

Access your critical enterprise data from UnixWare 7 systems



IBM eNetwork Communications Server for UnixWare 7

Highlights

Provides a reliable, high-performance gateway server for SNA and TCP/IP clients

Provides an integrated TN3270E server, including host printing

Provides a cost-effective solution: suitable for enterprise networks of any size

Improves network reliability and performance with High-Performance Routing (HPR), load-sharing, and hot standby

Allows dependent LUs to take advantage of APPN networks

Includes a broad range of APIs, such as CPI-C, APPC, LUA, node operator facility (NOF), and Host Access Class Library, providing easier application development

Provides simplified configuration and management through an easy-to-use graphical user interface

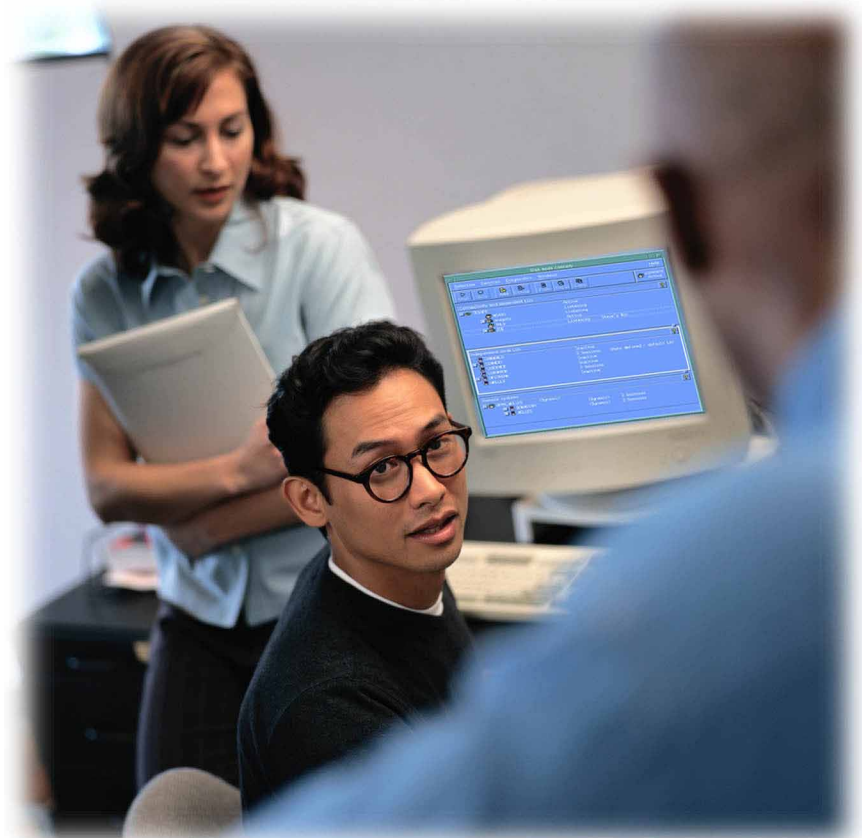
Based on the popular eNetwork Communications Server for AIX

Step up to host integration

Today, information gathering and distribution strategies are transforming businesses. Simply by enhancing and applying information that was previously overlooked, enterprises are finding innovative ways to bring customers and products together. In the past, the best product brought with it a competitive advantage. Now, the name of the game is

to build a better path to customers and business partners. That path begins and ends with the computer network.

Corporate computing systems house valuable business information. A company's ability to make use of that information resource directly affects its ability to compete. Responsiveness to customers, suppliers, and vendors; the



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ability to control costs without limiting productivity; the opportunity to identify new markets and reach them quickly – these are the mission-critical endeavors that require the right information.

To outshine the competition, you must provide quick and seamless access to central information. Web-based access to host computers rich in data is just one step toward combining business computing with network computing. Building intranets and extranets – and also using the public Internet for select applications – is the logical next step toward moving your enterprise well ahead of rivals.

IBM® eNetwork® Communications Server for UnixWare 7 (Communications Server) supports Internet and intranet solutions that allow your company to implement the latest network computing advances. Its core function is to offer access to SNA applications on enterprise host systems, both for traditional SNA clients and TCP/IP users, but Communications Server

delivers much more. Communications Server interconnects people and applications, even over diverse platforms and network configurations. Communications Server brings you the reliability, open standards performance, scalability, and security you expect from IBM while helping deliver you to the brave new world of host integration.

TN3270E solution

Communications Server addresses the explosive growth in TN3270 networks by providing an integrated TN3270E server. This function provides access to SNA networks for a wide range of TCP/IP clients. Communications Server works as a Telnet server, providing SNA network access to client applications running anywhere in your TCP/IP network. The TN3270E server supports any TN3270- or TN3270E-compliant client and enables users to print from 3270 applications to locally attached printers or network printers residing anywhere in the TCP/IP network.

TN3270E server supports IP and hostname filtering to allow controlled access to LUs without modifying client configurations.

Internet solution

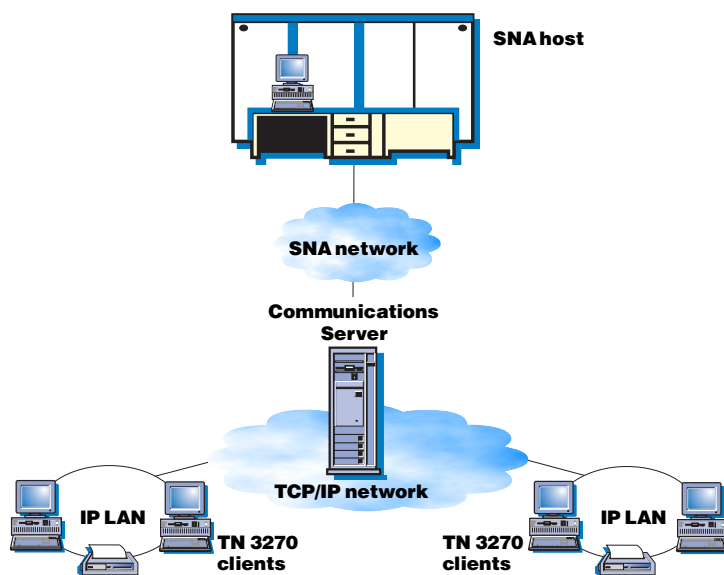
As part of IBM's industry-leading network computing strategy, Communications Server is compatible with Host On-Demand, providing critical enterprise host access through its TN3270E server. Host On-Demand is a 100 percent-pure Java™ emulator that allows a Java-enabled Web browser fast and easy intranet or Internet access to 3270-based applications and data. Host On-Demand supports a variety of server and client platforms and eliminates the need to install emulator software on every client workstation.

Enterprise-class functionality

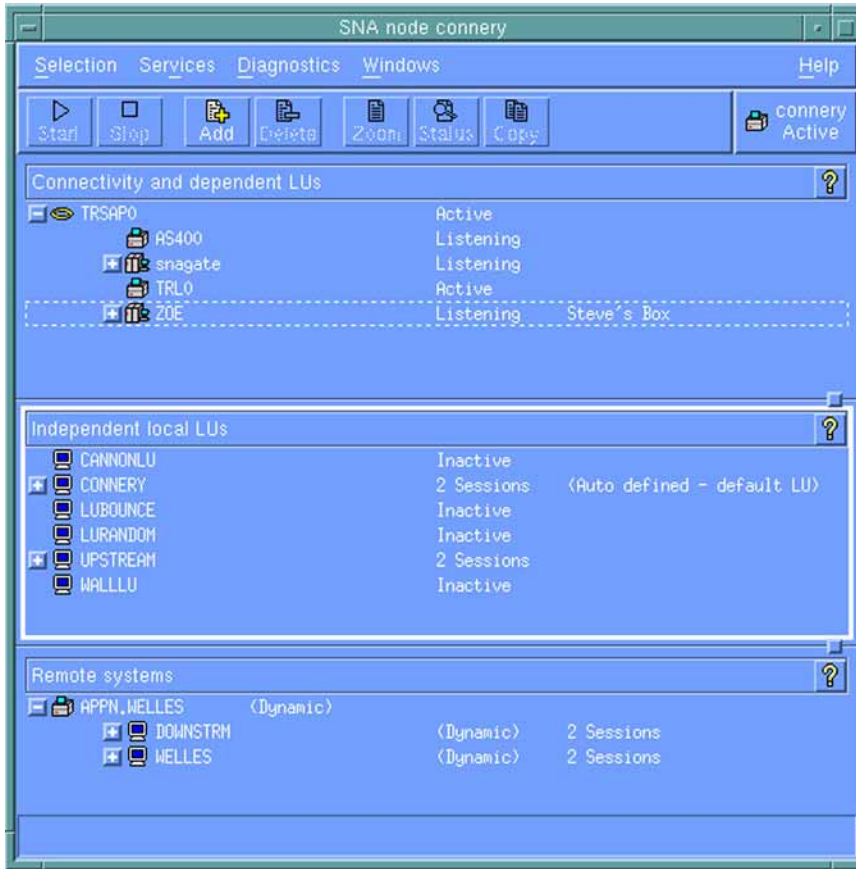
Communications Server supports SNA connectivity in traditional hierarchical subarea networks and in peer-to-peer environments. In subarea networks, you can use Communications Server to enhance connectivity and simplify configuration.

In a peer-to-peer environment, Communications Server manages connectivity using the Advanced Peer-to-Peer Networking® (APPN®) protocol. APPN lowers your network administration and maintenance costs by using dynamic and simplified configuration. Because Communications Server supports dependent logical unit requester (DLUR), dependent LUs and 3270 applications can also benefit from APPN networking.

The full-function network node establishes a highly robust, low-maintenance networking backbone with improved bandwidth usage and greater reliability, scalability, and performance. The



The TN3270E servers function of Communications Server provides host access to TCP/IP users running any standard TN3270 or TN3270E emulator.



From the Node window, you can configure and manage all of the resources and components for the Communications Server node.

powerful Motif administrative tool provides an easy-to-use graphical user interface (GUI), which simplifies the configuration and administration of the system. Bandwidth is maximized through dynamic logical unit (LU) session routing and more powerful application programming features.

Network reliability and performance are also improved by High-Performance Routing (HPR). The protocol provides the ability to reroute traffic nondisruptively around network failures and congestion.

Complete connectivity

Communications Server connects networks over wide area networks (WANs) using Synchronous Data Link Control (SDLC), frame-relay, or X.25. Communications Server also connects networks over local area networks (LANs) using token ring, Ethernet, or Fiber Distributed Data Interface (FDDI).

You can use Communications Server to connect multiple physical units (PUs) across a single physical adapter for token ring, Ethernet, X.25, SDLC, and FDDI. Support for multiple PUs extends the number of supported LUs per adapter port available for all link types. This allows you to connect one or more centralized computers across the same adapter.

Multiple PU support helps save you money by reducing the number of adapters required and costly links needed in your network.

SNA gateway support

The SNA gateway function of Communications Server allows many SNA clients to access multiple centralized computers, both S/390® and AS/400®, through one or more physical connections. It also gives clients dynamic access to backup computers that can share the workload and improve resource availability. SNA

gateway lets you preset and manage sessions, automatically logging off unattended workstations to free up access for other users.

The SNA gateway function of IBM Communications Server for UnixWare 7 supports the SNA protocols LU0, 1, 2, 3, and dependent LU 6.2 advanced program-to-program communication (APPC). The LUs defined in the gateway can be dedicated to a particular workstation or pooled among multiple workstations. Pooling allows workstations to share common LUs, which increases the efficiency of the LUs and reduces the configuration and startup requirements at the central computer.

SNA API client/server solution

Communications Server SNA application programming interface (API) client support allows TCP/IP-attached clients to access SNA APIs without requiring SNA protocols to flow between the clients and the server. This allows most SNA configuration to take place at the central server, helping you to reduce hard-disk, memory, and processor demands on your clients. And your system administrator saves time – there's no need to configure SNA on every client. Also, the administration tools make transparent administration of all domain resources possible from any computer in the domain.

Multiple servers can provide redundant connectivity (for example, by having multiple servers giving access to the same host). Having multiple paths to an SNA resource promotes load-sharing across different servers and provides immediate backup if a particular server or link fails.

Communications Server supports SNA API clients on Windows 95 and Windows NT®. The SNA API clients expose the following APIs that are 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

This support allows applications written to use other products that provide these APIs (such as Microsoft SNA Server) to run unmodified on Communications Server clients and to use the services of Communications Server.

Power programming

Communications Server supports a wide range of 32-bit APIs on the server for the application program developer. These APIs allow application programs to access Communications Server functions and allow applications to address the communication needs of connections to IBM and other computers. In addition, the APIs support SNA protocols for standardization. The APIs supported include:

- CPI-C and APPC APIs, supporting both dependent and independent LU 6.2
- Conventional LU Application Interface (LUA) RUI, supporting dependent LU types 0, 1, 2, 3
- Host Access Class Library
- Node operator facility (NOF)
- SNA management services
- Common services

The IBM eNetwork Host Access Class Library is a new Java application programming interface. It gives you the ability to develop your own 3270, 5250, or VT Java applications. Host Access Class Library for Java provides a core set of classes and methods for developing platform-independent applications that can access host information at the data-stream level.

Communications Server also provides the APPC Application Suite, a set of applications that demonstrates the distributed processing capabilities of APPN networks, including AFTP, APING, AEXEC, ATELL, ACOPY, and ANAME.

Communications Server provides a Software Developers Kit (SDK) for the Windows client, which can be optionally installed with the client. The SDK contains library files and header files for developing applications using the client/server support of Communications Server. The documentation for the client-server API is included with the server documentation.

Easy-to-use administration tool

Communications Server includes GUI-based administrative tools that help you configure, view, and manage SNA resources. Help screens provide guidance for specific tasks and also present overview and reference information. Administrators can make dynamic configuration updates while the SNA node is active. Up-to-date status is displayed, and resources can be activated and deactivated through this easy-to-use interface.

High performance

Communications Server exploits the parallel processing capabilities of the symmetrical multiprocessing systems (SMP), significantly improving performance over non-SMP systems.

Using the efficiency of APPN and HPR with the robust, powerful UnixWare 7 platform, Communications Server reliably delivers peak performance from your network.

High availability, reliability

Communications Server includes several functions that allow you to provide the highest system reliability and availability in the market. For example, through the use of LU pools, Communications Server can balance the load over multiple links while ensuring connectivity if a link fails.

Communications Server performs load-sharing for the Communications Server SNA API and 3270 and 5250 emulators that connect over TCP/IP protocols. The load-sharing capabilities of Communications Server automatically spread incoming traffic across multiple servers in a domain to preserve availability and consistent performance. High-Perfor-

mance Routing provides automatic rerouting around network outages or congestion without disrupting a user's session, increasing availability and productivity.

Problem determination

When problems occur, you can find and fix them quickly, using a range of diagnostic tools and resources. These vary from low overhead logs of critical events, such as link failures, to detailed, interpreted traces of actual SNA flows.

Systems management

In addition to the administrative tool, support is also provided through the command line facility and program access with a full-function node operator facility (NOF) API.

Communications Server includes a remote command facility (RCF) that operates in conjunction with the Tivoli® NetView® program at the host to allow a NetView operator to issue commands to the UnixWare computer.

Communications Server supports simple network management protocol (SNMP) requests for APPN management information from any SNMP management system.

Emulator functions

Communications Server includes a single-user, 30-day license for a TPS/3270 (SNA) for UnixWare from TPS Systems, Inc. This product is a full-featured 3270 terminal and printer emulator and can be helpful in installation and initial system administration. If you would like to purchase a permanent license call your IBM representative or authorized business partner.

IBM Communications Server for UnixWare 7 features and benefits

Feature	Benefit
TN3270E server	<ul style="list-style-type: none">• Allows TCP/IP users (including Host On-Demand) easy access to IBM 3270 applications and print services through TN3270E server
Advanced Peer-to-Peer ing (APPN)	<ul style="list-style-type: none">• Brings APPN network node and end node support and the benefits of peer networking – including Network-simplified configuration, better availability, dynamic routing, and easier maintenance• Allows 3270 applications to flow over APPN networks with dependent LU requester (DLUR) enabling
High-Performance Routing (HPR)	<ul style="list-style-type: none">• Increases data routing performance and reliability• Offers automatic, nondisruptive rerouting around network outages and congestion
SNA gateway support	<ul style="list-style-type: none">• Allows many SNA clients to access multiple central computers, both S/390 and AS/400, through one or more physical connections, reducing adapter and line costs• Allows you to preset and manage sessions, automatically logging off unattended workstations to free up access for other users• Offers LUs dedicated to a particular workstation or pooled among multiple workstations; pooling allows workstations to share common LUs, which increases the efficiency of the LUs and reduces configuration and startup requirements at the central computer
SNA API client/server	<ul style="list-style-type: none">• Reduces load on clients, improves client performance, and minimizes storage requirements• Provides redundant connectivity, load-sharing across multiple servers, and provides immediate backup if a particular server or link fails• Allows the administrator to easily add and configure servers and users through LU pools• Enables transparent administration of all domain resources from any computer in the domain
Application programming support	<ul style="list-style-type: none">• Provides an excellent platform for programming and application integration• Provides LUA request unit interface (RUI) API, supporting dependent LU types 0, 1, 2, 3• Provides CPI-C and APPC APIs, supporting both dependent and independent LU 6.2. This commonly used interface makes it easier to develop cross-platform applications• Provides node operator facility (NOF) API, which allows applications to perform system administration tasks• Provides SNA Management Services API, which enables Management Services (MS) entry point• Includes APPC Application Suite, a set of applications that demonstrates the distributed processing capabilities of APPN networks, including AFTP, APING, AEXEC, ATELL, ACOPI, and ANAME• Includes eNetwork Host Access Class Library that provides a core set of classes and methods, allowing the development of platform-independent applications to access host information
Advanced program-to-program communication (APPC)	<ul style="list-style-type: none">• Delivers distributed processing capabilities by enabling different network nodes to share resources and tasks• Provides for peer-to-peer interaction and communication among various IBM and non-IBM systems• Supports multiple logical units and multiple concurrent links• Includes persistent verification to improve security
Common Programming Interface for Communications (CPI-C)	<ul style="list-style-type: none">• Permits smooth movement of applications from one system platform to another (for example, from a Microsoft SNA server platform to a UnixWare 7 platform)• Supports CPI-C, Release 2
Configuration, installation, and administration	<ul style="list-style-type: none">• Install Communications Server using the SCO Admin Application Installer• Install Windows client using InstallShield• Includes an easy-to-use GUI for configuration and administration, enabling dynamic system updates
Problem determination and systems management	<ul style="list-style-type: none">• Offers quick access to integrated problem determination functions• Allows problem determination and systems management functions to be performed under program control through the use of the NOF API• Facilitates management of remote servers; local operators need not be present

IBM eNetwork Communications Server for UnixWare 7 at a glance

- Hardware requirements**
- Intel Pentium® processor, minimum 100 MHz (may vary depending on network environment)
 - Appropriate communication adapters, cables, and device drivers

- Media**
- CD-ROM

- Software requirements**
- SCO UnixWare 7
 - TriTeal Enterprise Desktop (CDE) required to install the GUI administrative tool
 - Windows NT or Windows 95 is required to run the SNA API Client

- Memory requirements**
- 32 MB of real memory

- Hard drive requirements**
- Minimum of 23 MB of available hard disk space
 - Additional 2 MB minimum (temporary) of available hard disk space is required for installation
 - Additional 10 MB of available hard disk space required for softcopy documentation
 - Additional 2.5 MB of available hard disk space for each language

- Supported communication services and protocols**
- IBM Token-Ring Network
 - Ethernet (standard or IEEE 802.3)
 - Fiber Distributed Data Interface (FDDI)
 - Synchronous Data Link Control (SDLC)
 - EIA-232D
 - Smart modem
 - X.21
 - V.25 bis
 - V.35
 - Frame relay (using an emulated token-ring interface)
 - X.25

For more information

To learn more about Communications Server products, contact your IBM representative or IBM business partner. Or visit our World Wide Web home page at <http://www.software.ibm.com/enetwork>.



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1998

IBM Corporation
Research Triangle Park, NC
USA

Printed in the United States of America
6-98

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G325-3827-00