FRAME RELAY

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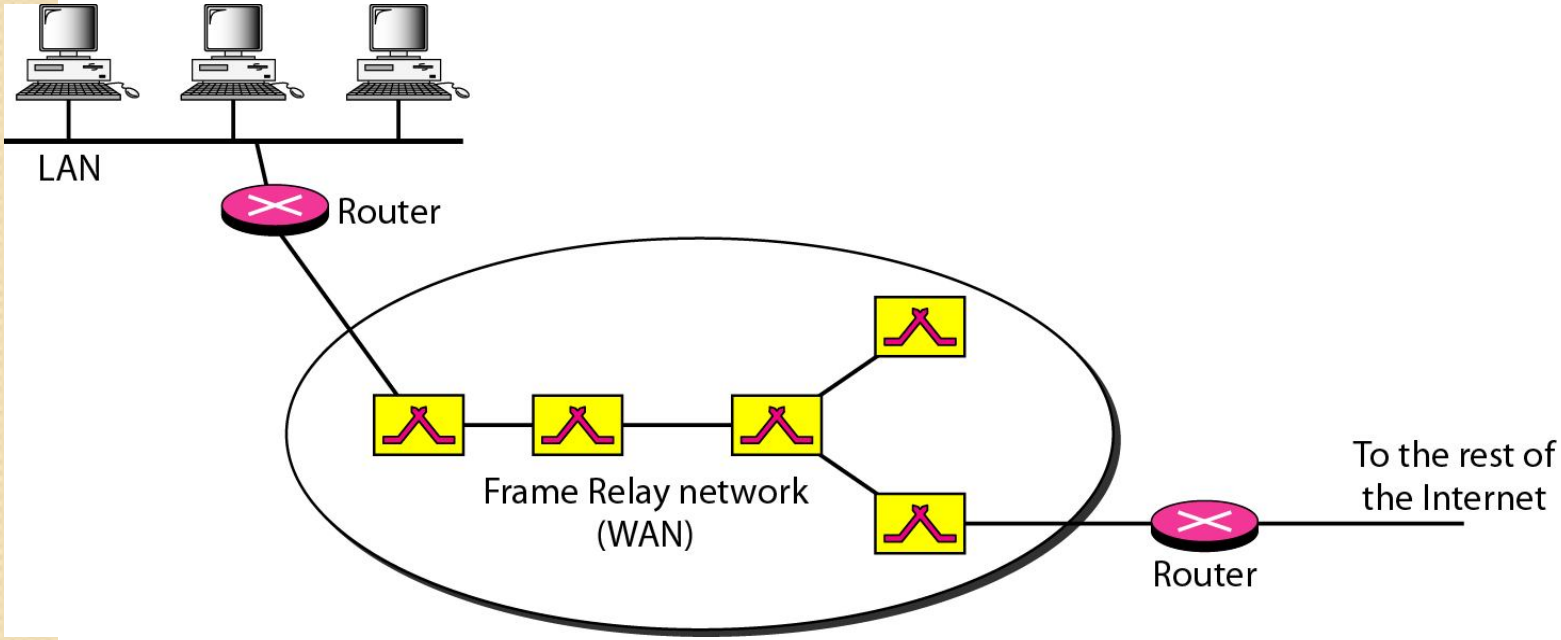
Frame Relay is a virtual-circuit wide-area network that was designed in response to demands for a new type of WAN in the late 1980s and early 1990s.

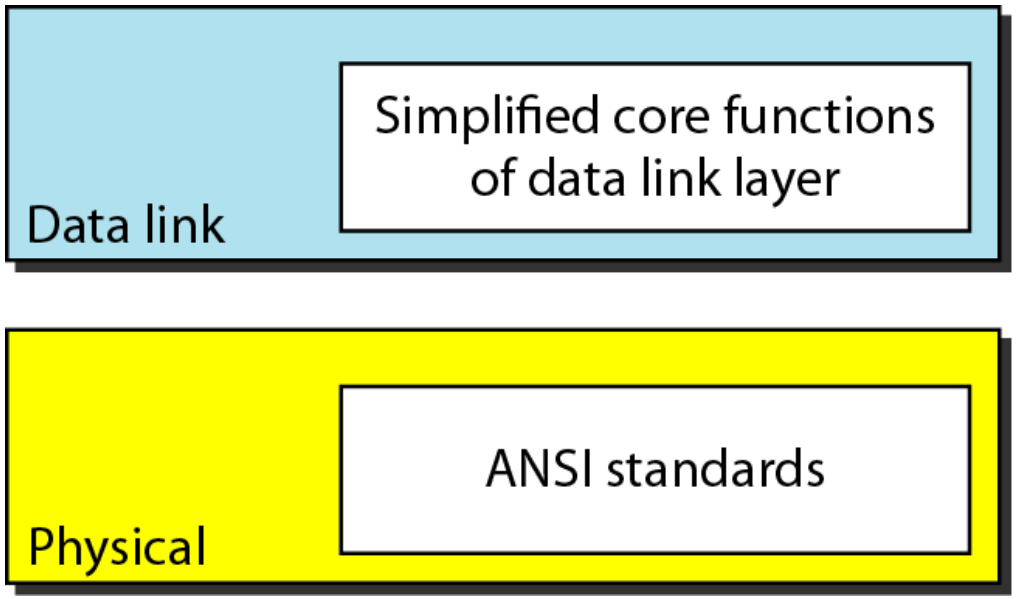
Frame Relay network



Note

VCIs in Frame Relay are called DLCIs.

Frame Relay layers



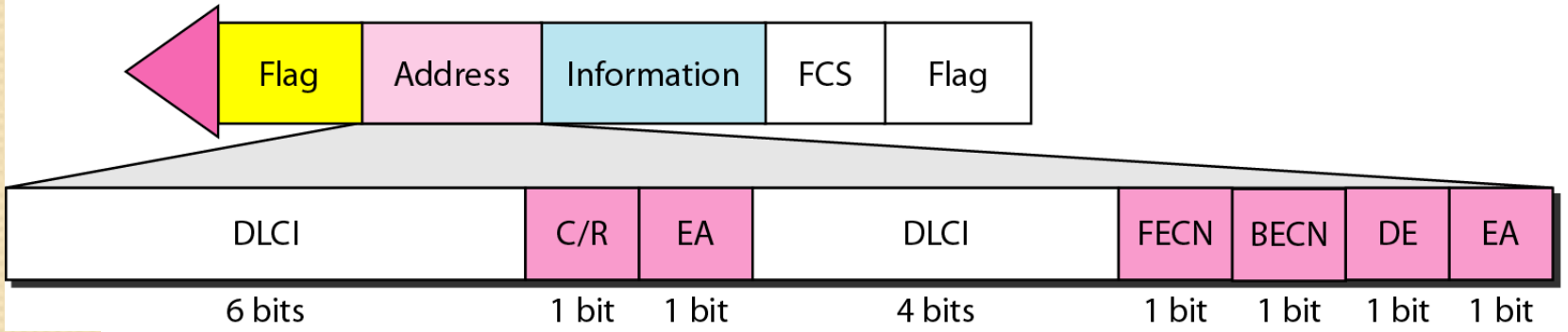
Note

Frame Relay operates only at the physical and data link layers.

Frame Relay frame

C/R: Command/response
EA: Extended address
FECN: Forward explicit congestion notification

BECN: Backward explicit congestion notification
DE: Discard eligibility
DLCI: Data link connection identifier

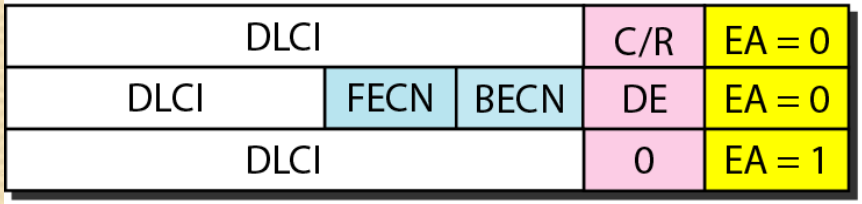


Note

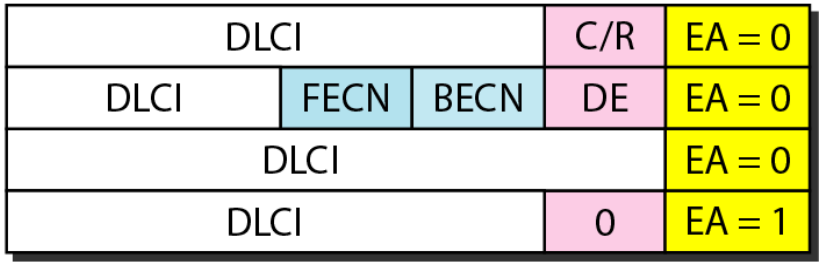
Frame Relay does not provide flow or error control; they must be provided by the upper-layer protocols.

Three address formats

a. Two-byte address (10-bit DLCI)

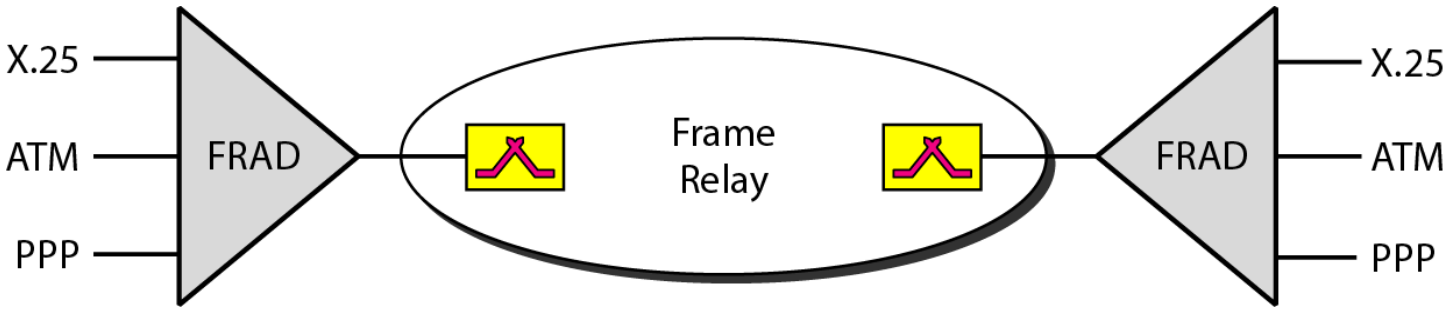


b. Three-byte address (16-bit DLCI)



c. Four-byte address (23-bit DLCI)

FRAD



APPLICATIONS

- Frame Relay is a standardized wide area network technology that specifies the physical and logical link layers of digital telecommunications channels using a packet switching methodology.
- Originally designed for transport across Integrated Services Digital Network (ISDN) infrastructure, it may be used today in the context of many other network interfaces.

APPLICATIONS

- Network providers commonly implement Frame Relay for voice (VoFR) and data as an encapsulation technique, used between local area networks (LANs) over a wide area network (WAN).
- Frame Relay has become one of the most extensively-used WAN protocols. It is less expensive than leased lines and that is one reason for its popularity. The extreme simplicity of configuring user equipment in a Frame Relay network offers another reason for Frame Relay's popularity.

SCOPE OF RESEARCH

- Multiprotocol interconnect over frame relay

Assignment

- What are virtual circuits? Explain its different types.