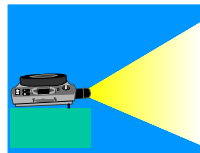


# Leadership in IBM S/390 Enterprise Server Access

## Part 1 : Networking Considerations

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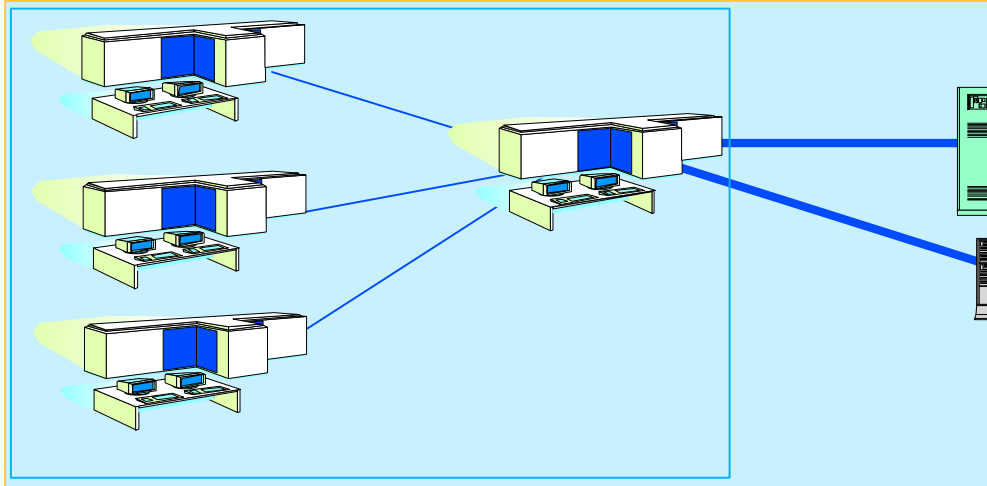
# Content

## ▶ IBM S/390 Server Access Leadership

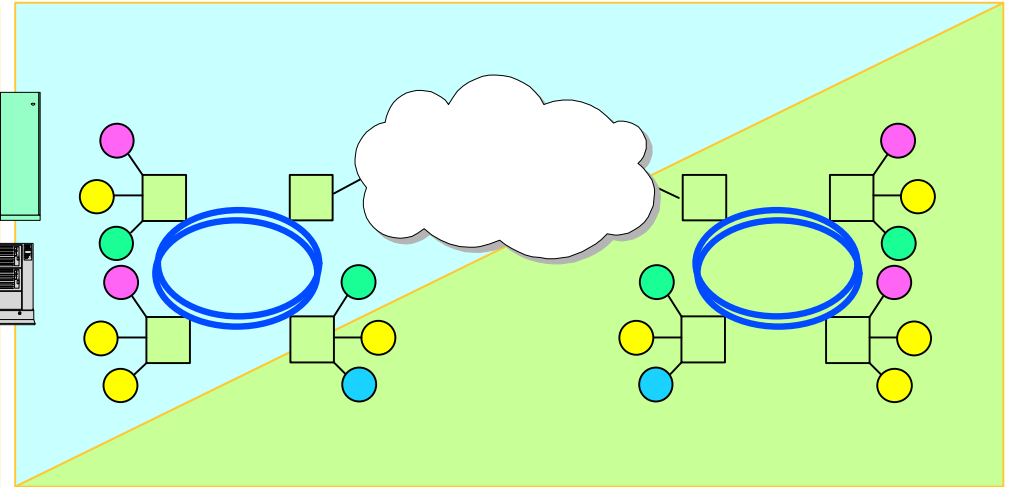
- Part 1 : Considerations for S/390 Server Access
- Part 2 : Leadership in TCP/IP Networking
- Part 3 : Excellence in SNA Networking
- Part 4 : Testing Background
- Part 5 : WSC performance testing results
- Part 5 : Why Choose IBM for S/390 Server Access

## Today's Dilemma: Different Organizational Goals

### Datacenter



### Networking

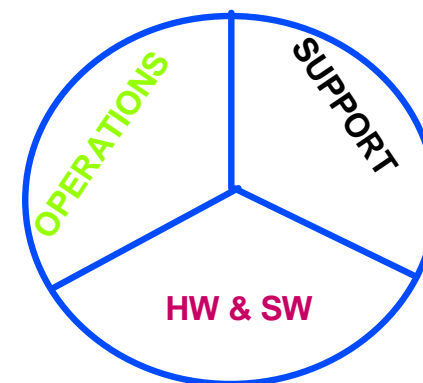


- ✓ Transaction Systems Processor
- ✓ Corporate Data Respository
- ✓ Large Scale Enterprise Server
- ✓ Internet/Intranet host
- ✓ Network Resource Management

- ✓ Multiprotocol Support
- ✓ Internet/Intranet Access
- ✓ High Bandwidth Connections
- ✓ Bandwidth Efficiency
- ✓ Offload Host Functions/Cycles
- ✓ Maintain Service Levels

## Decision Factors

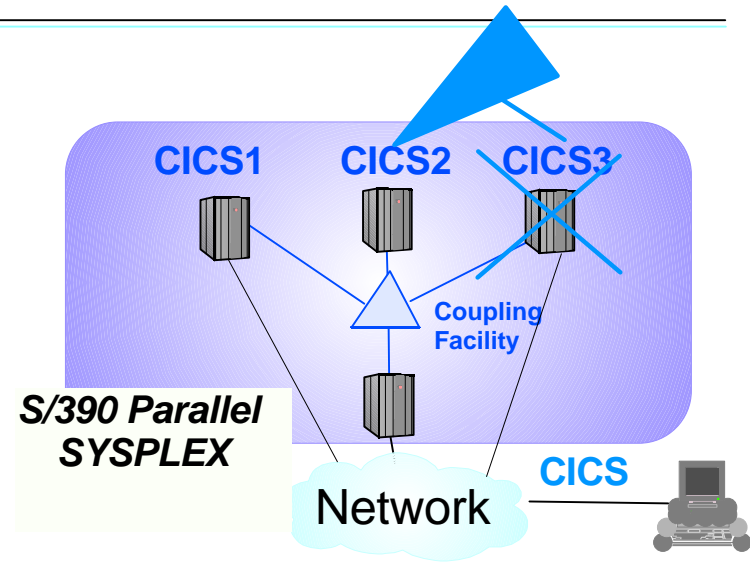
- ▶ **Costs of ownership**
  - ✓ **Hardware/software**
  - ✓ **Host cycles**
  - ✓ **Bandwidth**
  - ✓ **Training/migration**
- ▶ **Hardware/Software Platform**
- ▶ **Reliability/Technology maturity/Risks**
- ▶ **Network/Application support Scalability**
- ▶ **Performance/Service levels**
- ▶ **Functionality/Connectivity**
- ▶ **Management/Complexity**



Cost of Computing

# Sysplex Considerations

- Improved scalability
- Improved availability
- Improved access
- 24x7x365 objective
- Significantly reduced costs



**MNPS**

( Multi Node Persistent Session )

**VIPA**

**Generic Resource**

**Net.Dispatcher**

**OSA**

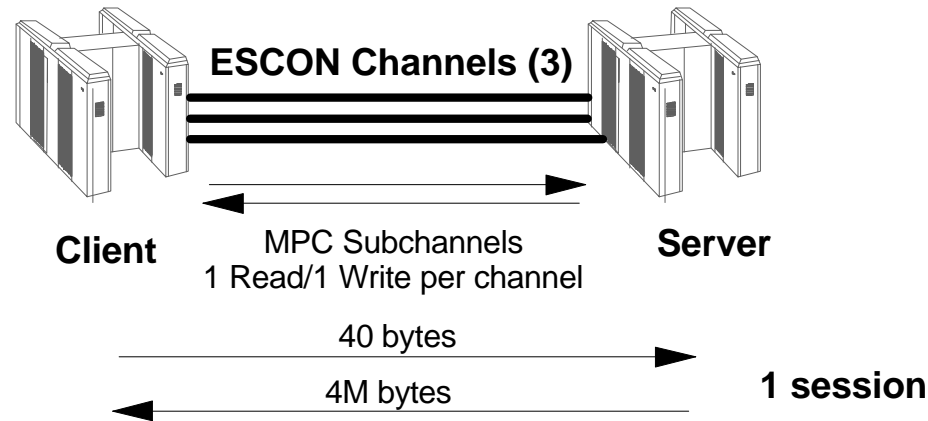
( Open Systems Adapter )

**MPC+**

( Multi Path Channel )

# VTAM V4R4 HPDT and MPC Performance

**Configuration:** Host-to-Host Connection  
 3 CPs (LPAR) on 9672-RX3 for client and Server  
 17 MBytes/sec ESCON channel



## Performance Measures:

	VTAM V4R4	VTAM V4R3	Improvement
Throughput	35.14 Mbytes/sec	24.98 Mbytes/sec	40.7%
Utilization			
Client	36.50% (per engine)	58.31% (per engine)	55.5%
Server	28.70% (per engine)	52.60% (per engine)	61.2%

HPDT - High Performance Data Transfer



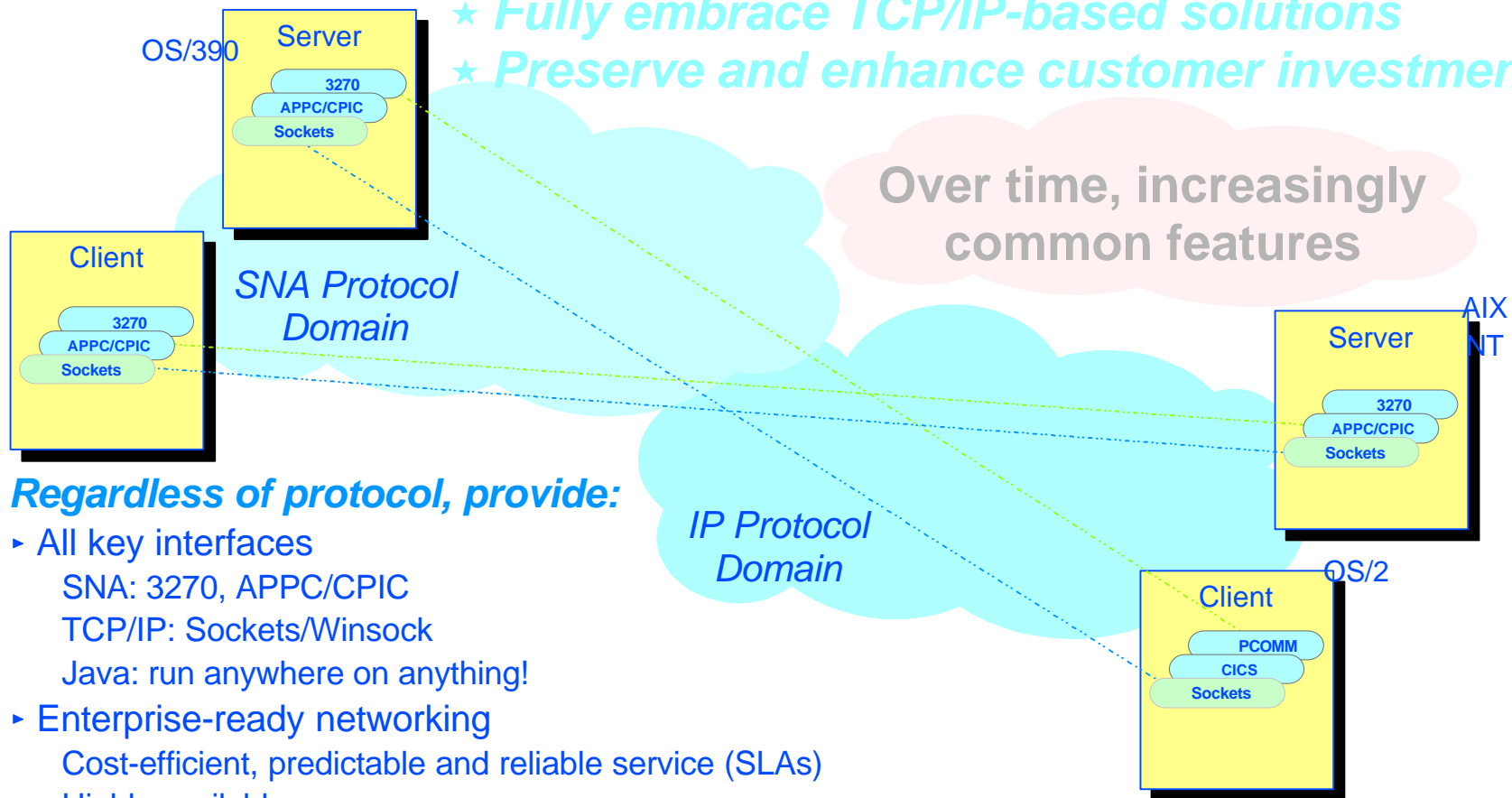
## Cisco's CMPC

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- **Cisco endorses MPC as the channel protocol of choice in APPN/HPR environments**
  - Enables nondisruptive rerouting around failed data center resources
  
- **CMPC is based on IBM implementation of MPC in VTAM V4R3**
  - IBM support in 374X-9X0 is based on MPC+ implementation in VTAM V4R4
  - IBM design is expected to have significant improvement in performance over the channel
  
- **Cisco's implementation requires multiple routers in the data center**
  - Cisco 4700/7200 to terminate DLSw partners in the network
  - Cisco 7XXX with CIP to attach to the channel
  - Token-Ring / Ethernet / FDDI to connect these two routers
  
- **Cisco implementation to be available in 2H 97 !!!**

# Universal Access to Applications

- ★ Fully embrace TCP/IP-based solutions
- ★ Preserve and enhance customer investments



## - Regardless of protocol, provide:

- ▶ All key interfaces
  - SNA: 3270, APPC/CPIC
  - TCP/IP: Sockets/Winsock
  - Java: run anywhere on anything!
- ▶ Enterprise-ready networking
  - Cost-efficient, predictable and reliable service (SLAs)
  - Highly available
  - Support parallel sysplex features

## - Permit homogeneous but interoperable protocol domains

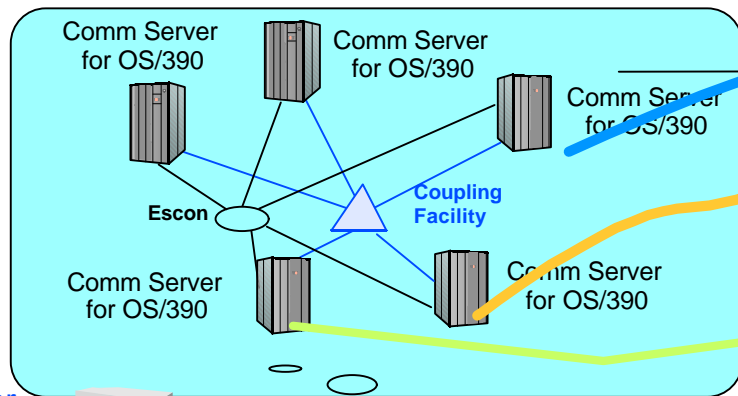
Universal Access - Full set of choices



## Channel Access Protocol Support

Protocol / Function	IBM Channel Access	Cisco Channel Access
TCP/IP	LCS	CLAW
DLSw SNA end systems	LSA	LSA
APPN: - ISR - HPR	LSA MPC+	LSA MPC (Not yet GA)
SNA LAN Gateway - Token Ring - Ethernet - ATM TR LANE - ATM EN LANE	LSA LSA LSA LSA	

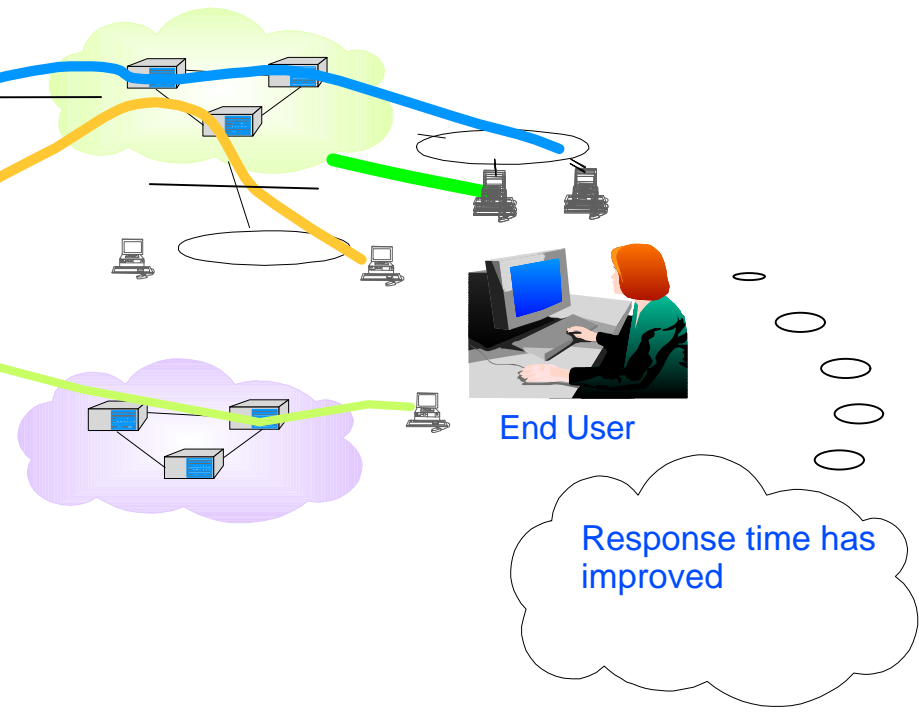
# Network Utilization



Systems Administrator



Comm. Server uses less system resources



End User

Response time has improved

## ■ Application / S/390

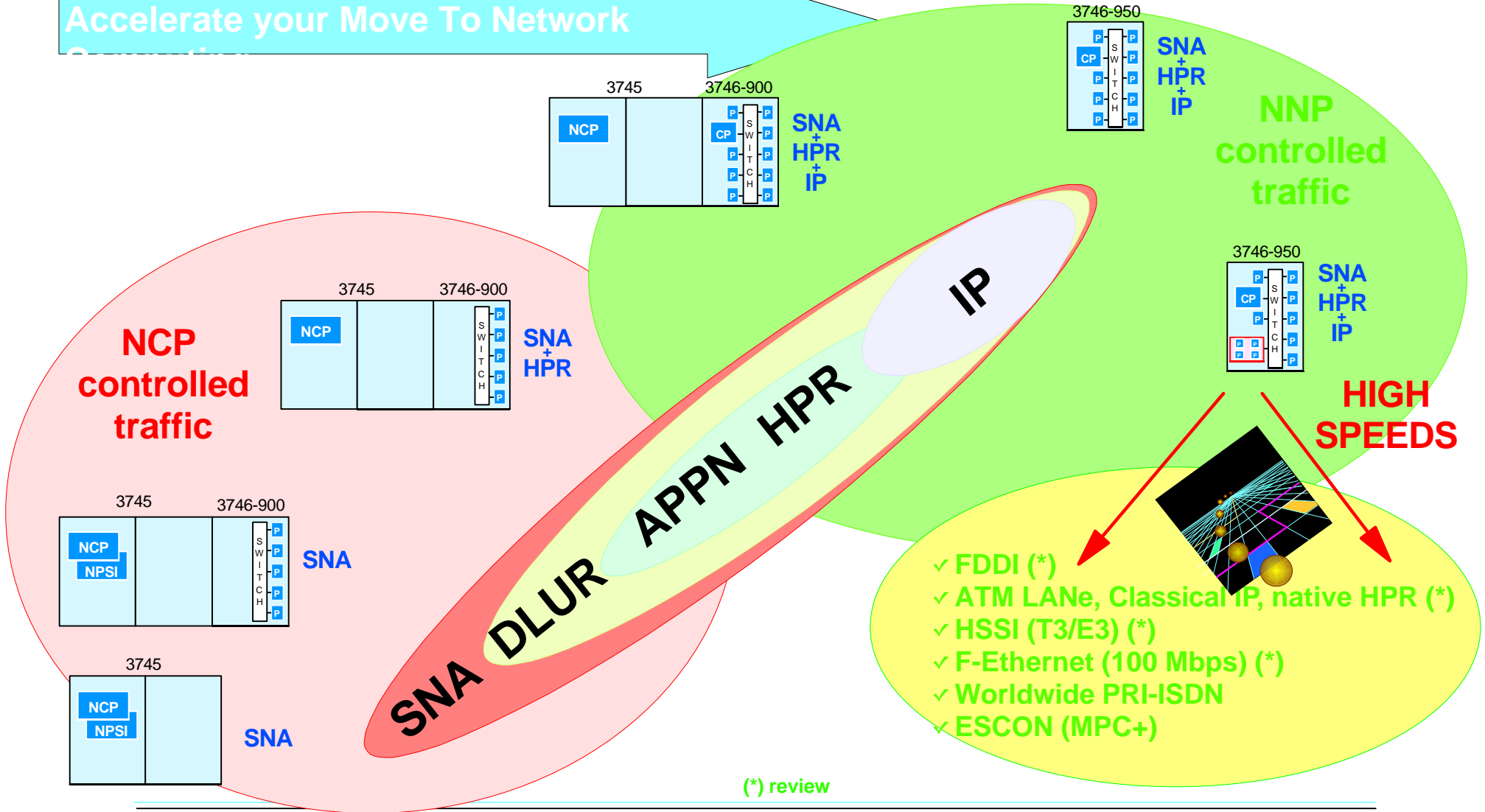
- Reduction of CS CPU consumption
- Enhancements for handling large data Objects
- Scalability
- MP Exploitation

## ■ Network

- Reducing overhead in Routers and Network boxes
- Exploiting emerging high speed network technologies
- Handle sending large data objects to remote geographical locations

# IBM 3746 - Evolutionary Migration

Accelerate your Move To Network



(\*) review