
FRAME RELAY

CHEATSHEET

1 - RATES:

1) CIR (COMMITTED INFO RATE)

- GUARANTEED

2) AR (ACCESS-RATE)

- NOT GUARANTEED (ABOVE COMMITTED RATE)
- BITS IN THIS ZONE ARE MARKED DE (DISCARD ELIGIBLE)

2 - FRAME RELAY PROVIDER'S TASKS:

- PROVIDE CLOCKING (DCE)
- PROVIDE DLCI NUMBERS

3 - DLCI:

- A NUMBER THAT REPRESENTS A PVC'S LOCAL END
- IF USING SUBIFs, EACH WILL HAVE A CORRESPONDING DLCI
- NEEDS TO BE UNIQUE IN THE SCOPE OF A PHYSICAL INTERFACE
- 16-1007 RANGE. REST ARE RESERVED (1-15 AND 1008-1023)
- 2 WAYS TO CREATE DLCI-IP MAPPING:
 - STATICALLY MAP REMOTE IP TO LOCAL DLCI
 - EACH SIDE CAN USE INVERSE ARP TO DYNAMICALLY MAP(DEFAULT)

4 - L2 ENCAP FOR FRE:

- NOT PPP or HDLC. INSTEAD "FRAME-RELAY IETF" or "FRAME-RELAY CISCO"
- 2 WAYS TO CONFIGURE IETF ENCAPSULATION:
 - GLOBALLY FOR ALL VCS ON THE PHYSICAL INTF:
 - "encapsulation frame-relay ietf" intf cmd
 - FOR A SINGLE VC BY ADDING IETF TO END OF MAP/DLCI CMD
 - "frame-relay map ip <ip> <dlci#> broadcast ietf"
 - "frame-relay interface-dlci <dlci#> ietf"

5 - LMI:

- USED ONLY FOR SIGNALLING BETWEEN CLOUD AND FRE ROUTER
- ONLY NEEDS TO MATCH LOCALLY BETWEEN FRE-SWITCH(DCE) AND LOCAL RTR(DTE)
- ITU, ANSI, or CISCO
- DEFAULTS TO CISCO FOR CISCO DEVICES
- PROVIDES KEEPALIVES TO SIGNAL IF LOCAL ACCESS-LINK TO DCE IS UP/DOWN
- PROVIDES STATUS MESSAGES TO SIGNAL IF ENTIRE PVC IS UP/DOWN

6 - CONFIGURATION (FRE):

- CREATE SUBIF AS POINT-TO-POINT
 - "interface so/0/0.100 point-to-point"
- CONFIGURE DLCI ON THE SUBIF
 - "frame-relay interface dlci <number>"
 - "ip address <addr> <mask>"

7 - CONFIGURATION (LMI):

- DONE ON PHYSICAL INTF (NOT SUBIF)
- IF UNCONFIGURED, THE ROUTER CAN STILL AUTO-SENSE IT
 - "frame-relay lmi-type <ansi|itu|cisco>"

8 - TROUBLESHOOTING COMMANDS:

- SIGNALLING METHOD CHECKS

"show frame-relay lmi"

- DLCI NUMBERS, PVC STATUS, CONGESTION COUNTERS (DE/BECN/FECN ETC.)

"show frame-relay pvc"

"show frame-relay map"