

# IBM 3745 IBM 3746 Expansion Unit Model 900

December 2, 1997  
(Revision 4)



## NCP V7R6 Support

# NCP V7R6 - Sept 9, 1997 Announcements



- **ACF/NCP Version 7 Release 6**
  - MVS, VM, VSE
- **ACF/SSP Version 4 Release 6**
  - MVS, VM, VSE
- **NTuneMON Version 2 Release 4**
  - MVS, VM

# Announcement Overview



- **Internet Protocol**
  - IP Internal Coupling between the 3745/NCP and the 3746-900 IP Router
  - Variable Length Subnet Mask support
  - for RIP V2
- **Frame Relay**
  - 3745 Communications Rate Enhancements
  - Improved Flow Control Capabilities
  - 3745 Switched Dial Backup Support
- **Advanced Peer-to-Peer Networking**
  - Improved Network Outage Management
  - New Network management Mechanism allows downstream recognition
- **Token Ring**
  - 3745 Call Connection Balancing in Duplicate TIC environments
- **Additional Network Management Enhancements**
  - Ability to define "unassigned" logical line pools based on CMC owner
  - New Alerts when NCP Buffer Pool has been depleted
- **New Packaging**
  - 3746 Model 900 Feature
  - ALCI PRPQ Feature

# NCP V7R6 - Currencies



- SSP V4R6
- NRF V1R9
- NPSI V3R8
- X.21 SH/MPS V2R3.1
- NTuneMON V2R4
- XI V2R4.2
- EP V1R12
- ALCI Feature
- NTO V1R10

# Internet Protocol

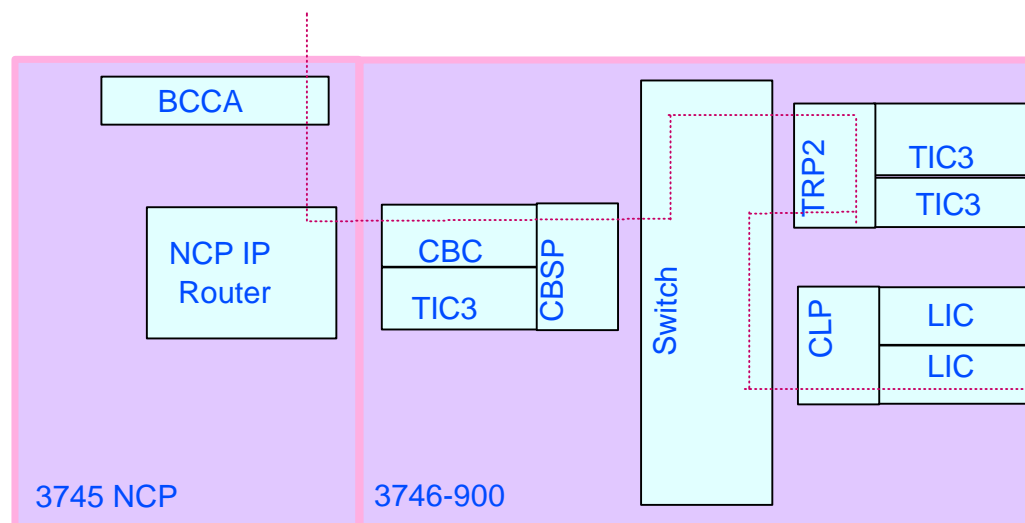


## IP Internal Coupling between NCP and the 3746 Model 900

- Previous connections between the NCP IP router and the 3746 Model 900 IP router required an external connection.
- NCP V7R6 can now pass IP datagrams to the 3746 Model 900 IP Router without using an external connection.
- Although the internal NCP to 3746 Model 900 IP connection is defined on a TIC3, the IP data can be routed over any type of 3746 line that supports IP traffic.
- Any data received by the 3745/NCP IP router or the 3746 Model 900 IP router can be passed internally between routers and then transmitted over any 3745 or 3746 Model 900 line that supports IP traffic.
- Connection will be accomplished via a 3746 Model 900 token ring processor (TRP)

### Requires:

- *IP Routing hardware feature: 5033*
- *IP Coupling hardware feature: 5800*



## ► RIP Version 2 Support

- TCP/IP V3R2 with NCPROUTE host application and NCP V7R6 have been updated to support RIP Version 2 (RFC 1723).
  - NCP V7 provides IP dynamic routing via Routing Information Protocol (RIP) along with TCP/IP NCPROUTE applications.
  - NCP acts as a RIP client while NCPROUTE is the RIP Server.
  - NCPROUTE determines what updates are necessary and forwards routing table updates to NCP. NCPROUTE also forwards RIP message to NCP for transmission over the appropriate NCP IP interface.
- NCP V7R6 supports the following RIP Version 2 offerings:
  - Variable subnetting
  - Security (authentication)
  - Recommended next hop
  - Optional use of multicasting RIP V2 over Ethernet interfaces
- Interoperability with other IBM products including 6611 and AIX
  - Future support on the 2210 and 3746 Model 900

### RIP V2 support requires:

- *TCP/IP V3R2 with TCP/IP APAR: PQ02781*

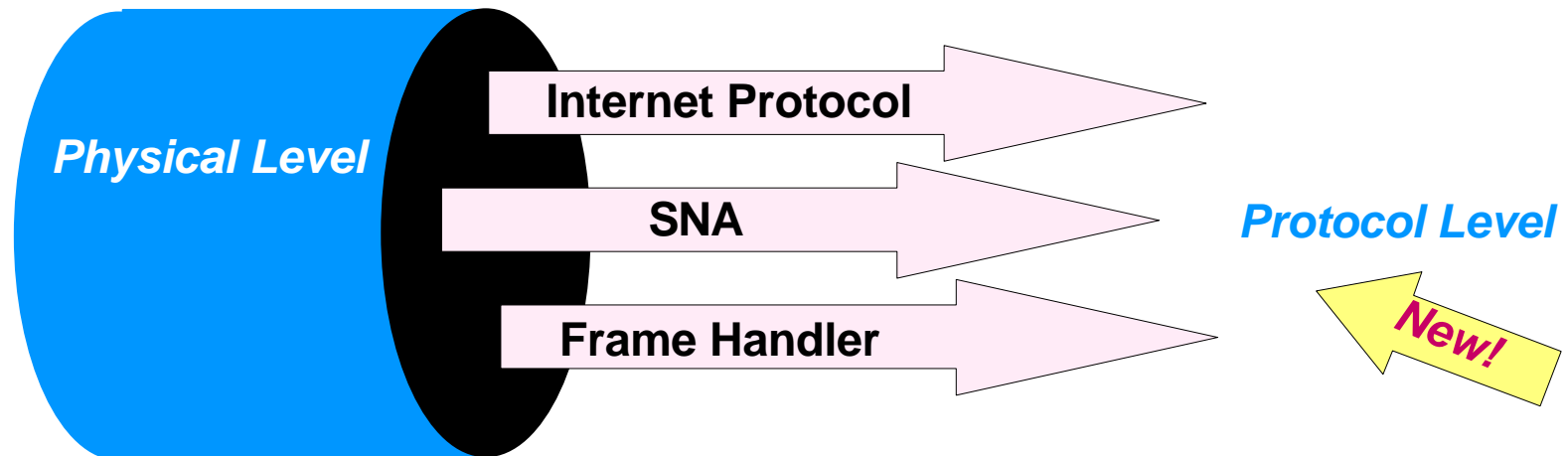
# Frame Relay



## ► 3745 Communications Rate Enhancements

- New ability to define Communications Rate for IP, SNA and Frame Handler on the protocol level
- Previously only the Physical level was allowed

- Optimize Bandwidth
- Greater Flow Control



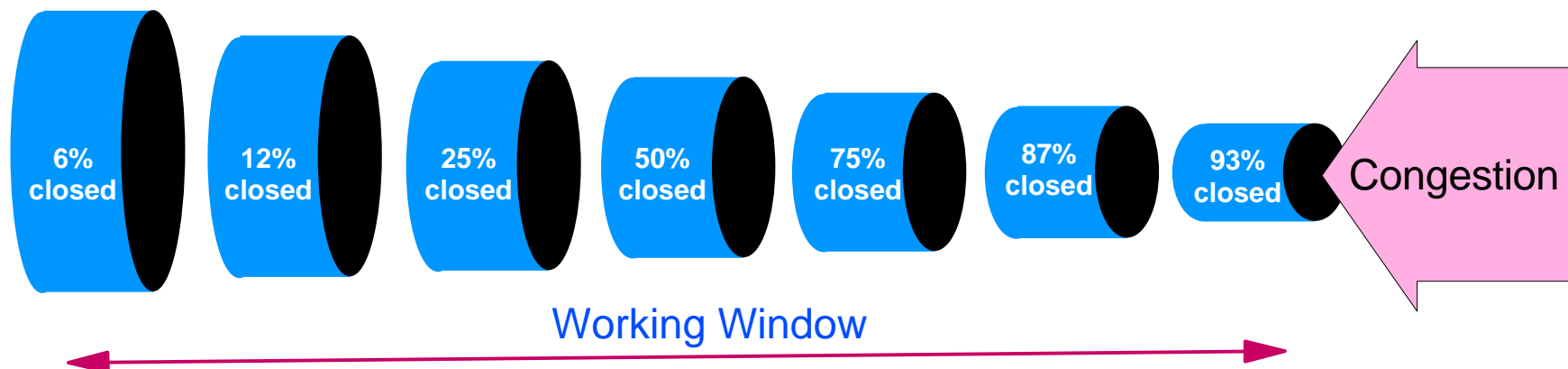
# Frame Relay

## ► Expanded Options for Frame Relay and ISDN DYNWIND Keyword

- Additional values have been added to the DYNWIND Keywords
- Adding new values provides greater granularity and more control over the working window
- Values now available: 6%, 12%, 25%, 50%, 75%, 87%, 93%

***New!***

New values provides greater control by reducing the 'working window' less rapidly causing a less dramatic reaction to 'frame loss' or congestion.



**3746 Model 900 support requires:**

- ***3746 Model 900 hardware feature: 5800***

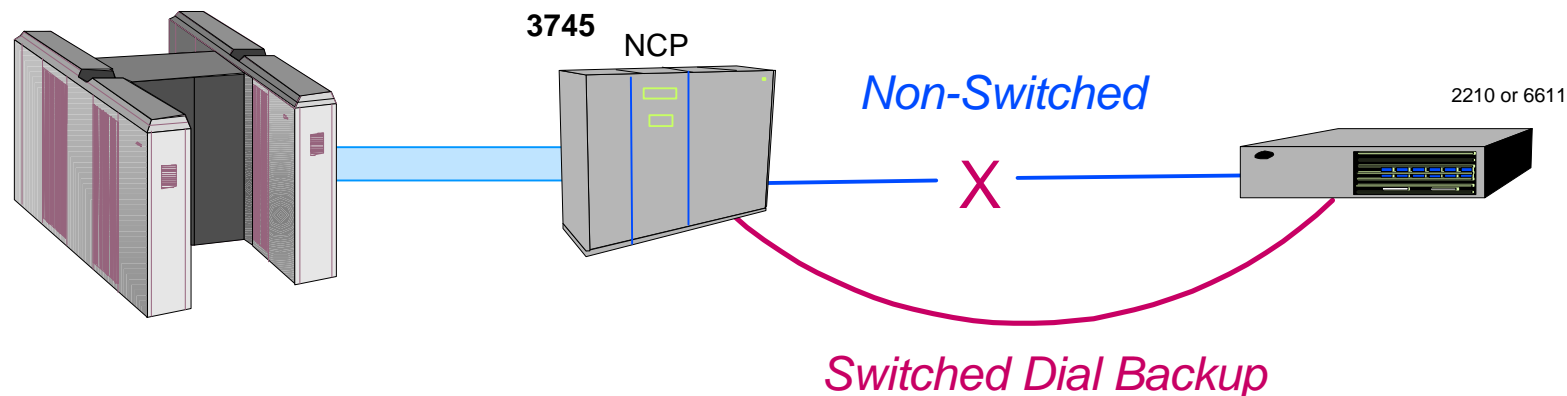


# Frame Relay

## ▸ 3745 Frame Relay Switched Dial Backup

- NCP V7R6 now supports switched frame relay physical interfaces for SNA traffic
- Dial procedure for the switched-frame relay physical line activation will be very similar to SDLC

### New Network Backup Capabilities



### Requires:

- **VTAM V4R4 with VTAM APAR: OW27985**

## ▶ APPN Logical Resource Depletion Notification

- NCP V7R6 will now report to VTAM when token-ring logical lines (JLINES) have been depleted.
- VTAM will quiesce the transmission group (TG) of the connection network virtual node associated with this Token Ring Interconnect (TIC).
- VTAM will un-quiesce the TG once notified by NCP that JLINES are once again available.

### Requires:

- *VTAM V4R3 or later with VTAM APAR: OW25754*

## ▶ PU and LU Names Provided to Downstream Devices

- VTAM V4R4 and NCP V7R6 now have the capability to provide Physical Unit (PU) and Logical Unit (LU) names to peripheral PU type 2 and 2.1 nodes during session activation.
- VTAM incorporates a new keyword (INCLUDE=YES/NO) on the PU definition statement

### Requires:

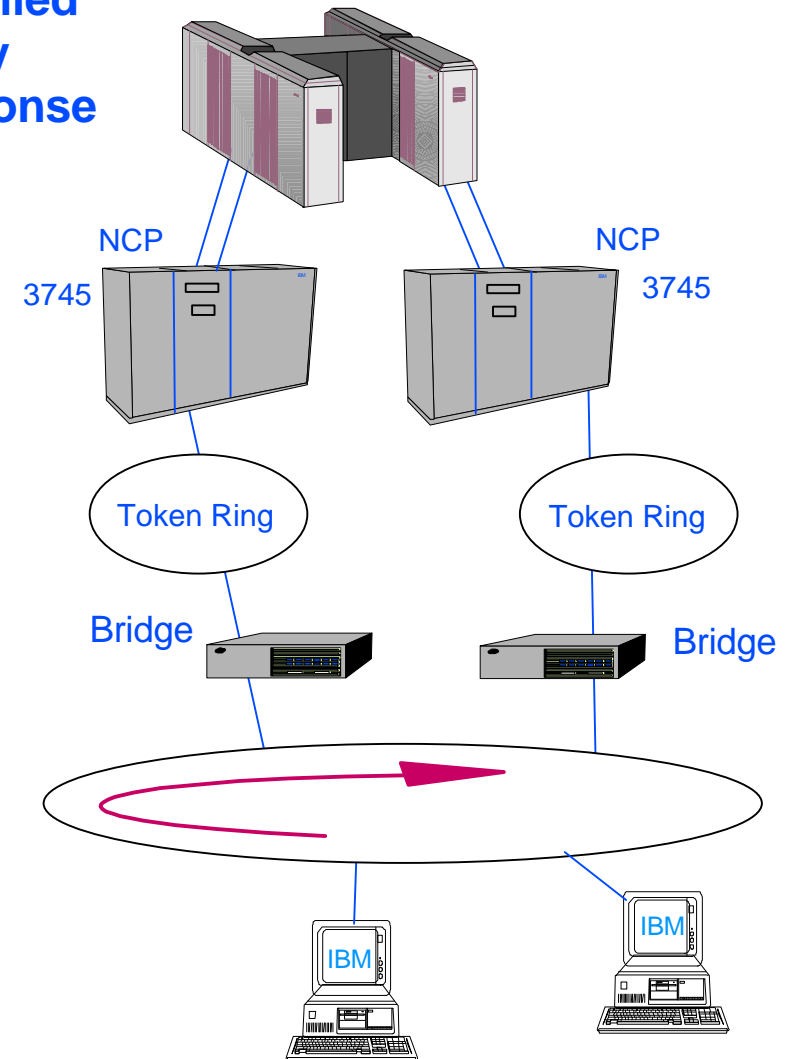
- *VTAM V4R3 or later with VTAM APAR: OW25501*

# 3745 Token Ring Connection Balancing



- New connection balancing mechanism has been implemented
- New function results in a more controlled distribution of connection requests by having duplicate TICs delay it's response to route discovery requests.

- Each configured TIC performs connections balancing independent of other duplicate TICs.
- There is no limit to the number of TICs that can participate in this connection balancing scheme.



# Network Management Enhancements



- ▶ **Deactivation of 'Out-of-Sequence' Virtual Routes**
  - New keyword is now available (VOSDEACT=YES) that allows you to specify whether a virtual route with an 'out-of-sequence' condition should be automatically de-activated.
  - NCP will continue to transmit a generic alert when a VR 'out-of-sequence' condition occurs
  
- ▶ **Hung Transmission Group Alert**
  - NCP will monitor all operative Multi Link Transmission Groups (MLTG) for degraded throughput and send a generic alert to the NCP owner.
  
- ▶ **Buffer Depletion (Queue Size) Alert**
  - A new keyword (QSZALERT) will allow NCP to identify a streaming device (a.k.a. Hot I/O) by monitoring the buffers used by stations/sessions.
  - NCP will send a generic alert when the NCP buffer pool becomes depleted.
  - New keyword will also enable NCP to inactivate the streaming resource when the generic alert is sent.

# New Packaging



## ▶ 3746 Model 900 Feature

- The 3746 Model 900 feature software has been incorporated into the base code of NCP V7R6
- You no longer need to order and install separate media when attaching the IBM 3746 Model 900 to a 3745 Communication Controller.
  - ▶ *You MUST still obtain a license for the 3746 Model 900 Feature. Refer to software announcement letter 297-342 for ordering information.*

## ▶ AirLine Control Program (ALCI)

- ALCI is a free RPQ feature offered by NCP.
- ALCI software feature has been incorporated into the base code of NCP V7R6
- You no longer need to order and install separate media.
- Refer to RPQ numbers 7L1092, 7L1216, 7L1148 for additional ordering instructions.
  - ▶ *You MUST still obtain a license for the ALCI feature. Refer to software announcement letter 297-342 for ordering information.*

# NCP V7R6 - Multiprotocol Solutions Summary



- World Class Subarea Router
- Excellent APPN Support
- Solid IP Support
- Best of Class Frame Relay Switching

**A Robust Multiprotocol Platform**