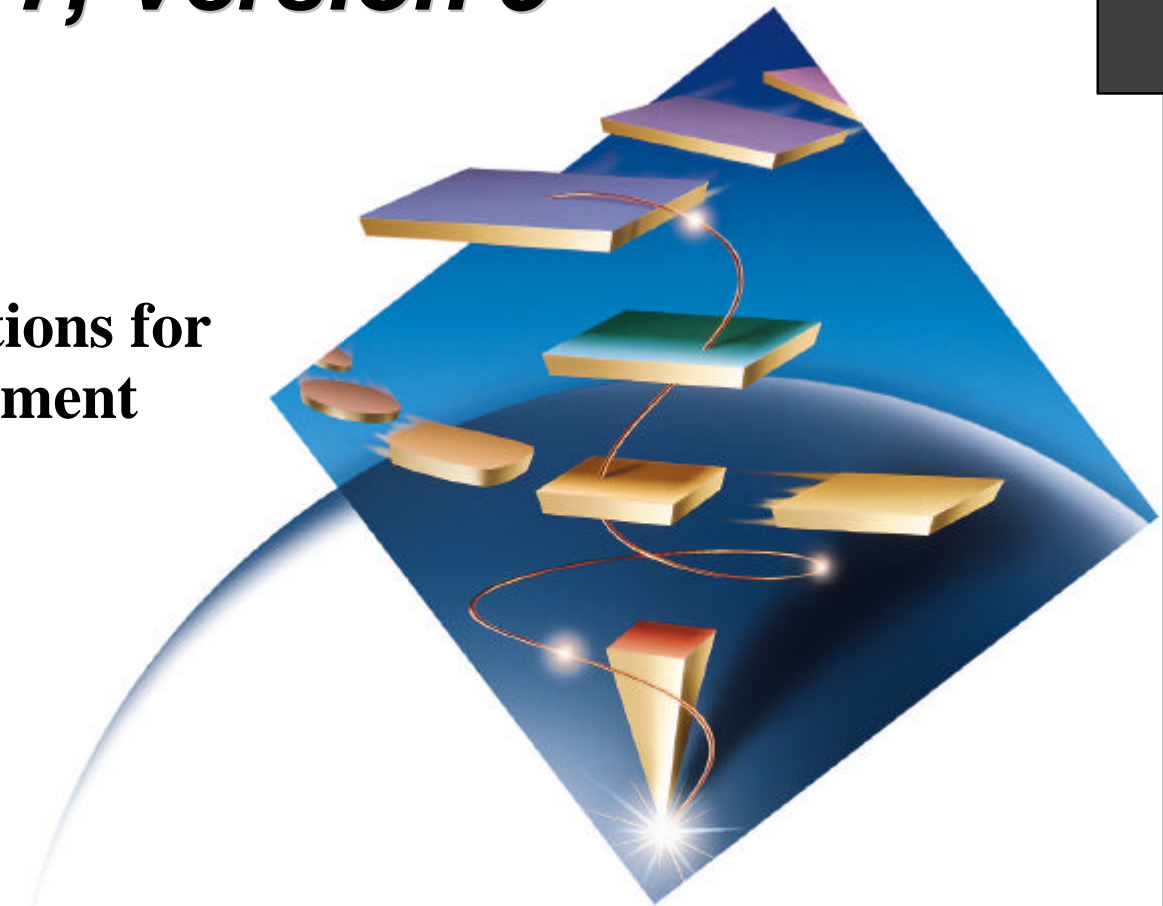


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# ***IBM eNetwork™ Communications Server for UnixWare 7, Version 5***

**Enterprise Communications for  
the UnixWare 7 environment**



# **Abstract: Communications Server for UnixWare 7**

Communications Server offers unparalleled availability and enterprise class dependability for your mission critical applications. IBM eNetwork Communications Server for UnixWare 7 provides host access, network integration and end-to-end connectivity solutions to provide the foundation for IBM's network computing framework for e-business. With the industry-leading SNA support, including APPN, high performance routing(HPR), and dependent LU requester(DLUR) support, communications server provides the enterprise quality of networking support required for today's e-business. Communications server also provides SNA host access to TCP/IP users running any standard TN3270/E emulator, through its powerful TN3270E server. It also provides SNA support for all TCP/IP clients compatible with Microsoft SNA Server, through its SNA API Client or split-stack capabilities.

This presentation is a product overview of the new eNetwork Communications Server for UnixWare 7 product, the best solution for providing enterprise-class communications and host integration for the UnixWare 7 environment.

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# Those wonderful acronyms ...



API	Application Programming Interface
APPC	Advanced Program to Program Communication
APPN	Advanced Peer to Peer Networking
DDDLU	Dynamic Definition of Dependent LU
DLUR	Dependent LU Requester
FDDI	Fiber Distributed Data Interface
FTP	File Transfer Program
HPR	High Performance Routing
LAN	Local Area Network
LU	Logical Unit
PC	Personal Computer
PU	Physical Unit
SDLC	Synchronous Data Link Control
SNA	Systems Network Architecture
SNMP	Simple Network Management Protocol
TN3270	Telnet 3270
VTAM	Virtual Telecommunications Access Method
WAN	Wide Area Network

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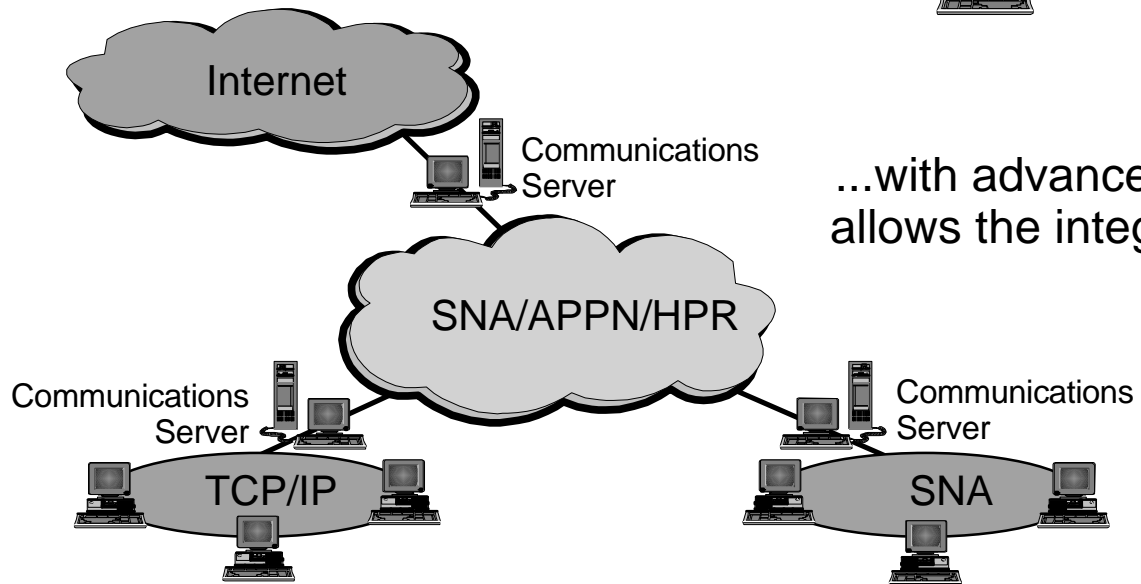
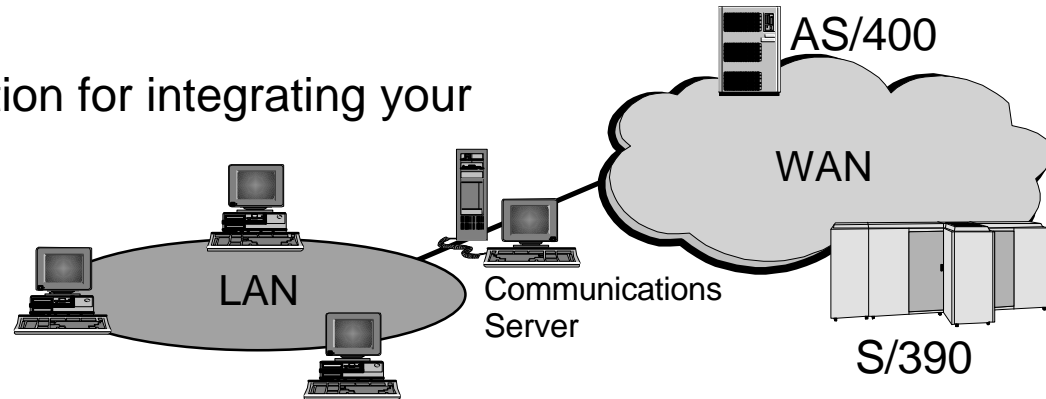
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# What is an IBM Communications Server?



The best possible solution for integrating your LANs with your hosts...



...with advanced networking function that allows the integration of different network types

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# Communications Server for UnixWare 7



## ► The solution for companies who want to:

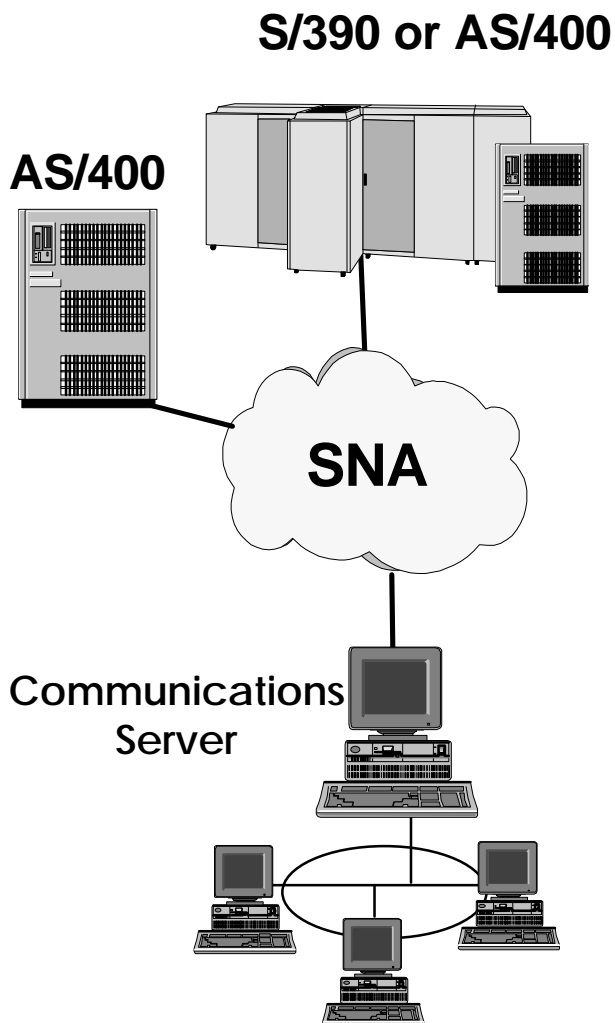
- Provide enterprise host access to SNA and TCP/IP users
- Take advantage of advanced SNA networking capabilities to maximize performance and reliability
- Support both hierarchical subarea and peer-to-peer networking environments
- Provide an enterprise-class TN3270E Server solution to support intranet and extranet users
- .... in the UnixWare 7 environment

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# IBM eNetwork Communications Server for UnixWare 7



- **Enterprise-Class - Advanced Networking**
  - Powerful SNA gateway with higher reliability and performance
- **End to End Universal Access - SNA and TCP/IP Integration**
  - TN3270E Server for TCP/IP client access to 3270 apps, including printer support
  - Broad range of connectivity options: Ethernet, Token Ring, FDDI, SDLC, X.25, Frame Relay
  - Client-server (split-stack) support of Windows 95 and Windows NT TCP/IP clients
- **Easy to use, Configure - Development and Support Tools**
  - Rich set of APIs
  - Easy-to-use graphical user interface simplifies configuration and systems management
- **Effective Utilization of Network**
  - High Performance Routing, (HPR) maximizes throughput and minimizes response times
  - Dependent LU Requester (DLUR) support for APPN
  - Efficient use of network with assigned priorities to differing transmissions

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# Key Features of Communications Server for UnixWare 7

## ► Integrated TN3270E Server

- Provides access to 3270 host applications for TN3270 users on other computers
- Supports RFCs 1123, 1576, 1646, 1647, and 2355
- Includes support for ATTN and SYSREQ keys and SNA response handling
- Supports LU pools or specific LU names
- Provides support of printers attached to your client or any TCP/IP defined printer

## ► SNA API Client/Server (split-stack support)

- Allows TCP/IP-attached clients to access SNA APIs without requiring SNA on the client
- Allows most SNA configuration to take place at the server
- Reduces hard disk and processor requirements on the client
- Allows configuration from any server in the domain
- Supports applications written to run with Microsoft SNA Server clients
- Supports Windows95 and Windows NT clients

## ► Advanced SNA/APPN capabilities

- High Performance Routing (HPR) rapid transport protocol (RTP) support provides automatic non-disruptive rerouting of sessions
- Dynamic Definition of Dependent LUs (DDDLU) simplifies the configuration of dependent LUs
- Dependent LU requester (DLUR) enables dependent LU devices to take advantage of APPN networks



# Key Features of Communications Server for UnixWare 7



## ► Powerful Application Programming Interfaces (API's) and development tools

### • APIs

- Conventional LU Application Interface (LUA) RUI
- Node Operator Facility (NOF)
- APPC
- Common Programming Interface for Communications (CPI-C) provides CPI-C 2.0+support
- Common Service Verb, and Management Services APIs
- eNetwork Host Access Class Library (Host Access API)

- **APPC Application Suite - includes APPC applets such as APING, AFTP, ATELL, ACOPY, and ANAME which are useful for testing and problem determination as well as good examples of APPC applications**

## ► Broad range of connectivity options

- Ethernet
- Token ring
- FDDI
- X.25
- SDLC
- Frame Relay (using an emulated token-ring interface)

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# Key Features of Communications Server for UnixWare 7



## ► Easy-to-use Configuration and Administration tool

- Provides complete configuration and management facilities in an easy-to-use graphical interface, which simplifies administration and provides online help for configuration and management tasks
- Configuration changes can be made while the system is active

## ► Includes a 30 day trial license for TPS(R)/3270 (SNA) for UnixWare 7 (US only)

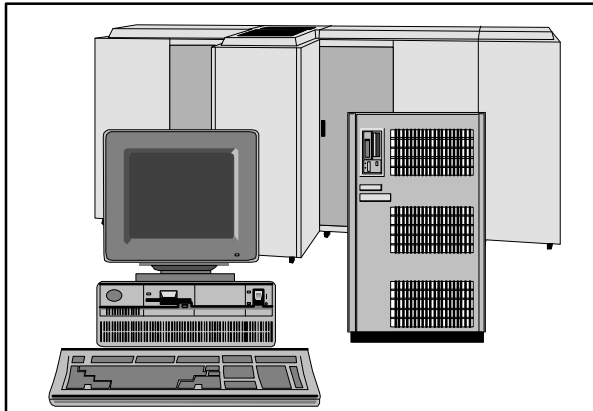
- full-featured mainframe 3270 terminal and printer emulator
- encompasses all the basic features of the 3270 terminal and printer and many additional features for ease-of-use and additional functionality
- Supports EHLLAPI
- macro key support
- easy to install

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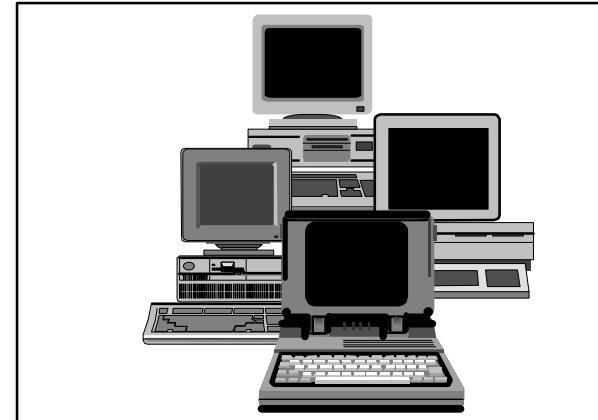


# IBM eNetwork Software



## Servers

- Communications Server for OS/390
- Communications Server for AIX
- Communications Server for UnixWare 7
- Communications Server for OS/2 Warp
- Communications Server for NT
- NetWare for SAA
- NetWare for SAA: AS/400 Edition
- Wireless Gateway
- Web Express Server
- Emulator Express Server



## Clients

- Personal Communications AS/400 and 3270 ( for OS/2, Win 3.1, Win 95, Win NT)
- Personal Communications AS/400 (for OS/2, Win 3.1, Win 95, Win NT)
- CS/2 Access Feature for OS/2, Windows 3.1, Windows 95, Windows NT
- Communications Suite
- Host On-Demand
- Wireless Client
- Web Express Client
- Emulator Express Client

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# Industry Leading SNA Support

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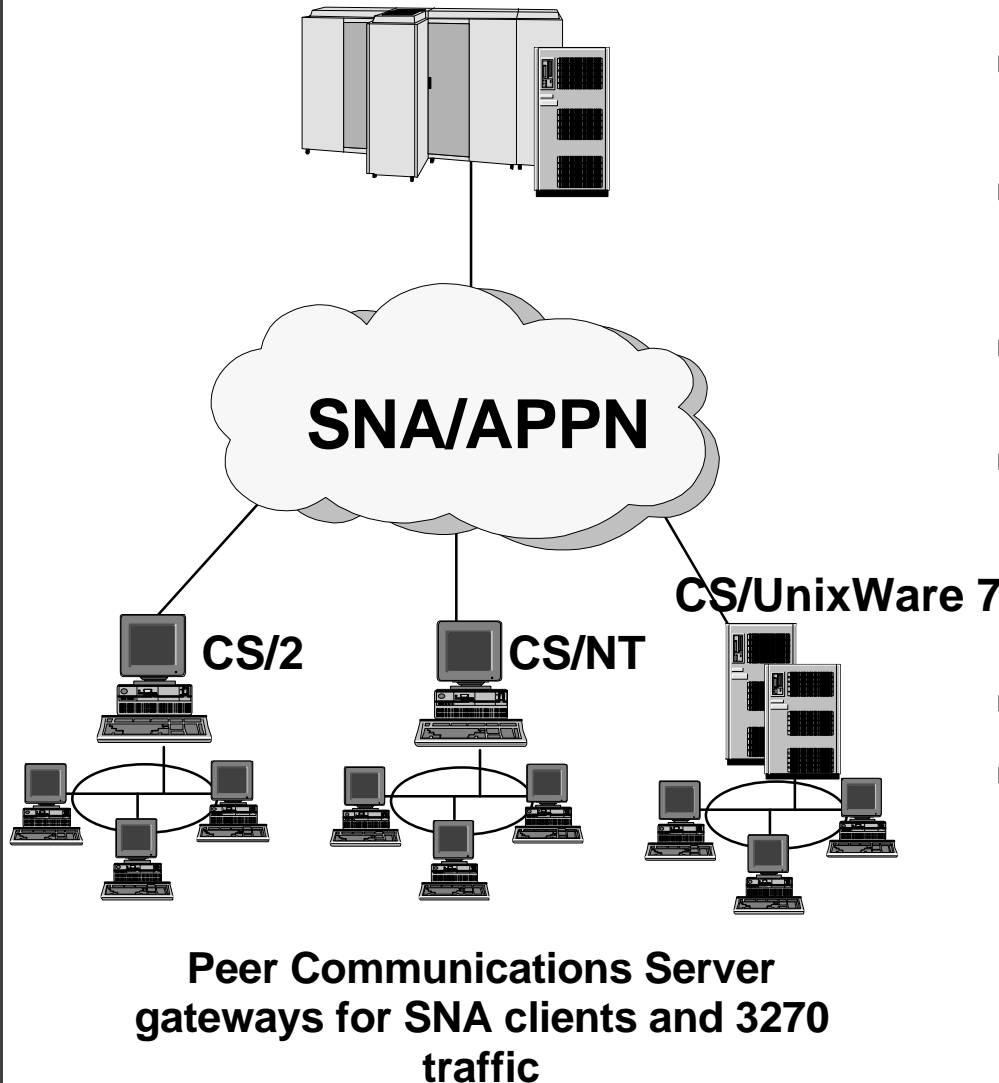
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# Communications Server for UnixWare 7 SNA Function



S/390 or AS/400



- **Industrial strength server with premium SNA, APPN, HPR functions**
- **SNA Gateway**
  - Full peer to other Communications Servers
  - PU Concentrator for downstream SNA devices
- **APPC Application Suite**
  - APING, AFTP, ATELL, ACOPI, ANAME
- **APIs**
  - LUA RUI, CPI-C, APPC, Common Service Verbs, Management Services, Node Operator Facility (NOF), Host Access Class Library, SNA API Client
- **Hot-backup across host links**
- **Wide range of connectivity**
  - 802.2 for LAN (Ethernet, Token Ring, FDDI)
  - SDLC
  - X.25
  - Frame Relay

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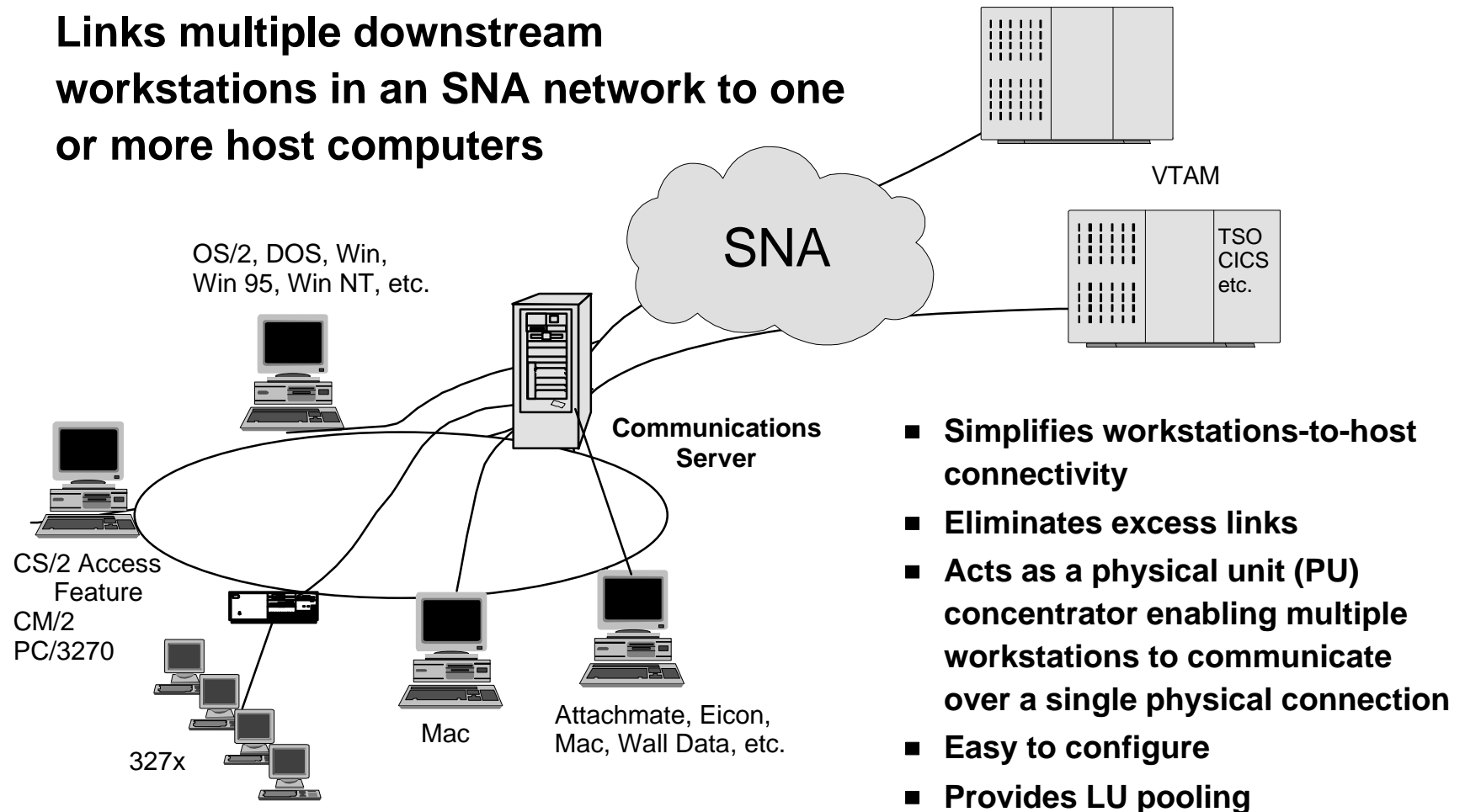
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# SNA Gateway



**Links multiple downstream workstations in an SNA network to one or more host computers**

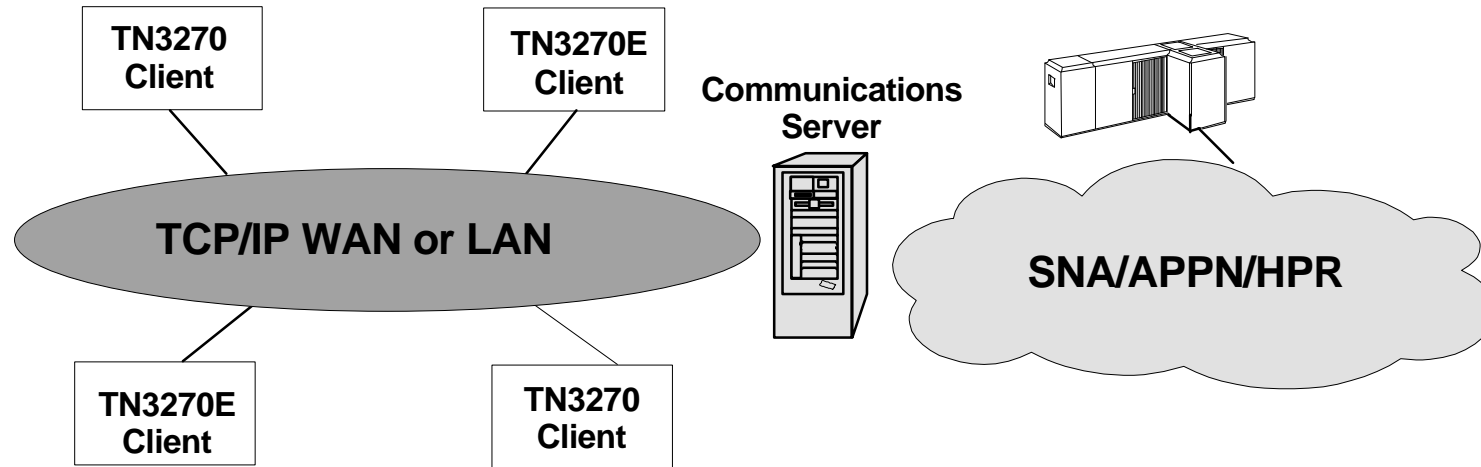


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# TN3270E Server



## ■ Easy access from IP clients to 3270 applications and print services

- IP is not required on host
- SNA is not required on workstations
- HPR-capable from gateway to host with non-disruptive sessions, when using DLUR

## ■ Can be placed in remote branches or located next to host

## ■ Supports traditional TN3270, RFC1646, RFC1647, RFC2355

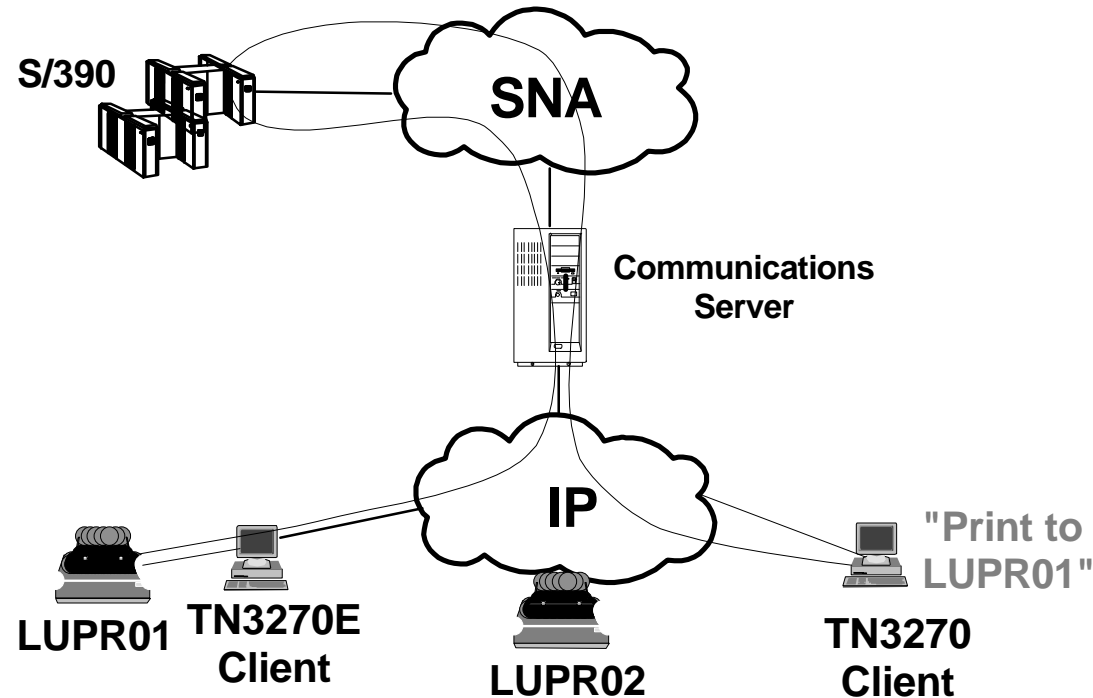
- LU1, LU2, and LU3 devices
- Print services
- ATTN, SYSREQ keys
- SNA response handling

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# TN3270E Printer Support



- ▶ Host print support on locally attached or network addressable printers (LU1/LU3 device emulation)
  - TN3270E client required, serves as print queue
- ▶ Specific LU request support

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# SNA API Client/Server (Split-Stack)



## ■ Allows TCP/IP-attached clients to access SNA APIs without requiring SNA on the client

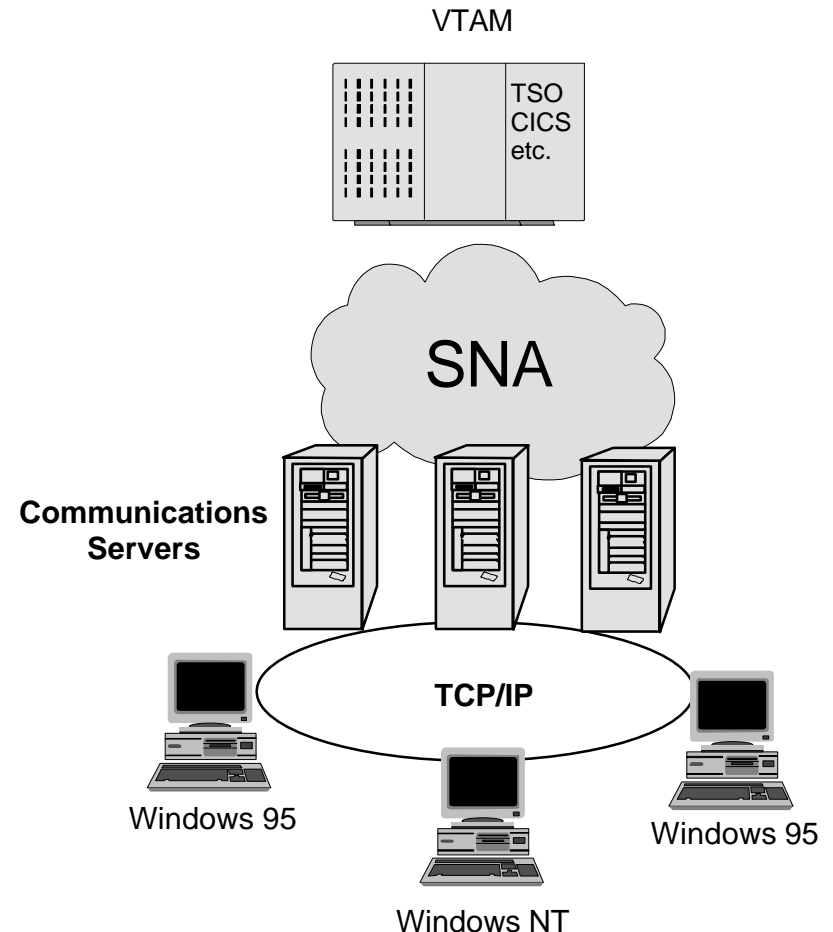
- SNA protocols do not flow between the client and the server
- Most SNA configuration takes place at the server
- Reduces the hard disk and processor requirements of the client

## ■ Master configuration server holds all domain-wide configuration information

- LU Pools
- CPI-C side information profiles
- Any server can administer another server in its domain
- Emulator user records
  - ▶ used to define which LUs (and LU Pools) can be used by which emulator user
  - ▶ users defined by User Name, Group, or Default
  - ▶ user can connect to any server in the domain and be presented with the same list of available LUs

## ■ Supports Windows 95 and Windows NT Clients

- Any application written to the Microsoft WOSA APIs
  - ▶ Windows APPC
  - ▶ Windows CPI-C
  - ▶ Windows LUA
  - ▶ Windows CSV
  - ▶ 3270 Emulator Interface Specification (FMI)



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# SNA API Client/Server Hot Backup

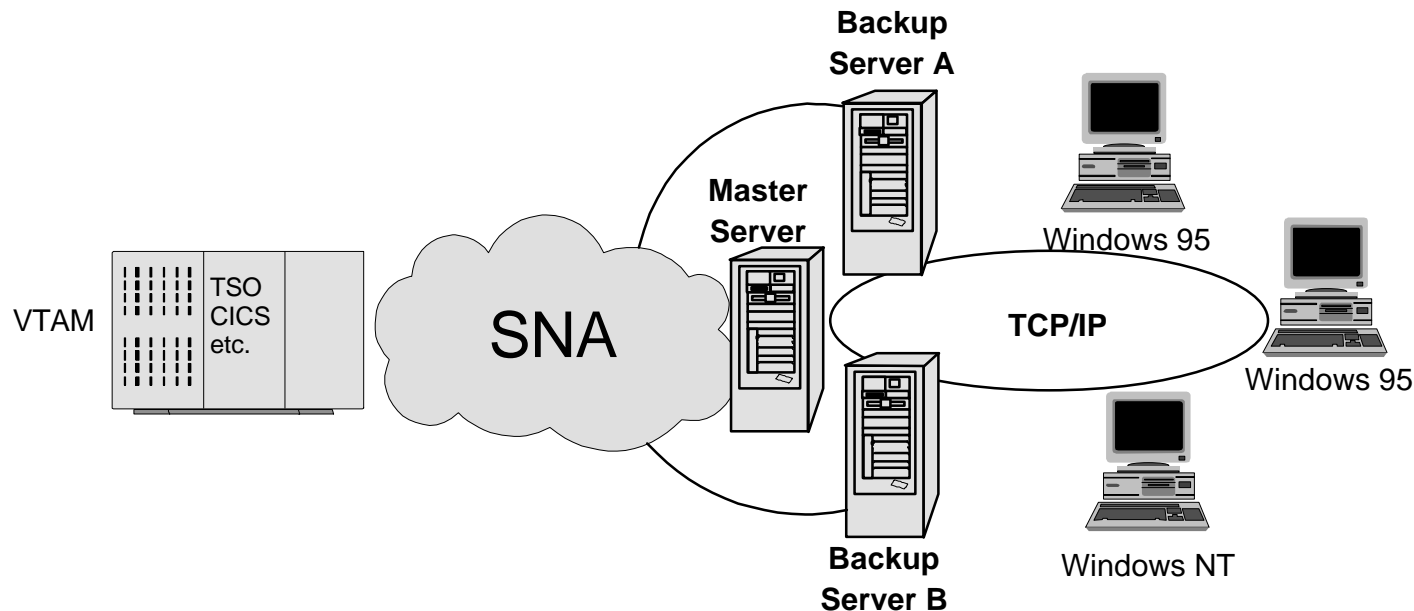


## ■ Servers

- One or more backup servers can be defined in a domain
- Master configuration server sends Master Configuration File to all servers in a domain when any changes are made
- If master server fails, then one of the backups will take over its role of maintaining the master domain configuration file (and send updates to all other servers in the domain)
- When master is restarted, it contacts the currently running master and updates its domain configuration file, and then takes over the role as master in the domain

## ■ Clients

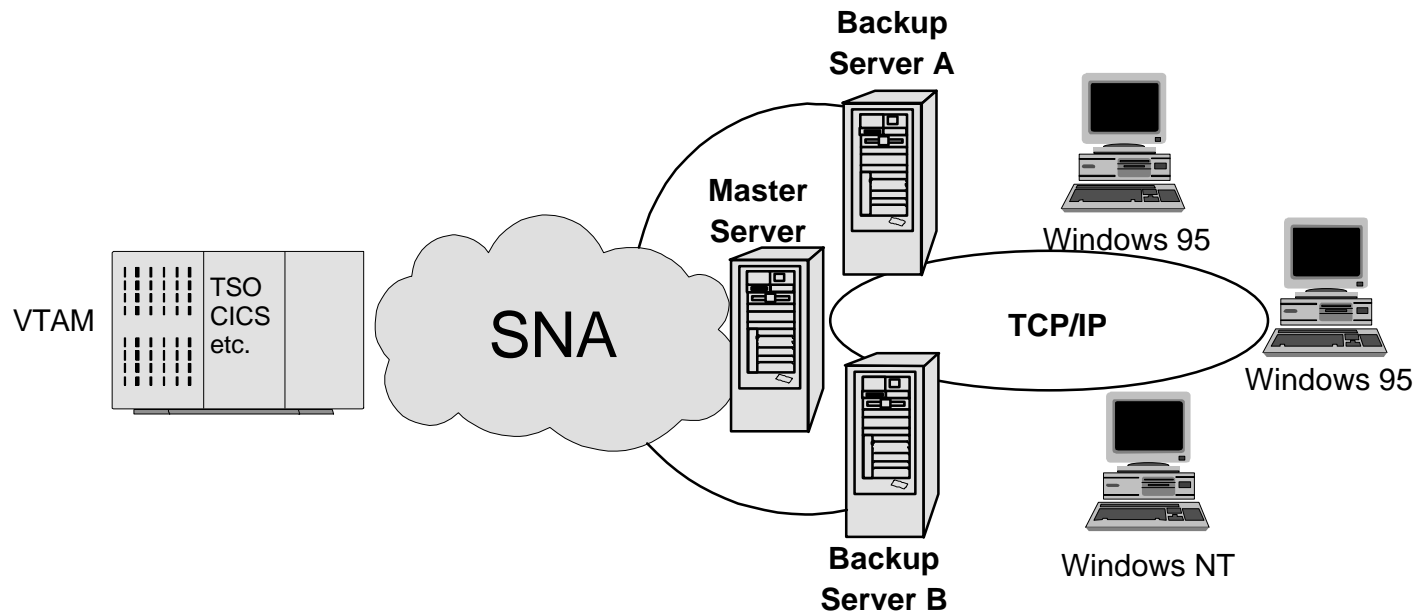
- If client is configured to connect to a list of servers (or any server) in a domain, then if its connection fails because the server fails, it will reconnect through another server in the domain
- User session will be ended and a new logon screen will be displayed



# SNA API Client/Server Load Sharing



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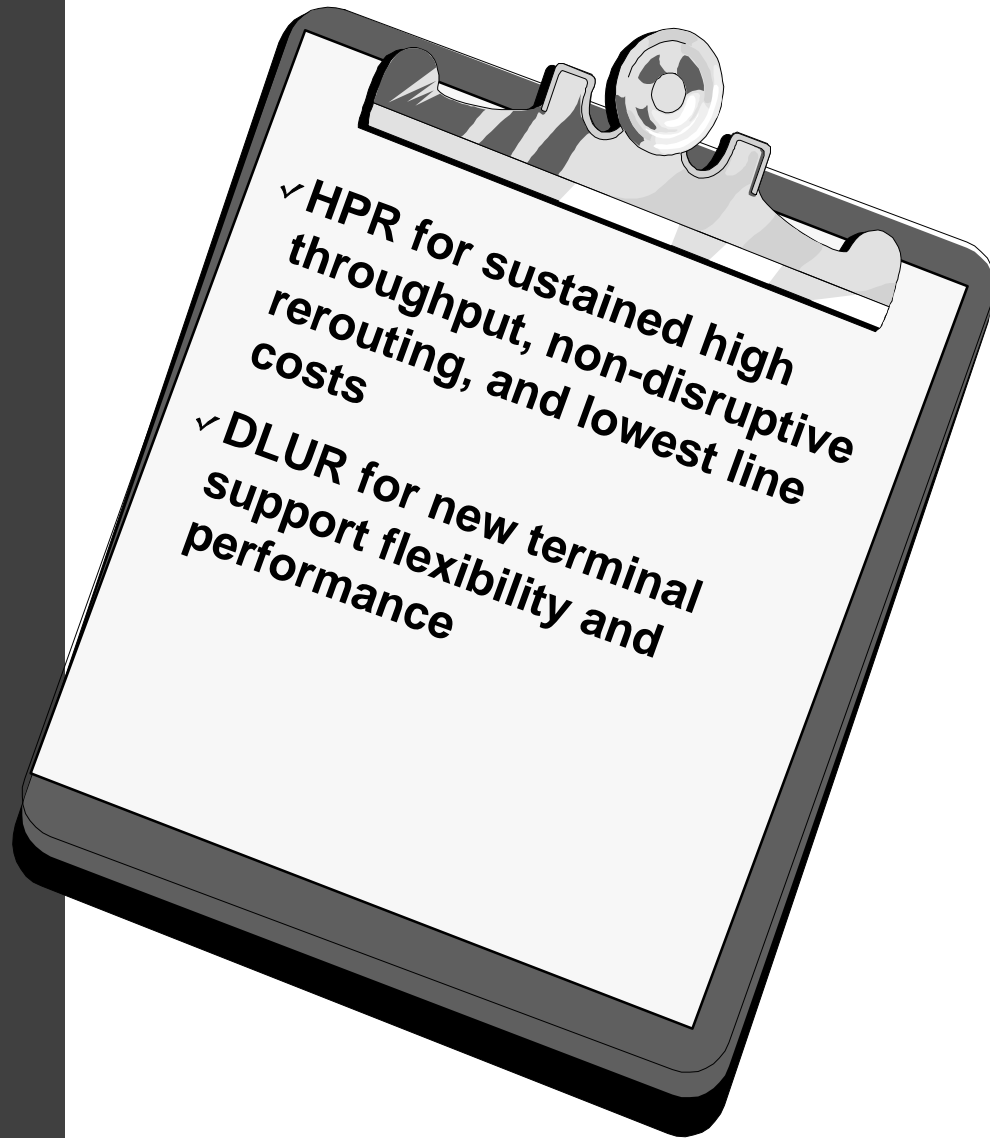




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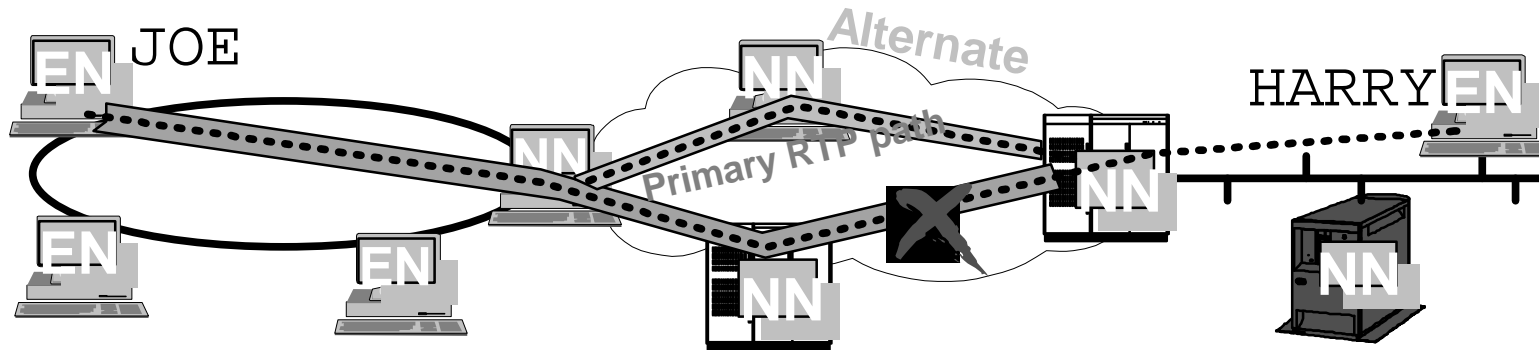
# Built on Advanced Technologies



- Provides higher reliability and
- operations



# High-Performance Routing



## HPR Advantages

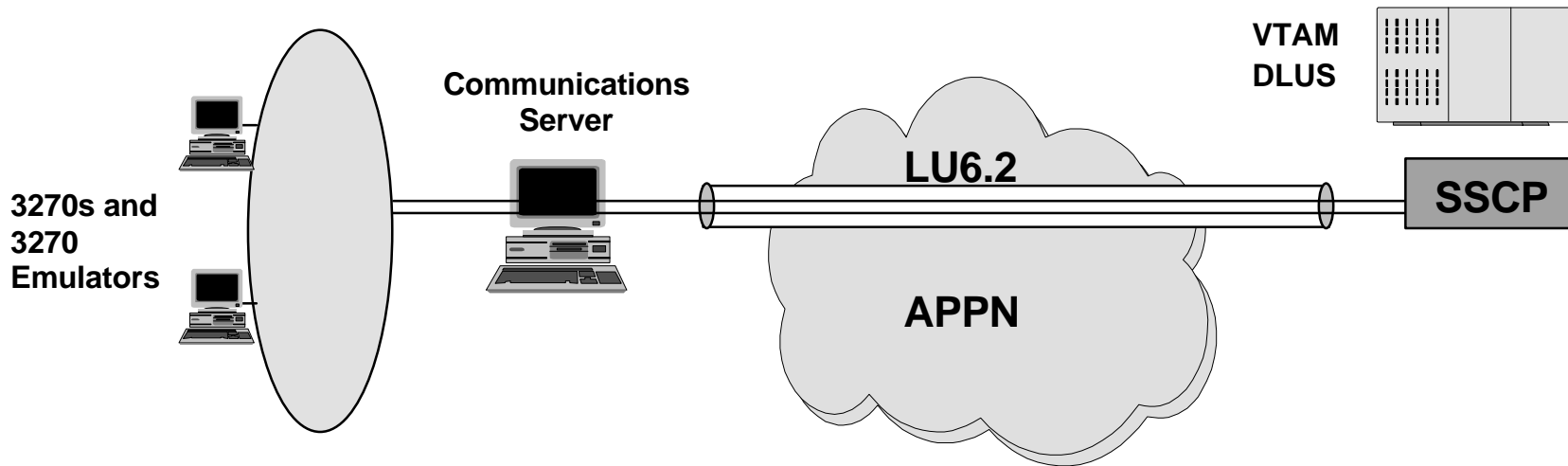
- ★ Better performance with Rapid Transport Protocol (RTP)  
End-to-end error checking only
- ★ Lower overhead with Automatic Network Routing (ANR)  
Source routing reduces storage and increases speed
- ★ Non-disruptive session rerouting around failures  
New RTP path recalculated in case of interruption
- ★ Full APPN (pre-HPR) compatibility

"HPR is the most efficient and highest level of the protocol stacks..."

Frank Dzubeck, LAN Times,  
March 1996

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- DLUR, in conjunction with VTAM's dependent LU server (DLUS) function, enables dependent LU applications (LU0-3, and dependent LU6.2) to operate unchanged in an APPN network
- DLUR establishes LU6.2 sessions with, and receives SSCP services from, the DLUS node.
- SNA Gateway provides services to the downstream dependent LUs.
- Protects investment in 3270s (real and emulators) and other dependent LU applications while migrating new applications to LU6.2 and APPN

# Application Programming Interfaces (APIs)



**CS/UnixWare includes the following application programming interfaces (APIs):**

- ▶
  - Supports LU0, 1, 2, 3
- ▶ **SNA API Client supports the following APIs as defined by Microsoft as part of the Windows Open Systems Architecture (WOSA):**
  - Windows APPC
  - Windows CPI-C
  - Windows LUA
  - Windows CSV
  - 3270 Emulator Interface Specification (FMI)
- ▶ **Node Operator Facility (NOF) API can be used to write applications that administer CS/AIX configuration and management resources.**
- ▶ **APPC API**
- ▶ **CPI-C API 2.0+ level**
- ▶ **Common Service Verb API provides utility verbs that enable you to perform functions such as character set conversion and trace file control.**
- ▶ **Management Services API supports network messaging functions.**
- ▶ **The eNetwork Host Access Class Library (Host Access API)**

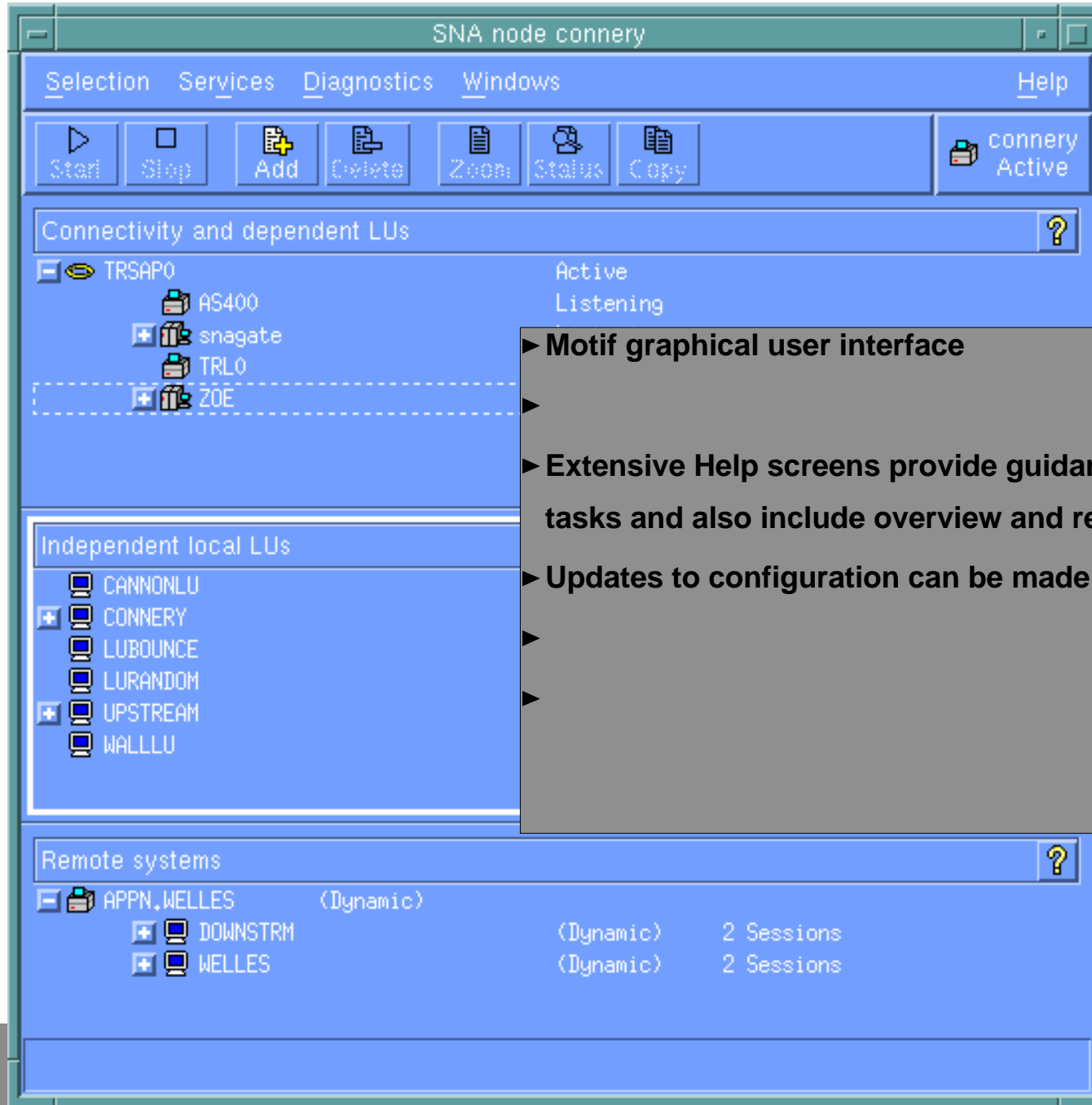
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# Easy to Use Administration Tool



- ▶ Motif graphical user interface
- ▶ Extensive Help screens provide guidance to perform specific tasks and also include overview and reference information
- ▶ Updates to configuration can be made while node is active

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# Summary



## ► eNetwork Communications Server for UnixWare 7 is the solution for companies who want to:

- Provide enterprise host access to SNA and TCP/IP users
- Take advantage of advanced SNA networking capabilities to maximize performance and reliability
- Support both hierarchical subarea and peer-to-peer networking environments
- Provide an enterprise-class TN3270E Server solution to support intranet and extranet users
- Enable Win95 and Windows NT TCP/IP clients access to SNA applications
- .... in the UnixWare 7 environment

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# Where to go for Additional Information



## ■ Collaterals

- Communications Server for UnixWare 7 spec sheet (G325-3572)
- 10 Reasons to Buy Communications Server for UnixWare 7 (web page)

## ■ World Wide Web

- Check out our home page at <http://www.software.ibm.com/enetwork/commserver/>
  - News
  - About - Overviews and descriptions
  - Support - fixes, tips, news groups, support options, services
  - Library - brochures, white papers, product documentation
  - Downloads - trial code, betas, demos, and tools

## ■ Software Marketing Information (SMI) database

- available on web at: <http://swpi.boulder.ibm.com/>
- Lotus notes: Software Marketing Information on swgint1/boulderswg

## ■ MKTTOOLS

- CSUW7MKT PACKAGE - marketing materials for CS/UnixWare

## ■ Networking Software Opportunity Center (NSOC)

- eNetwork Software pre-sales support and assistance for IBM sales specialists
- Send requests to NSOC at IBMUS

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