5 Minutes Course - Frame Relay

Frame Relay is packet switched WAN techonlogy for transporting Data across Conection oriented Virtual Circuits using Public Data Networks (PDN). its high performance alternative to overly reliable / slow X.25 Wan Protocol. it have no Error Recovery but have smart flow control (fecn becn). it can support up to T3 line (44.736 Mbps)   in 1984 FRAME RELAY started to develop Frame Relay deliver variable size data frames to multiple WAN site. Multi Access is the most obvious difference between Frame Relay and Leased lines. Leased lines ae used as acccess link of Frame Relay.   in 1990 FRAME RELAY CONSOTIUM was created by following four copmanies. 1 CISCO 2 STARTDACOM 3 NORTEL 4 DEC. (AKA: GANG OF FOURs)   to standardise the Frame Relay this consortium start working Later ANSI & ITU-T aslo like the idea.   DTE --> Data Terminating Equipment DCE-->Data Circuit Terminating Equipment   NOTE: Router opperate on Layer 3 and Switch operates on Layer 2. when Frame RelayNetwork a Router is working as a Frame relay switch then its operating on Layer 2.   L.M.I some LMI type is required between DTE and DCE (Switch). LMI autosense enabled in IOS 11.2 & greater. 1 LMI exists per serial Interface.   Data Link Connection Identifier. DLCI   In header there is a single DLCI field. No Source or Desitnation field like LAN addresses.   LOCAL DLCI   Global DLCI   A Practical Way to identifiy between Global and Local DLCI is.   if two Virtual Circuit terminate at a DTC and a single DLCI is shown. its most probably is GLOCBAL DLCI. if one DLCI is shown per VC then it is depicting Local DLCI. FRAME RELAY PACKET   consist of 2 Bytes. .   6 Bits of First Bytes are called High Order Bits   4 Bits of Second Bytes are called Low Order Bits   DLCI number consist of 6+4 Bits of high and low order bits   7th Bits is CR (Commited RATE) -- First Byte   8th Bit is EA-------------------------------   5th Bit is FORWARD EXPLICIT CONGESTION NOTIFICATION (FECN) -- Second Byte   6th Bit is BACKWARD EXPLICIT CONGESTION NOTIFICATION (BECN) -- Second Byte   7th Bit is Discard Eligibility--- Second Byte   8th Bit is EA--Second Bytes   Plz note that FECN-BECN is always set by (DCE) Frame Relay Switch and Discard Eligibility is set by Sending Router   Broadcast are not supported over a framerelay network so this is done in 2 steps.   1. IOS sends copies of Broadcast accross each VC u instruct.   2. Router Places these Broadcast in Different Ques then the ordinary user traffic.   TYPE OF CONFIGURATION----------SPLIT HORIZON IS   No Subinterfaces---P2P------------------Enable   No Subinterfaces Multi Point----------Disabled   Subinterfaces-------P2P------------------Enable   Subinterfaces Multi Point--------------Disable   if)#ip split horizon   if)#no ip split horizon   Address Mapping   1 Static Config Mapping   2 Dynamically Mapping   Dynamic Mapping use a process called INVERSE ARP. each router announces its layer 3 addresss + DLCI to its adjacent Routers. INVERSE ARP is enabled by default at 11.2 and greater versions unless point to point subinterfaces are used.