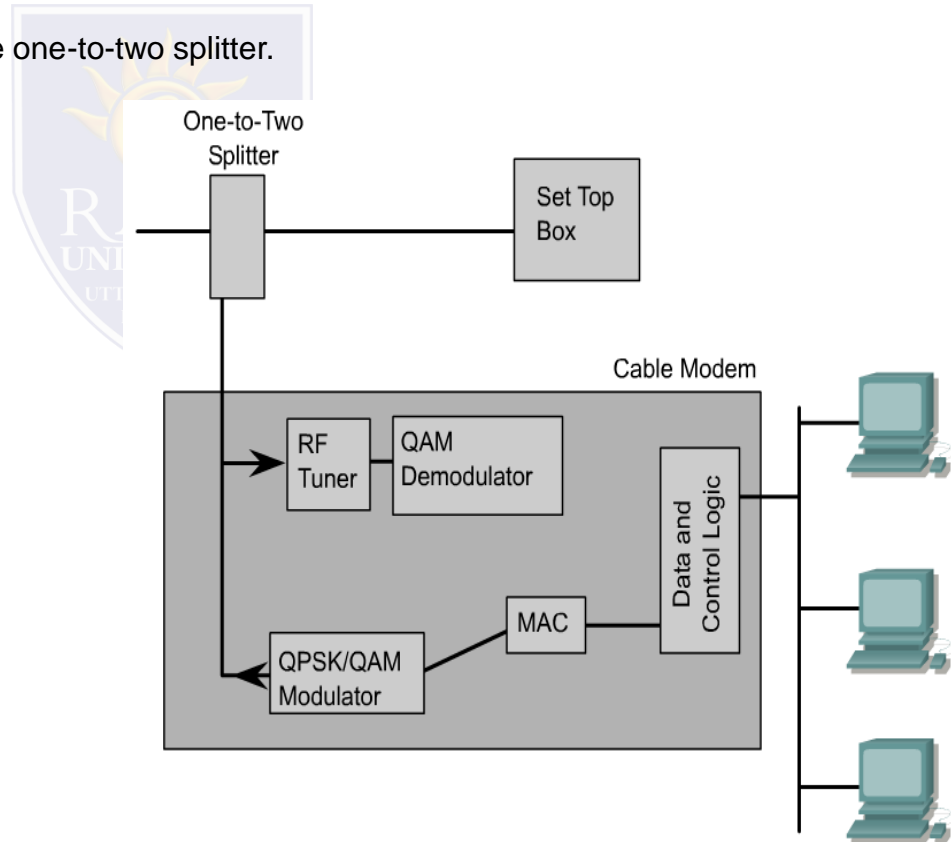
rates up to 8.192 Mbps.

- Coaxial cable is widely used in urban areas to distribute television signals.

- This allows for greater bandwidth than the conventional telephone local loop.

- Enhanced cable modems enable two-way, high-speed data transmissions using the same coaxial lines that transmit cable television.

- Some cable service providers are promising data speeds up to 6.5 times that of T1 leased lines.

CABLE MODEM

▪Cable modems provide an always-on connection and a simple installation.

▪A cable modem is capable of delivering up to 30 to 40 Mbps of data on one 6 MHz cable channel.

▪With a cable modem, a subscriber can continue to receive cable television service while simultaneously

receiving data to a personal computer.

▪This is accomplished with the help of a simple one-to-two splitter.

MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	The underlying Transport layer protocol used by SMTP is _____	TCP	UDP	Either TCP or UDP	IMAP
2	Choose the statement which is wrong incase of SMTP?	It requires message to be in 7bit ASCII format	It is a pull protocol	It transfers files from one mail server to another mail server	SMTP is responsible for the transmission of the mail through the internet
3	Internet mail places each object in _____	Separate messages for each object	One message	Varies with number of objects	Multiple messages for each object
4	Typically the TCP port used by SMTP is _____	25	35	50	15
5	A session may include _____	Zero or more SMTP transactions	Exactly one SMTP transactions	Always more than one SMTP transactions	Number of SMTP transactions cant be determined

- http://www.engppt.com/2009/12/networking-fourozan-ppt-slides.html