

IBM 3746 Nways Multiprotocol Controllers Models 900 and 950

December 2, 1997
(Revision 5)



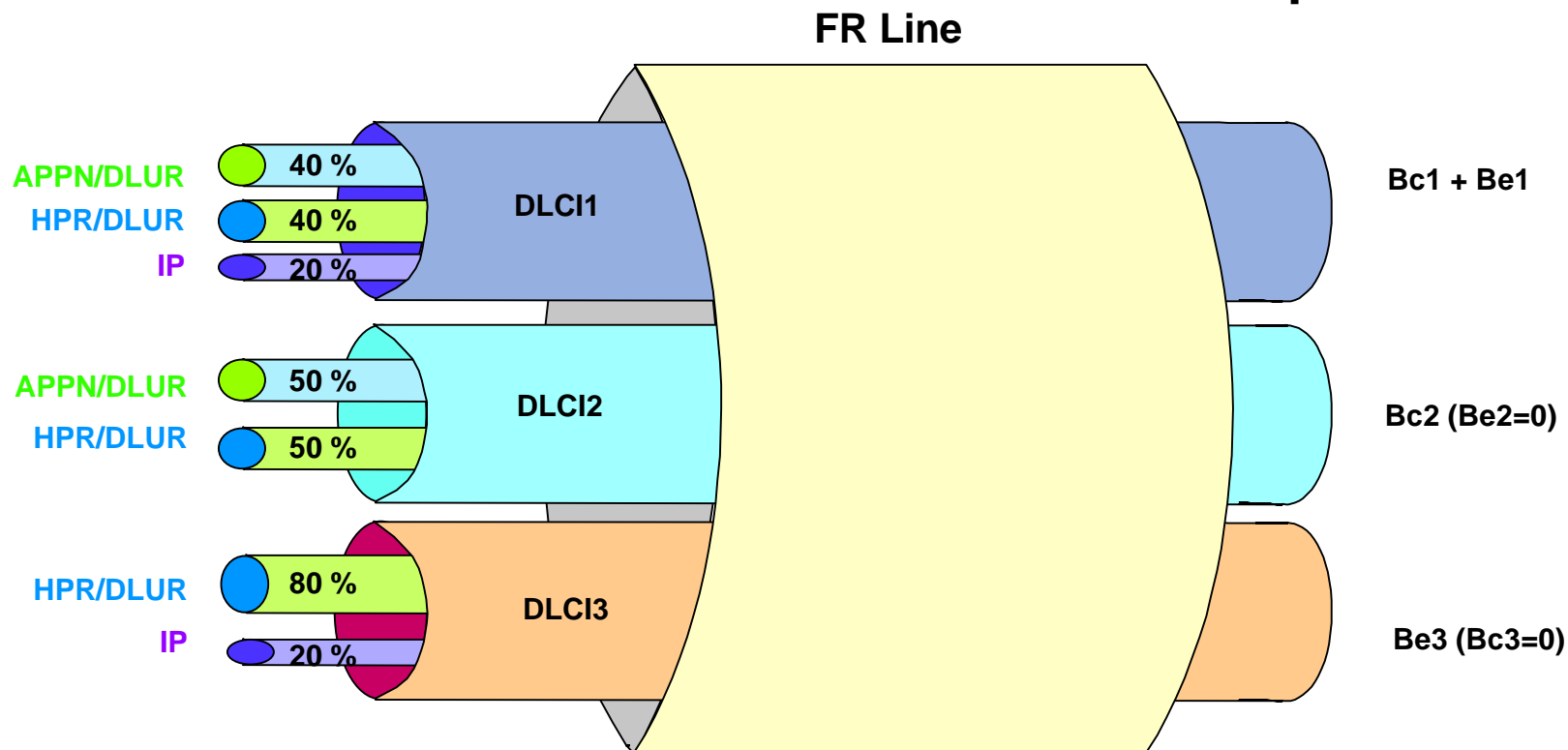
Frame Relay (CIR+)

IBM 3746 - Frame Relay BRS/CIR



BRS over a DLCI

CIR per DLCI



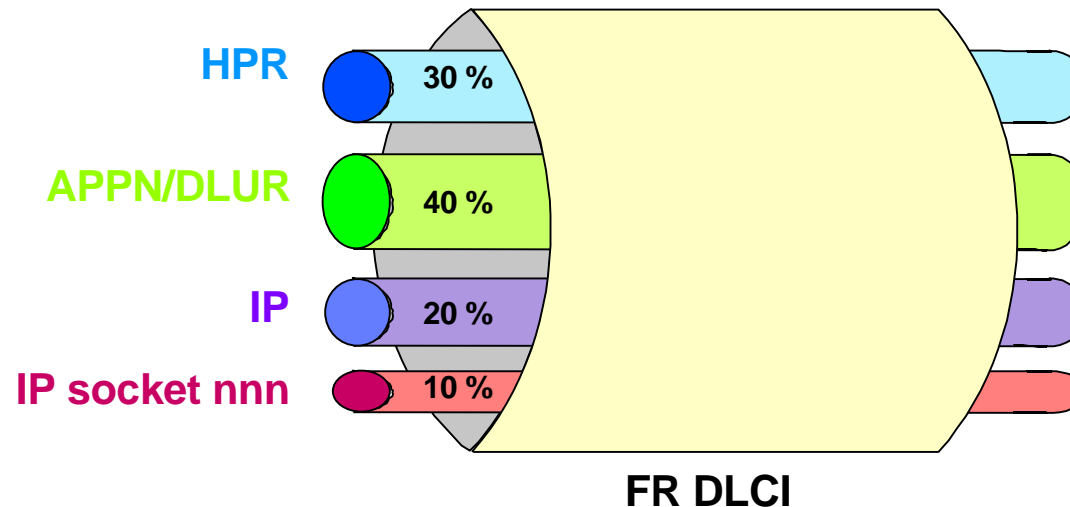
- For a DLCI : $Bc + Be \neq 0$
- "Overbooking" allowed ($\sum Bc > \text{line speed}$)
- $CIR = Bc / Tc$ (network committed bandwidth per DLCI)

Be: Burst Exceeded
Bc: Burst Comitted
CIR: Comitted Information rate
BRS: Bandwidth Reservation System

IBM 3746 - Frame Relay BRS/CIR



Traffics  Percentage assigned over a DLCI



- Split DLCI CIR between different traffics
 - APPN/DLUR (ERP) queued by priority
 - HPR (non ERP) queued by priority
 - IP traffic not including following sockets
 - Up to 12 different sockets
- Same reservation per DLCI with or without congestion

Note : DE optionality set on SNA, APPN, HPR data frames

Frame Relay Bandwidth Management Frame Relay Best of Breed Optimization

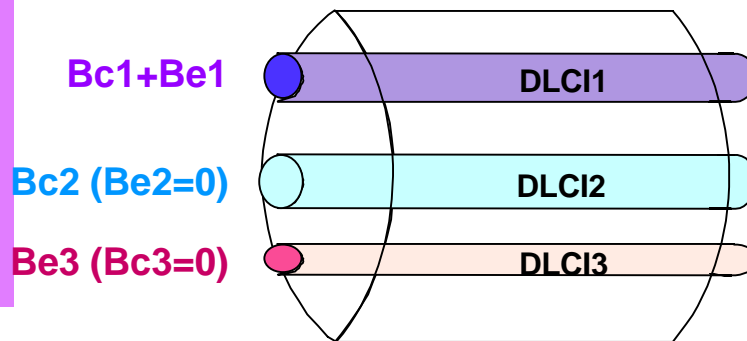
- **Bandwidth Reservation System**
 - DLCI Optimization
 - Reserve percentage of bandwidth
 - at Protocol level
 - DLUR/APPN
 - HPR
 - IP
 - at IP application level
 - UDP
 - Common BRS with IBM 2210, IBM 2216
- **Comitted Information Rate**
 - FR trunk optimization
 - Reserve percentage of bandwidth
 - used only in case of congestion

**Manage your Bandwidth = Reduce your WAN Cost
= Guarantee your Service/Traffic**

IBM 3746 - Committed Information Rate+

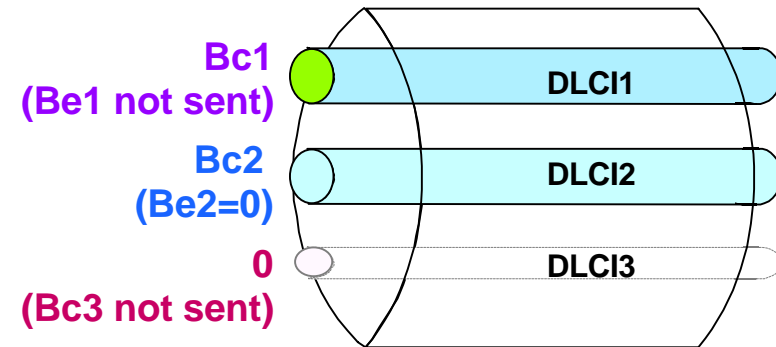


When no congestion



FR line

When congestion (BECN received)



FR line

- Assign bursts of data transmitted for each DLCI during measurement interval (T_c)
 - Committed burst size : B_c
 - Excess burst size : B_e
- If congestion, B_e is not sent
 - Transmission rate per DLCI varies from B_c/T_c when congestion to $(B_c+B_e)/T_c$ when no congestion