IBM 3746 Nways Multiprotocol Controllers Models 900 and 950

December 2, 1997
(Revision 5)

Key Messages

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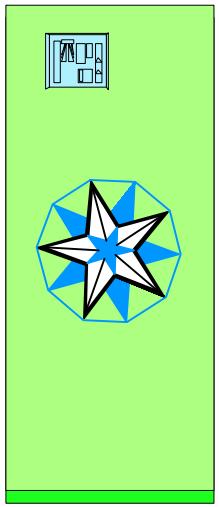
December 2nd, 1997 Announcement

- **Microcode/Documentation CD-ROM Delivery** — **12/12/97**
  - Netscape/Acrobat Viewer
  - Customer Documentations
  - Installation Documentations

- **Multiaccess Enclosure Enhancements (FC #3000 and FC #3001)** — **06/12/98**
  - FDDI
  - Ethernet 10/100 Mbps
  - HSSI T3/E3 speed
  - Channelized T1/E1
  - Enterprise Extender
  - IP and UDP over MPC+
  - TN3270e Server



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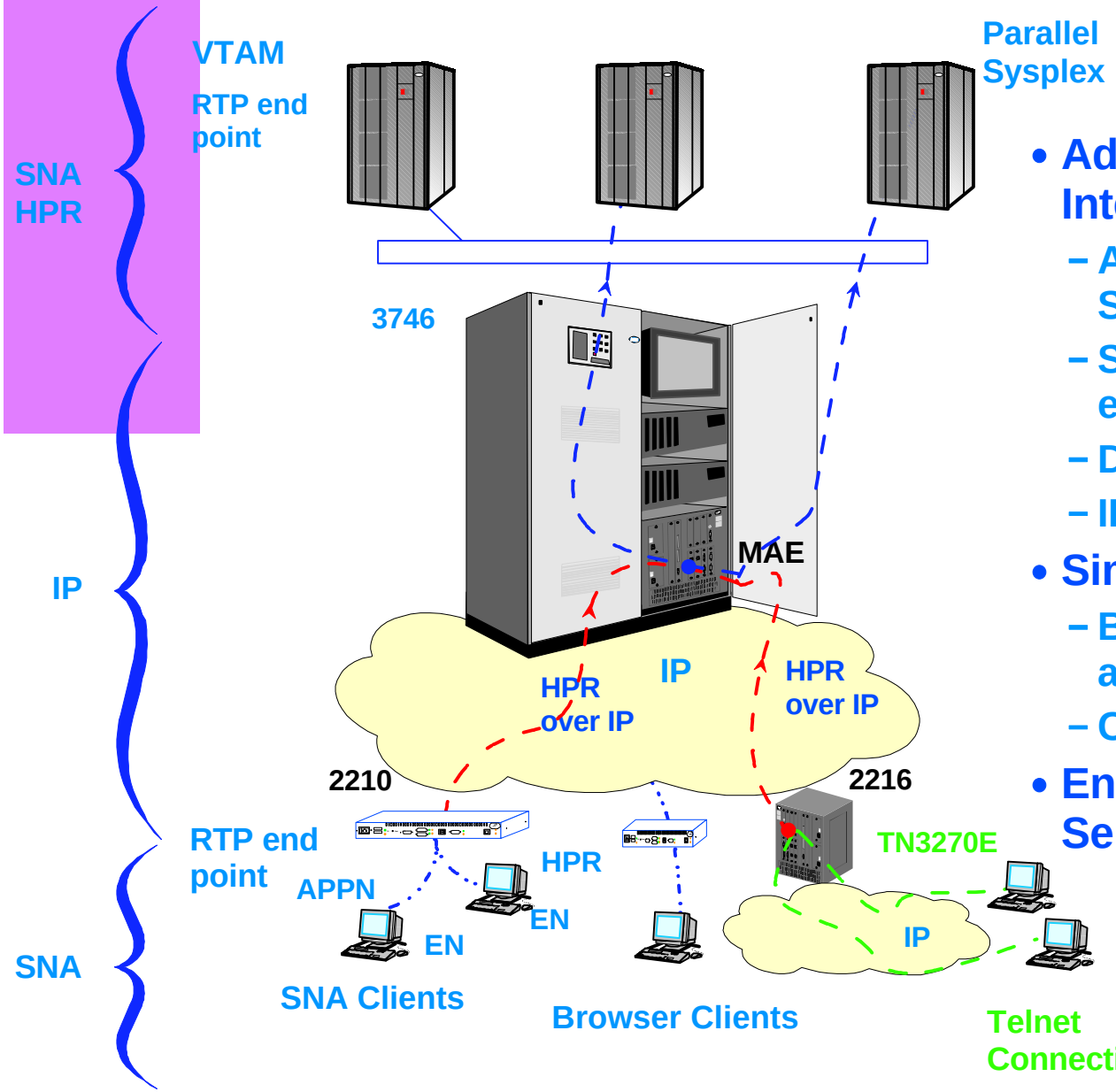
IBM 3746 - Enterprise Extender

06/12/98



- **Advanced SNA and IP Integration Technology**
  - Along with SNA Parallel Sysplex
  - Scalable and cost effectiveness
  - Data prioritization end-to-end
  - IP network failure protection
- **Simple HPR Extensions**
  - Based on open HPR architecture
  - Contributing to AIW and IETF
- **Enable Distributed TN3270e Server**

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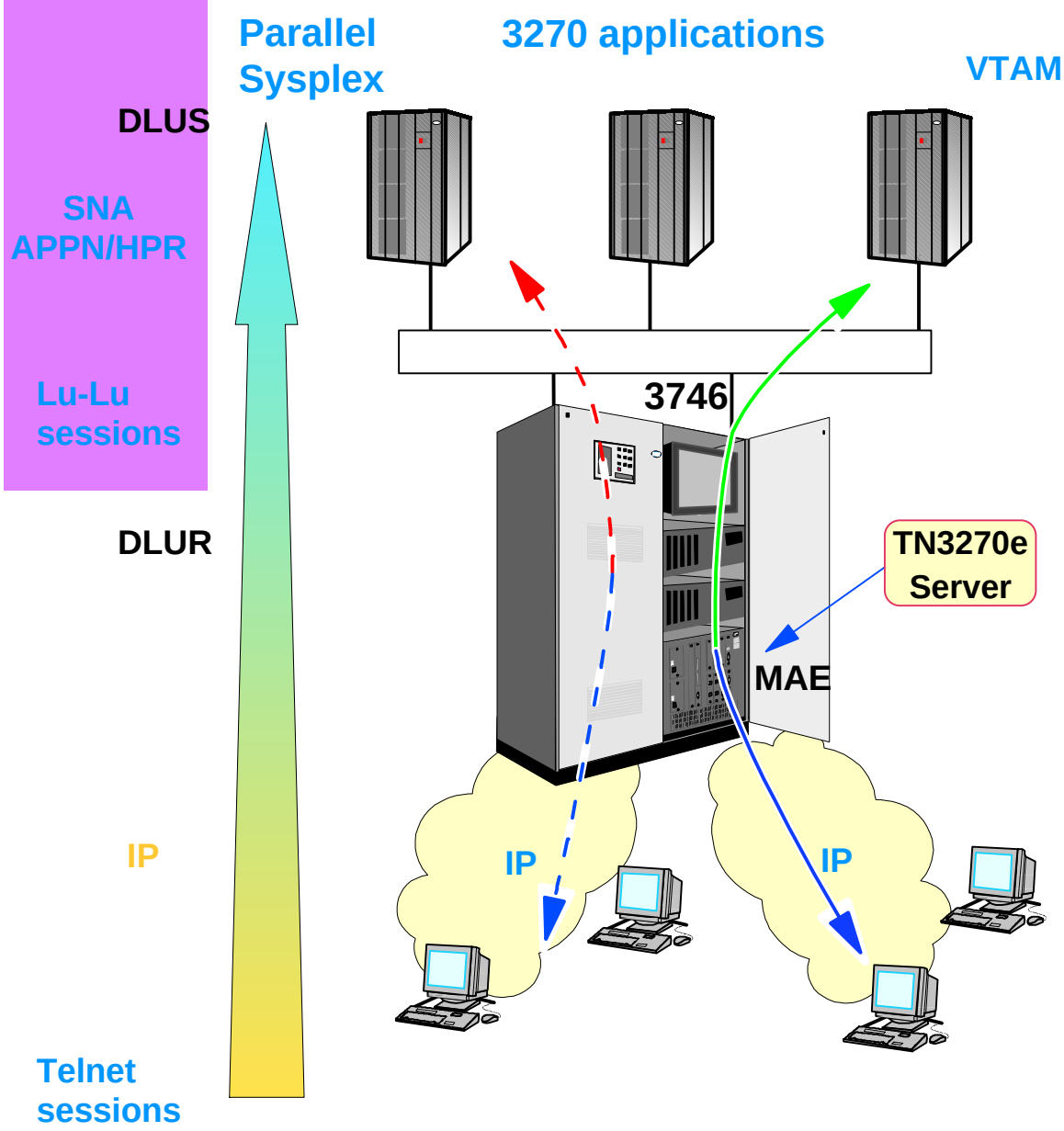
IBM 3746 - TN3270e Server

06/12/98



- Complement TN3270e IBM Solution
- Offload Mainframe from TCP/IP cycles
  - Max 4000 Telnet sessions
- APPN/HPR benefits from TN3270e Server up to the application
  - DLUR/APPN used for upstream SNA
- Support RFC 1576, 1646, 1647
- Prerequisites:
  - FC #3000 or FC #3001
  - NNP + IP Routing
  - FC #5806 + FC #5804
  - VTAM DLUS Function

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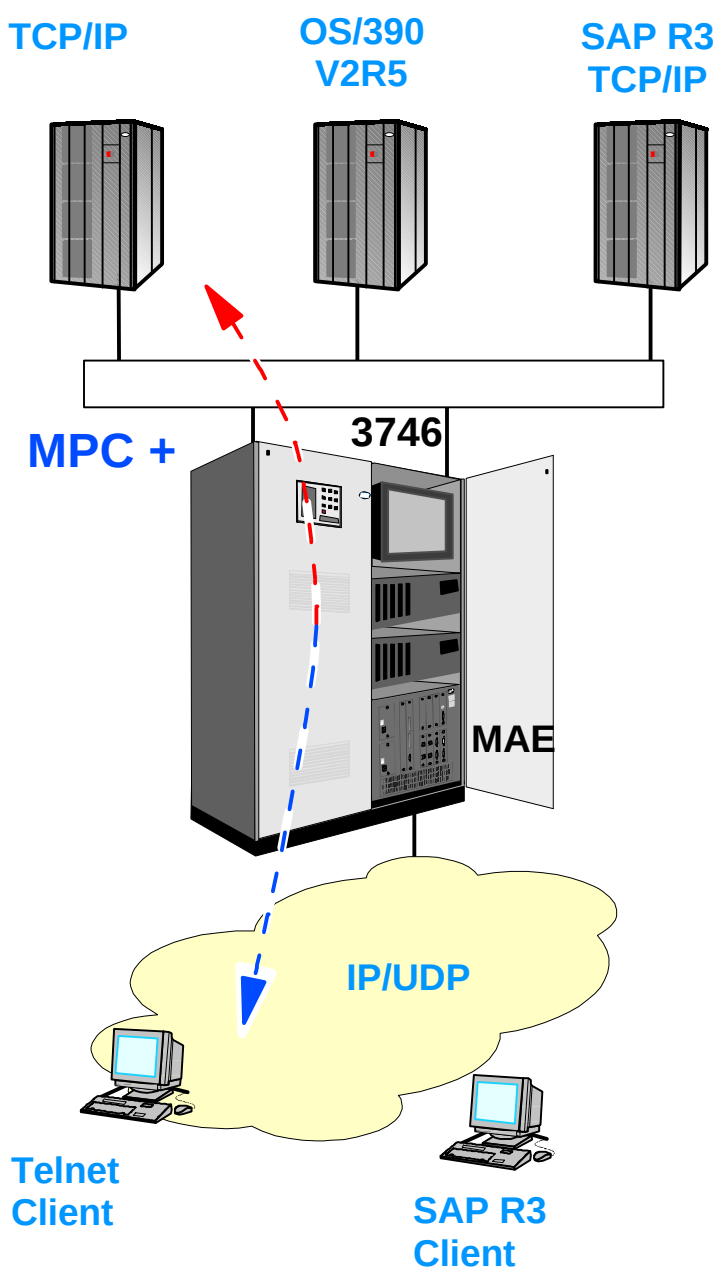
IBM 3746 - ESCON MPC+ Enhancements



06/12/98

- MPC+ Support for UDP applications
  - SAP R/3 applications
  - NFS, DCE UNIX applications
- MPC+ Support for IP applications
  - TCP/IP MVS
- Reduce CPU Cycles consumption
- More Efficient Transfer of Data
- Prerequisites:
  - OS/390 V2R5 for IP over MPC+
  - OS/390 V2R4 for UDP over MPC+
  - MAE FC #3000 or FC #3001
  - FC #5805

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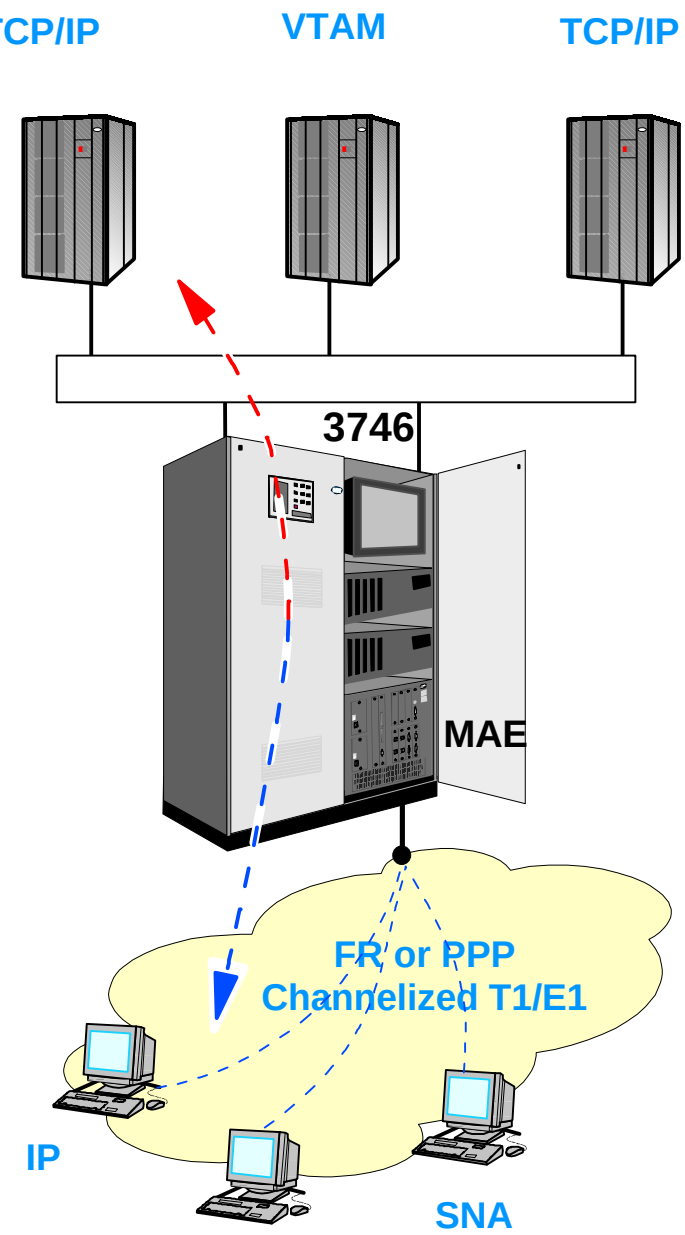
IBM 3746 - Channelized T1/E1

06/12/98



- **Use Same Hardware than PRI-ISDN**
  - T1 : 23 x 64Kbps channels(LIC 292)
  - E1: 31 x 64Kbps channels (LIC 283)
  - One or Multiple Connections per Physical Interfaces
  - Microcode Upgrade only
- **Protocols**
  - FR and PPP channels on same port
  - Bundle several 64Kbps channels in one bigger channel (128Kbps, 256,...)
- **Prerequisites:**
  - FC #5805
  - MAE FC #3000 or FC #3001
  - FC #3292 or FC #3283

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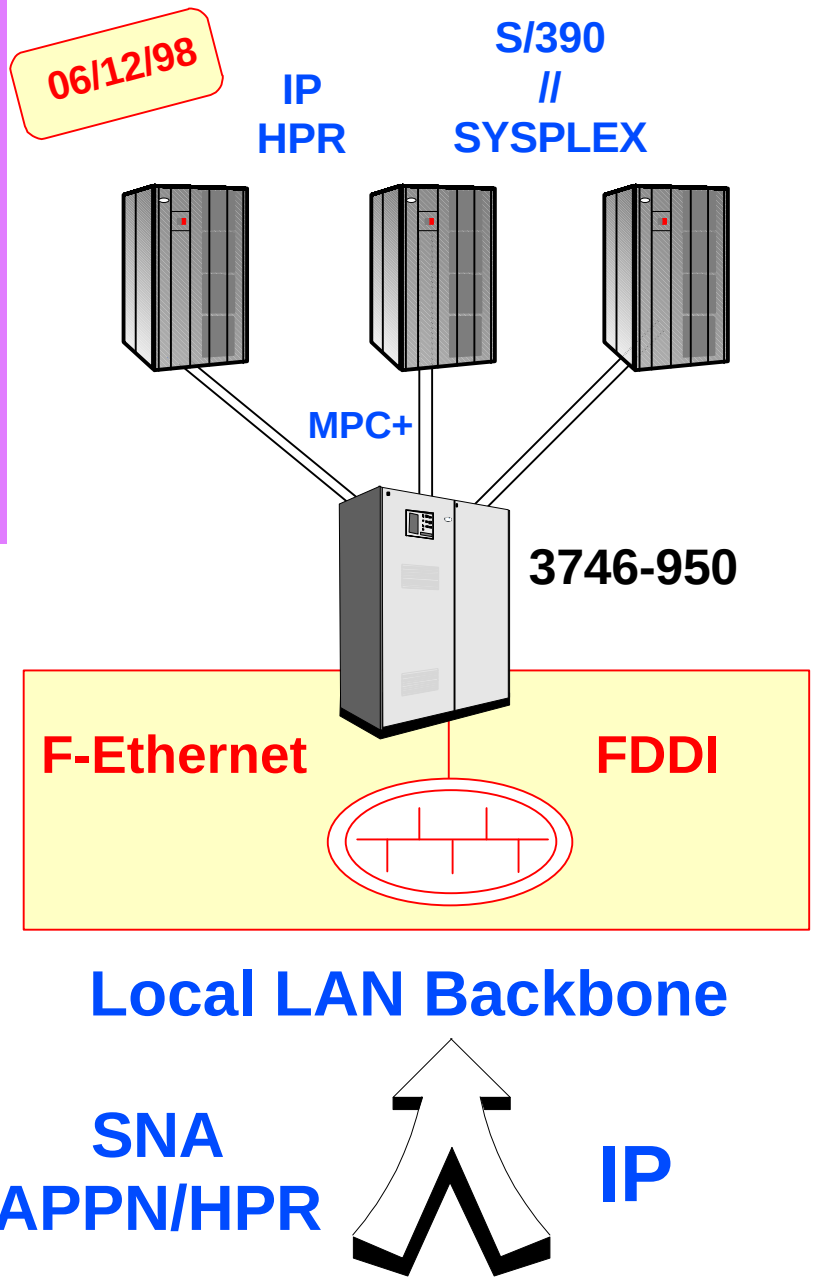
IBM 3746 - High Speed LAN (FDDI, F-ENET)



- Collapse high Speed LAN Backbones
- Efficient S/390 Servers High Speed LAN Access
- FDDI Multi Mode Fiber
  - 100 Mbps
  - Standards:
    - ISO 9314-1
    - ISO 9314-2
    - ISO/IEC 9314-3
    - Station Management Rev 7.3
  - MMF SC media connector
- Fast Ethernet
  - 10Mbps/100Mbps
  - Auto-negociation
  - Hdx, Fdx
  - Standards:
    - IEEE 802.3 (10Mbps)
    - IEEE 802.3u (100Mbps)
  - Shielded RJ-45 connector

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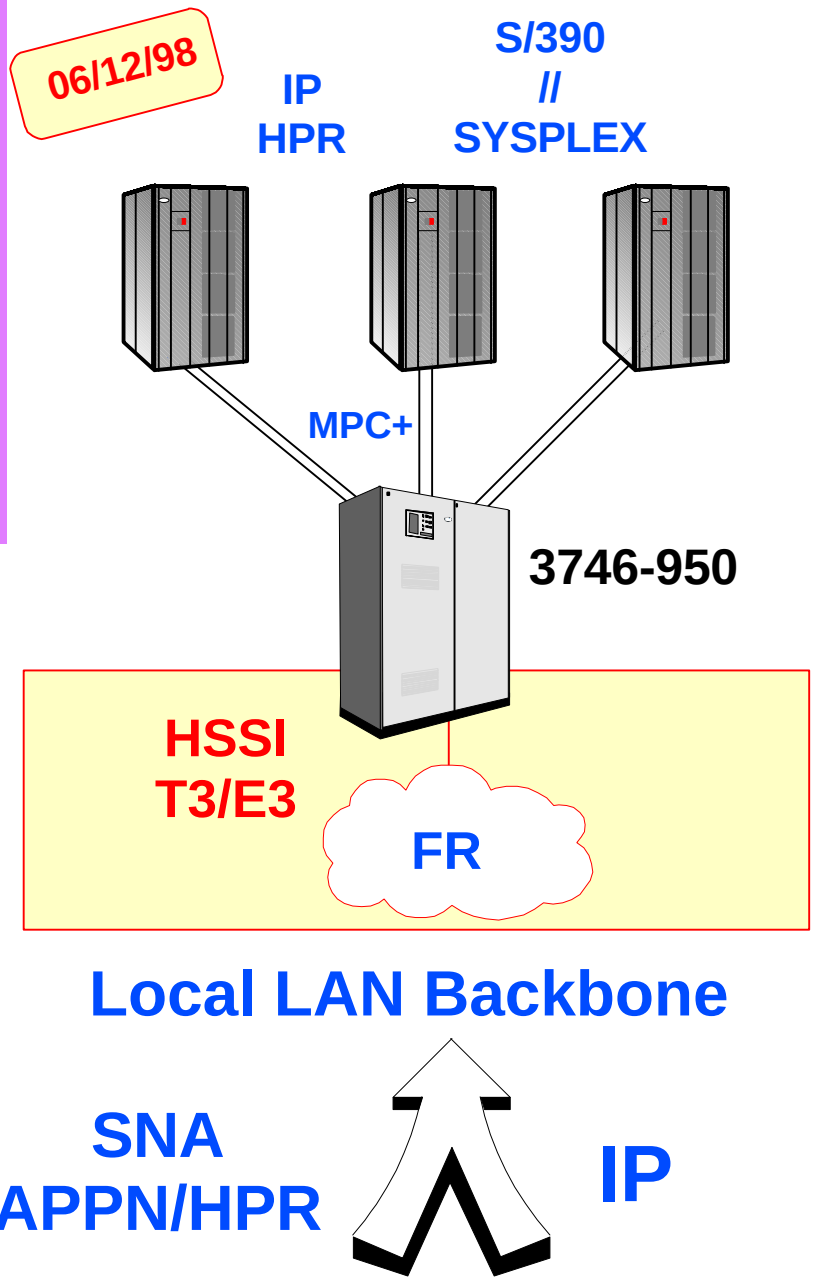
IBM 3746 - High Speed Serial Interface (HSSI)



- One HSSI DCE Attachment per Port
  - DCE Interface
  - T3/E3 Speed
- Network Speed Range
  - 1.544Mbps up to 52Mbps
- Standards:
  - ANSI/EIA/TIA 612
  - ANSI/EIA/TIA 613
- 4.6m Cable provided
- Data Center Interconnection
- Cost Effective Consolidation of many FR connections
- Pre-requisites:
  - FC #3000 or FC #3001
  - FC #5805
  - FC #3289

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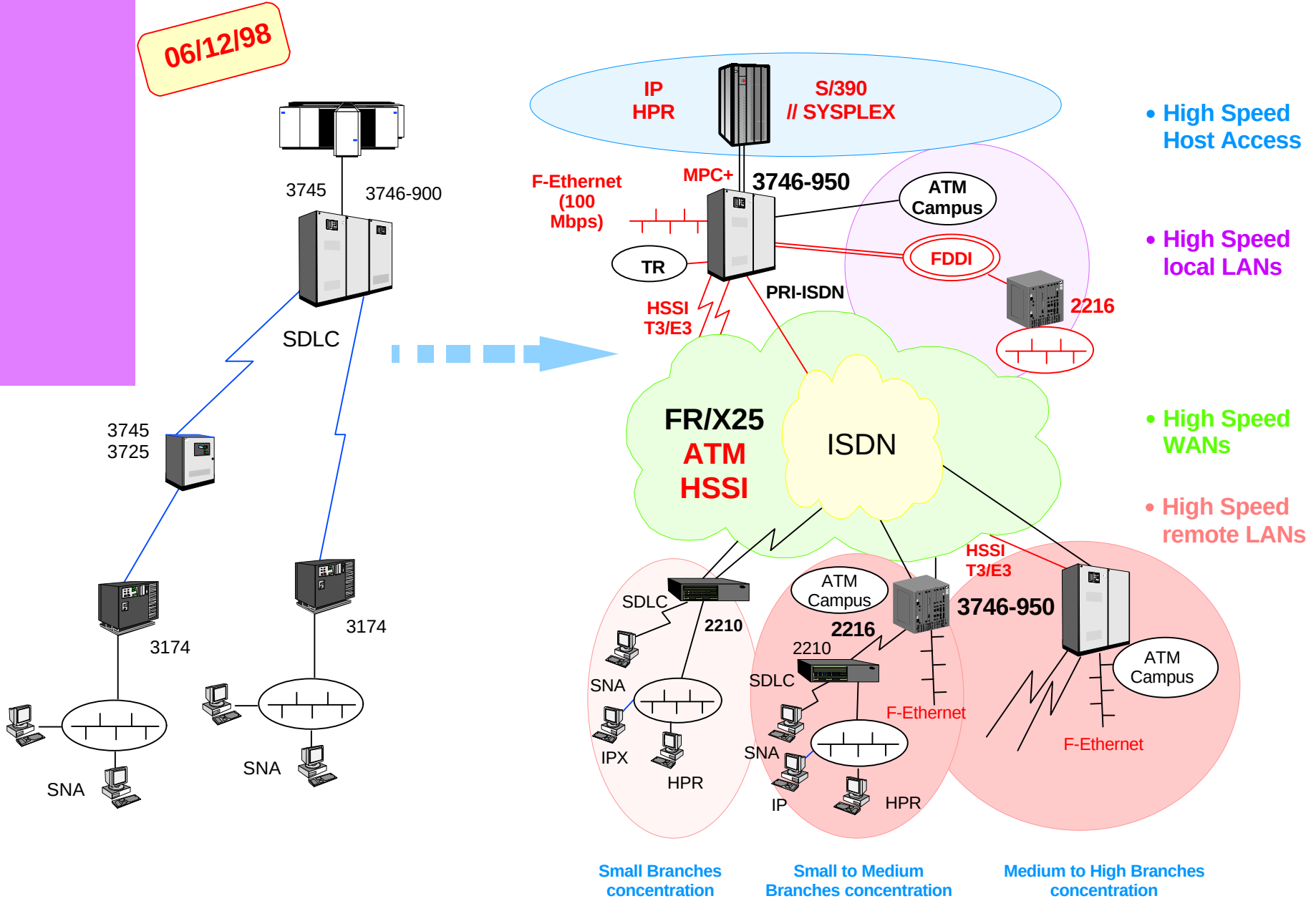
IBM 3746 - Network Computing Solution

06/12/98



- High Speed Host Access
- High Speed local LANs
- High Speed WANs
- High Speed remote LANs

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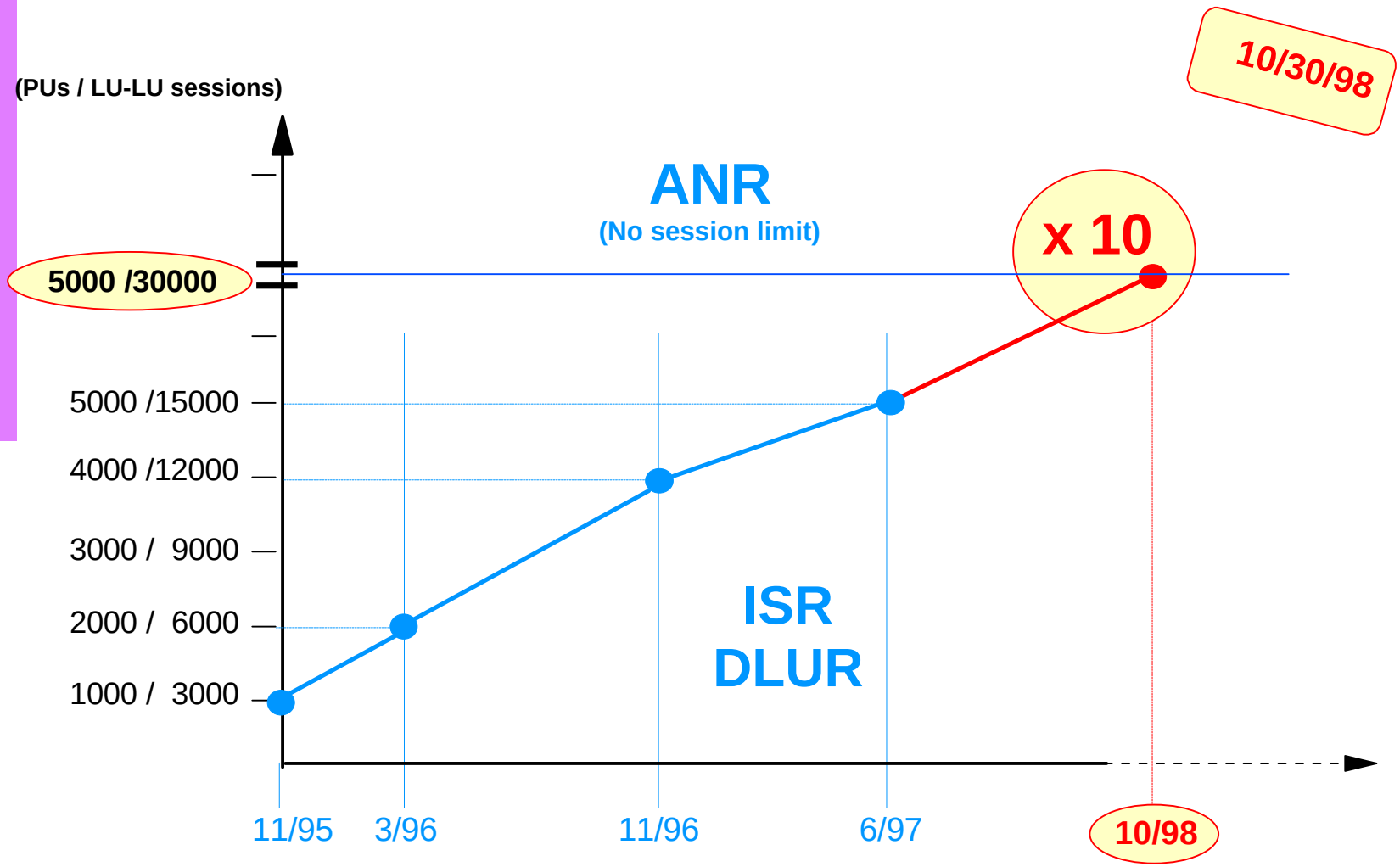
IBM 3746 - Connectivity Increase



- **Connectivity increase**
  - 30000 LU-LU sessions (APPN/ISR, DLUR)
  - 240 lines (3746 NN and IP)
- **Prerequisite** (for 30000 sessions)
  - Network Node Processor Type 2
  - CBSP3

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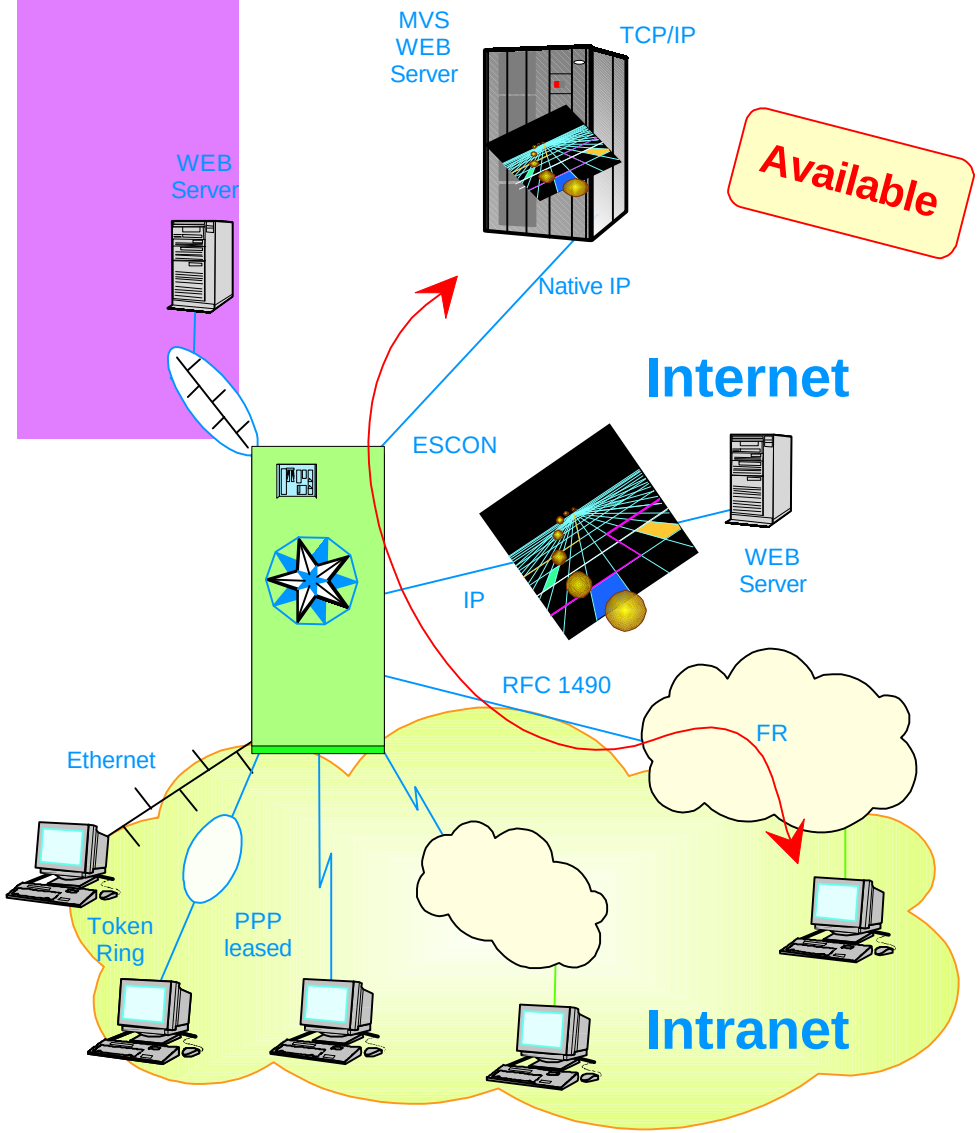
IBM 3746 - Full IP Router



- **Native IP routing over**
  - LAN : Token-Ring, Ethernet
  - Channel: ESCON
  - WAN : Frame Relay, PPP (Leased Line)
- **RIP (V1), OSPF (V2), BGP (V4)**
- **Filtering, Access Control**
- **Multiple IP addresses per interface**
- **Header compression on WAN**
  - RFC 1144
- **Variable length subnet addresses**
- **IP application prioritization**
  - Bandwidth Reservation System (BRS)
- **Routing in the 3746 adapters**
- **Adapter sharing between IP/SNA/APPN/HPR**
- **SNMP support**
  - Netview for AIX

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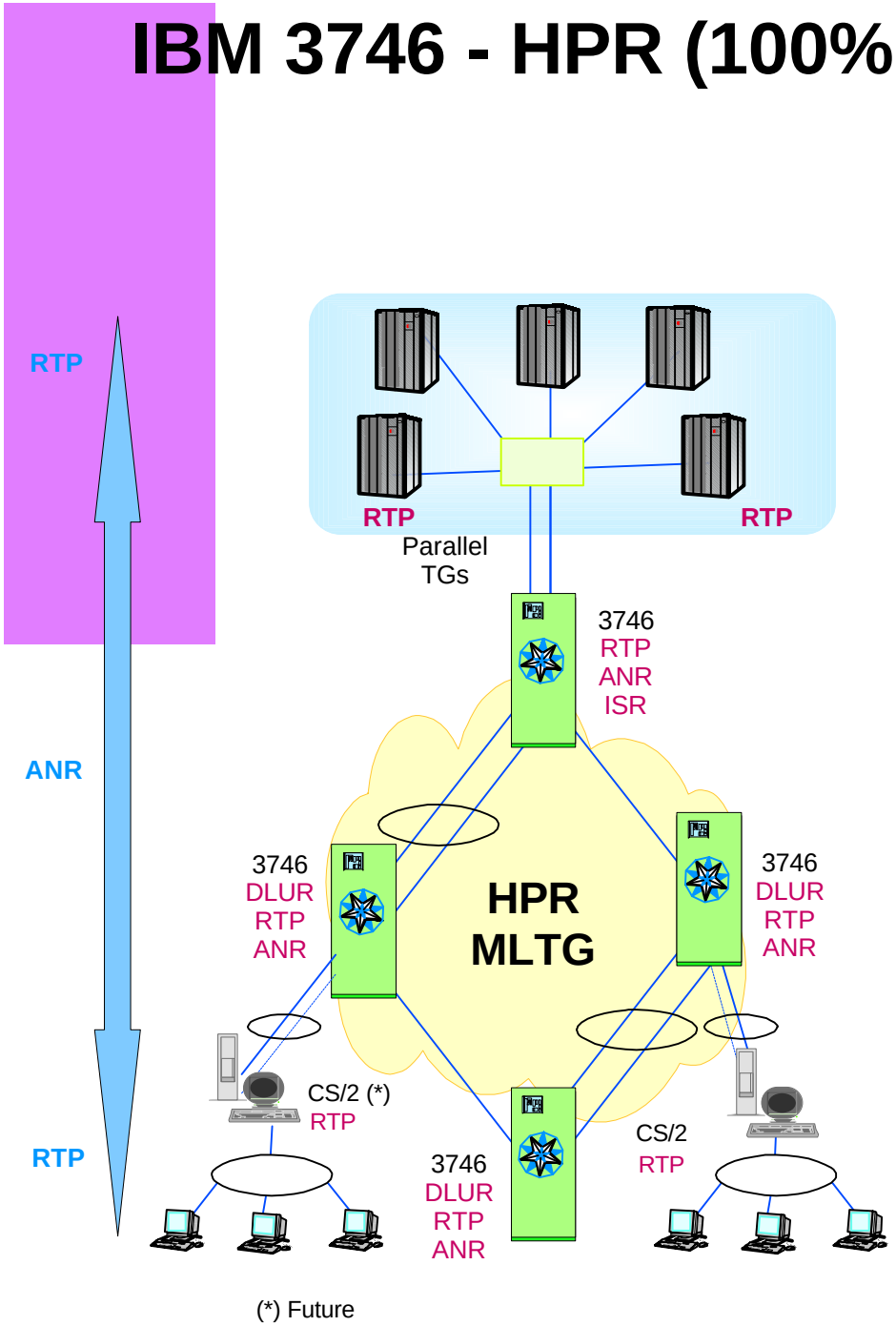
IBM 3746 - HPR (100% Availability Solution)



Available

- **Network availablility**
  - 24x7x365
  - HPR end to end non-disruptive session switching
  - Full APPN dynamics for routing
- **DLUR support for non_APPN nodes**
- **APPN support (ISR) for non HPR nodes**
- **Automatic Network Routing (ANR)**
  - Fast routing: x3 (vs APPN)
  - Unlimited number of ANR sessions
- **Rapid Transport Protocol (RTP)**
  - End to end error recovery
- **Adaptive Rate Based (ARB)**
  - Network congestion control (end to end)
  - Maximizes link utilisation
- **MLTG HPR on SDLC, FR, X25, TR/Ethernet**
  - Parallel TGs on ESCON

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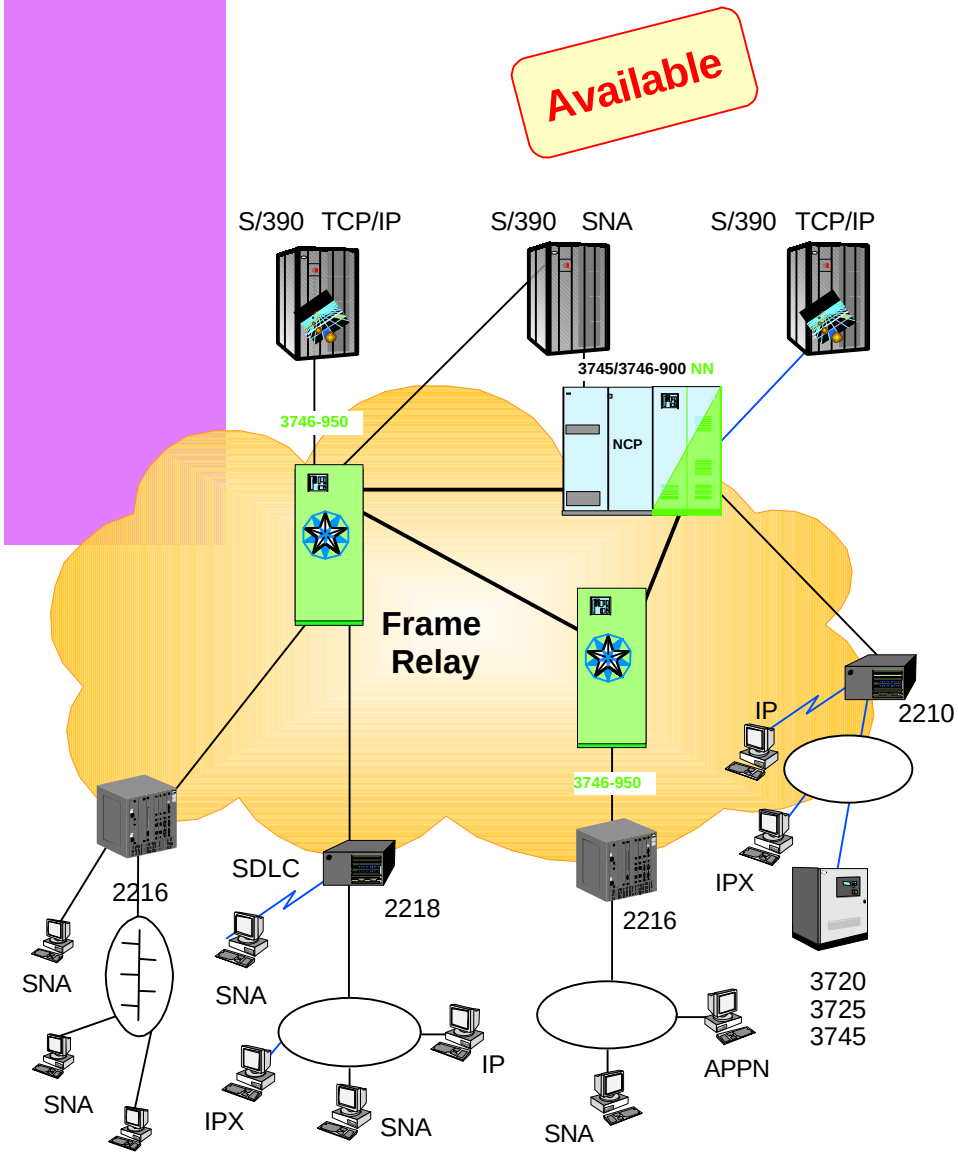
IBM 3746 - Frame Relay Support



- **Frame Relay Terminating Equipment**
  - Connectivity to public/private network
- **Frame Relay Frame Handler**
  - Build your own Frame Relay Switch Network
- **RFC 1490 compliant**
  - SNA/DLUR, APPN, IP, HPR
  - Multiple downstream PUs per DLCI
  - Single or multiple protocols per DLCI
  - FR-BAN for 2210, 2218, 2216
  - FR-BNN for 2217, 3174, 2216
  - FR-BAN for remote 37xx (INN)
- **FR Sharing**
  - Port and DLCI level (NCP, NN, IP)
- **First class bandwidth management**
  - BRS (IP), Comrate, CIR

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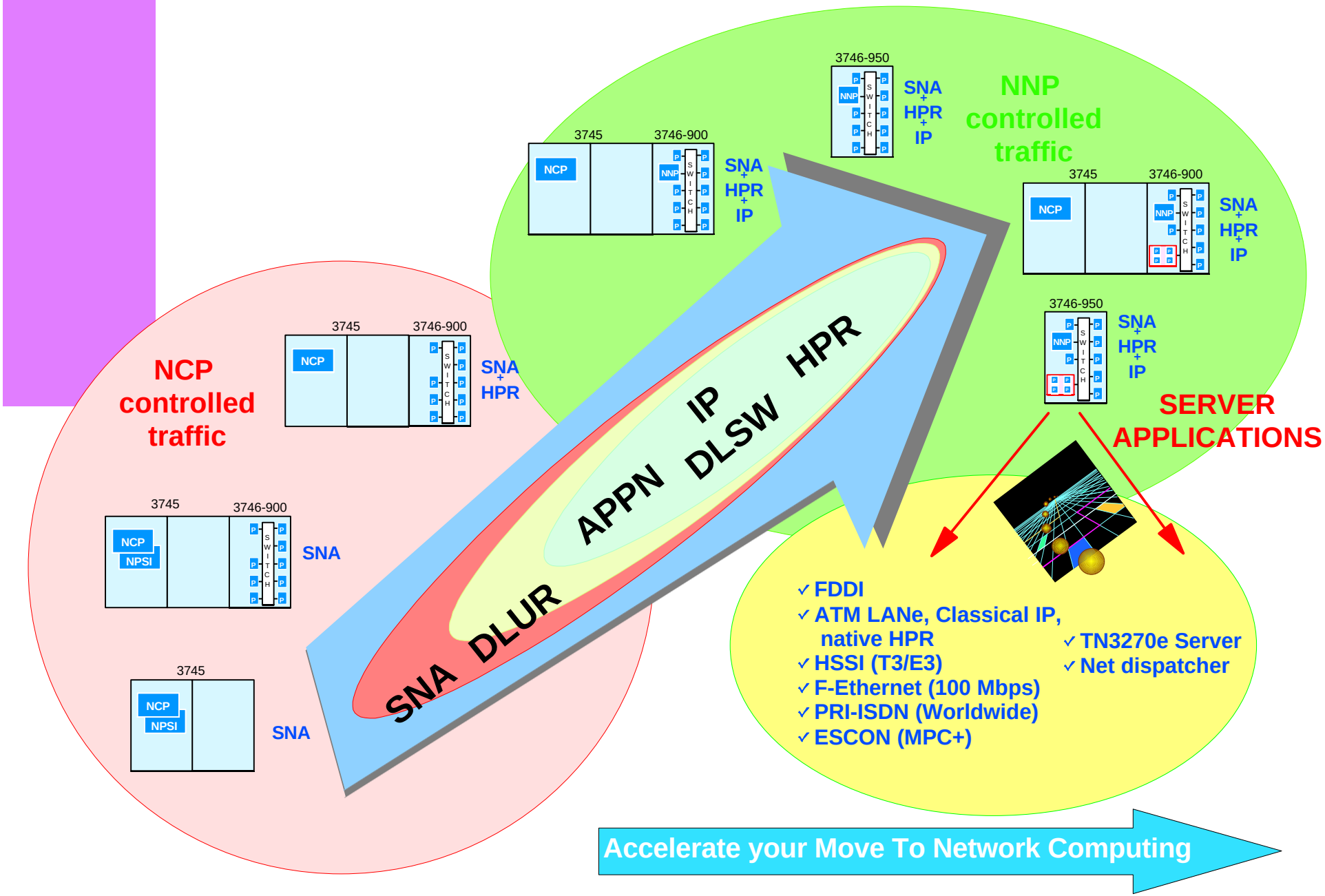
IBM 3746 - Field Evolution



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Available 3746-9x0 deliverables

- **MKTTOOLS**
  - 3746MKT
    - 3745/3746 presentations including previews
    - 3746 (Network Node + IP) flyer, 3745/3746-900 (NCP) flyer
    - 3745 and 3746 Overview (1)
    - 3745/3746 Technical Presentation
  - 900NN950
    - 3745 Models A and 3746 Models 900 and 950 Planning Guide
    - CCM
  - 3745M900
    - 3745 Models A and 3746 Models 900 and 950 Planning Guide
- **ITSO (redbooks)**
  - GG242536-02 3746 APPN/HPR NN (Implementation Guide)
  - SG244656-00 Subarea network to APPN Network migration (VTAM, 3746 ...)
  - SG244845-01 3746 IP (Implementation Guide)
- **FORUMS**
  - Nways9x0
- **INTERNET WEB**
  - http://www.networking.ibm.com
- **INTRANET WEB**
  - http://w3.lagaude.ibm.com/ccp/3746.htm

(1) Updated 12/97
(2) Updated 12/97

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