Communications Server for Windows NT

Highlights

Lets you make application decisions based on business needs, not network protocols

Provides a powerful gateway server for SNA and TCP/IP clients

Provides access to any TCP/IP, network computing, or SNA application

Improves network reliability and performance with High-Performance Routing (HPR)

Allows dependent LUs to take advantage of APPN networks

Supports direct S/390 channel and ESCON attachment, enabling offloading of critical applications, such as database and transaction processing

Provides a cost-effective scalable solution from small to large enterprise networks

Provides easy 3270 SNA application access from any Java-enabled Web browser

Enables remote, integrated cross-server administration capability through the Web

Increased collaboration with network computing

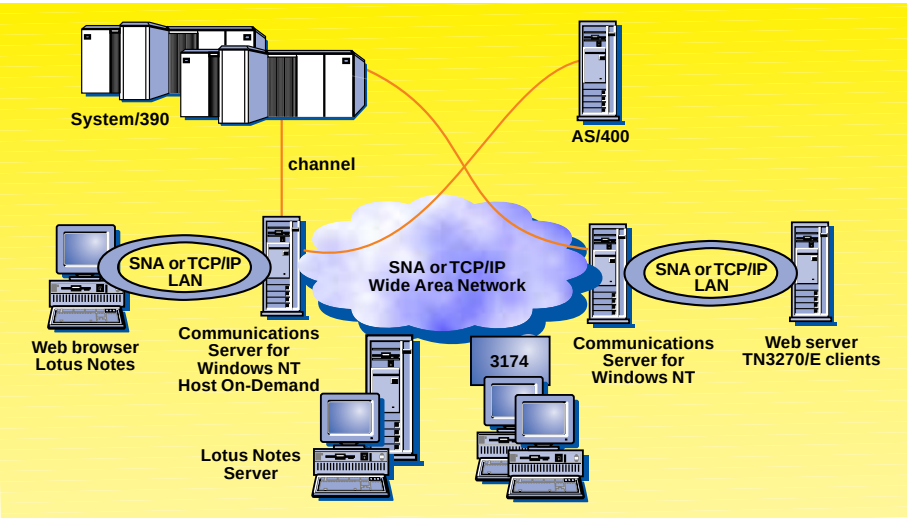
Internet, intranet, open standards, online commerce—you've heard it all. But what does it really mean to your business?

- Change. New developments in Internet communication have your customers clamoring for online services.
- Collaboration. Your staff must collaborate easily within your business and with vendors to reduce your time to market.
- Competition. Your sales force needs the latest information on demand so that they can seize client opportunities before your competition does.
- Cost. You need to integrate diverse networks, but also keep costs down.

Is all this really possible? Yes.

IBM Communications Server offers Internet and intranet solutions that allow your company to implement the latest network computing advances like electronic commerce, information access, and collaboration. Communications Server interconnects people and applications, even over diverse platforms and network configurations. Now, you can choose applications based on business needs, not network protocols.

Communications Server for Windows NT, part of the IBM Software Servers line, brings you the reliability, open standards, scalability, and security you've come to expect from IBM. IBM Software Servers provide you with the most comprehensive line of modular application servers in the industry. Sharpen your competitive edge, and leverage your current network investment with Communications Server for Windows NT.



With your existing SNA network and the Sockets over SNA capability of Communications Server for Windows NT, you can access other Sockets applications, such as Lotus Notes, or even connect to the Web.

Welcome to network integration
Is your corporate network really a network? Do your users have access to applications, data, and people—regardless of where they reside? Probably not. Various local area networks (LANs), mergers, consolidations, and changes to organizational structure have resulted in diversified networks—creating chaos. Do the demands of adding more people and more applications to your network also have you wondering about availability? If you can't access the application, when you need it, how can you remain competitive? You need a true network.

Communications Server integrates a variety of LANs and wide area networks (WANs) so you can add new applications without updating your network, disrupting your current network, or constructing parallel networks. You can focus on critical business issues, without being impeded by network design or application dependencies.

The Communications Server meets the challenge of today's diverse network computing environment—intranet and Internet access, and collaborative computing. You can now connect people to the information they need, when they need it.

Multiprotocol solutions
Communications Server offers several solutions for your diverse environment. IBM AnyNet technology, based on multiprotocol transport networking (MPTN) architecture, an open industry standard, is designed to expand business solutions by allowing new applications to run on your existing network, unconstrained by network protocol. This means you can add applications designed to run over different protocols—without modifying applications or changing hardware.

For example, Sockets applications, such as File Transfer Protocol (FTP), Telnet, Simple Network Management Protocol (SNMP), Lotus Notes, Web browsers, SAP R/3, and TME 10 NetFinity can run over existing SNA networks without modifying the application or adding a separate TCP/IP network.

Likewise, with SNA over TCP/IP, you can extend SNA applications to TCP/IP users, without adding a separate SNA network. This allows SNA applications, such as CICS, DATABASE 2 (DB2), emulation or printers to communicate with centralized computers and workstations across a TCP/IP network, without changing the applications.

Through multiprotocol gateways, similar applications can communicate over unlike networks. Users in remote branch offices can communicate over an existing central network. For example, paired gateways allow you to connect two TCP/IP LANs across an SNA network or two SNA LANs across a TCP/IP network.

TN3270E solution
Communications Server provides access to SNA applications for a wide range of TCP/IP clients. It's the software solution best suited to allow easy access to 3270 applications. Communications Server works as a TCP/IP Telnet server, providing SNA network access service to client applications running anywhere in the TCP/IP network. The TN3270E server supports any TN3270- and TN3270E-compliant client. TN3270E enables users to print from 3270 applications to printers attached to their workstations or in their TCP/IP network.

Internet-to-SNA solution
Continuing to advance IBM's strategy of providing leading-edge network computing solutions, Communications Server for Windows NT includes Host On-Demand. Host On-Demand gives you fast and easy access to host SNA-based information from intranets or the Internet. It is a Java-based solution that incorporates industry-standard Telnet 3270 protocols. Host On-Demand provides a high-performance, low-cost solution for intranet and Web users, who need occasional access to their central computer applications or databases. Users on any Java-enabled platform can take advantage of this feature with a simple mouse click. No customer programming or additional hardware is required.

SNA API client solution
The Communications Server SNA API client solution allows TCP/IP-attached clients to access SNA APIs. This solution also gives you the ability to run SNA applications without installing an SNA stack on the client. Because almost all SNA configuration and processing is done on the server, you can reduce DASD, memory, and processor demands on your clients. And your System Administrator saves time by not having to configure SNA on every client.

The SNA API clients provide support for CPI-C, APPC, EHNAPPC, and LUA request unit interface (RUI) API interfaces and are packaged with the Communications Server. Supported clients include OS/2, Windows 3.1, Windows 95, and Windows NT.

IBM Communications Server for Windows NT feature and benefit chart

Feature	*Benefit*
Network integration	• Allows SNA applications over TCP/IP networks, and Sockets applications over SNA networks, to run without any application changes • Allows network consolidation to reduce network complexity and cost, while protecting investments in user applications • Allows TCP/IP users easy access to IBM 3270 applications and print services through TN3270E Server or SNA API clients • Provides Host On-Demand, a low-cost solution for internal and Internet users who need occasional access to central-computer applications or databases
SNA gateway support	• Permits a workstation to function as a gateway, providing central-computer access to multiple large computers on an IBM Token-Ring, Ethernet, Synchronous Data Link Control (SDLC), integrated services digital network (ISDN), X.25, asynchronous transfer mode (ATM) (LAN emulation), Fiber Distributed Data Interface (FDDI), frame-relay network, or channel • Makes it possible to bring large-computer resources to many users, while keeping adapter and line costs down • Supports WAN lines up to 2 Mbps, or higher • Supports LU pooling, allowing desktops to share common LUs and reduce configuration time • Supports IBM and OEM adapters
X.25 protocol	• Permits connection to packet-switched data networks (PSDN) worldwide • Supports AutoDial and AutoAnswer as defined in X.32 • Supports exchange identifier (XID) • Provides for inexpensive long-distance data transmission • Enables both SNA and non-SNA communication to be sent over the same physical link
Application program interfaces (APIs)	• Allows the developer to exploit Windows with 32-bit APIs • Lets application developers utilize any 32-bit language compiler
Advanced program-to-program communication (APPC)	• 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 systems • Supports basic and mapped conversations • Supports multiple logical units and multiple concurrent links • Includes password verification for improved security • Provides full-duplex, which enhances data transmission
Common Programming Interface for Communications (CPI-C)	• Offers the function of APPC in a consistent form across multiple system platforms for CPI-C • Permits smooth movement of applications from one system platform to another • Supports CPI-C, Release 2
Advanced Peer-to-Peer Networking (APPN)	• Brings APPN network node and end node support, with the benefits of peer networking—including simplified configuration, better availability, dynamic routing, and easier maintenance • Offers a way for existing APPC and CPI-C applications to take advantage of peer networks • Allows 3270 applications to flow over APPN networks, with dependent LU requester (DLUR) enablement • Provides network node for intermediate routing services
High-Performance Routing (HPR)	• Increases data routing performance and reliability • Offers nondisruptive routing around network outages
Configuration installation options	• Offers quick configuration tools • Gives you easy-to-use administration functions through the Web • Reduces training time by providing advanced tutorials that help guide configuration • Displays task-oriented scenarios which simplify configuration • Provides remote administration from any Windows NT client
Problem determination and systems management	• Offers quick access to integrated problem-determination functions • Allows many problem-determination functions to be performed under program control • Makes it easy to control and obtain status information on SNA communication resources being maintained by Communications Server • Simplifies Communication Server management and control functions with powerful node operations facility

SNA networking function

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. The full-function APPN network node provides a highly robust, low-maintenance networking backbone that scales easily. APPN lowers your network administration and maintenance costs by utilizing dynamic and simplified configuration, dynamic logical unit (LU) 6.2 session routing, and more powerful application programming features. APPN also provides improved reliability and performance through HPR. With DLUR support, dependent LUs and 3270 applications can benefit from the advantages of APPN networking.

The NT platform combined with the efficiency of APPN and HPR automatic network routing (ANR), integrated with Communications Server consistently and reliably delivers peak performance from your network.

SNA Gateway support

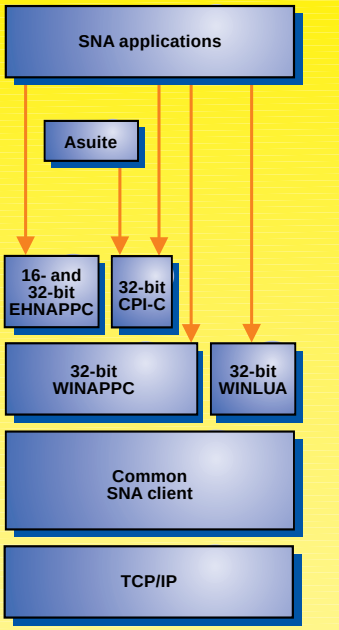
Communications Server provides a full-function SNA gateway. The SNA gateway allows multiple LAN-attached workstations to access multiple hosts, such as System/370 or System/390 through one or more physical connections. This helps reduce the cost per workstation of central-computer connections.

The Communications Server gateway supports the SNA protocols LU 0, 1, 2, 3, and dependent LU 6.2 (APPC).

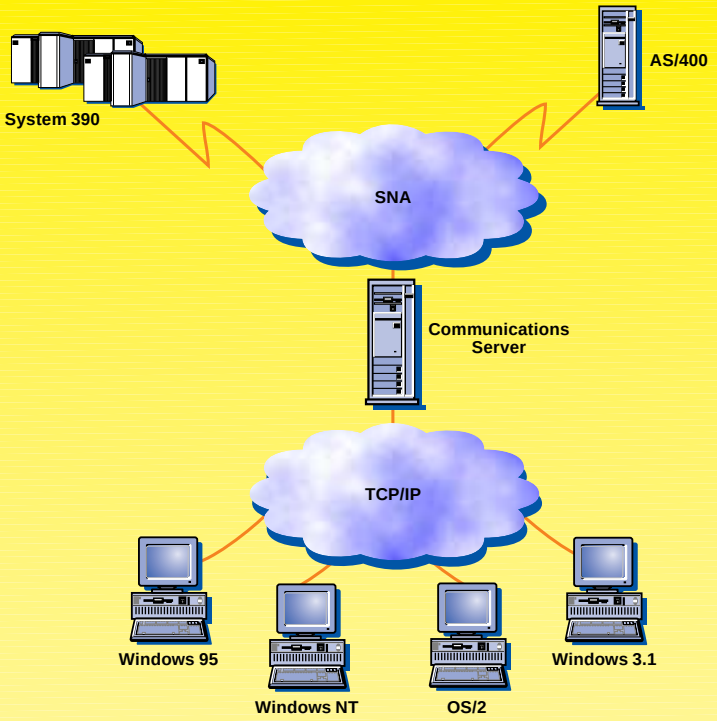
The LUs defined in the gateway can be dedicated to a particular workstation or pooled among multiple workstations. Pooling allows workstations to share common LUs, which increases the efficiency of the LUs and reduces the configuration and startup requirements at the central computer. You can also define multiple LU pools, each pool associated with a specific application. And you can define common pools that are associated with multiple computers. When a link is defined through the gateway between a workstation and the central computer, the LU is activated when the session is established and returned to the pool for access by other workstations when the session is ended.

In addition, an SNA gateway can support the forwarding of network management vector transports (NMVTs) between the workstations and the central computer, which enables enterprise network management.

Each central computer views the SNA gateway as an SNA PU 2.0 node, supporting one or more LUs per workstation. As far as the central computer is concerned, all LUs belong to the SNA gateway PU. The SNA gateway can have



Remote API client architecture



TCP/IP-attached SNA API clients

multiple computer connections simultaneously and can direct different workstation sessions to specific computers.

Complete connectivity

Whether you want to connect networks over a LAN, WAN, or switched and nonswitched lines, Communications Server offers true networking flexibility with its wide range of connectivity services and options.

You can also use Communications Server to connect multiple physical units (PUs) across a single physical adapter. Support for multiple PUs extends the number (previously limited to 254) 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.

Consolidating lines with multiple PU support saves you money by reducing the number of costly links needed in your network and reducing the need for additional adapters.

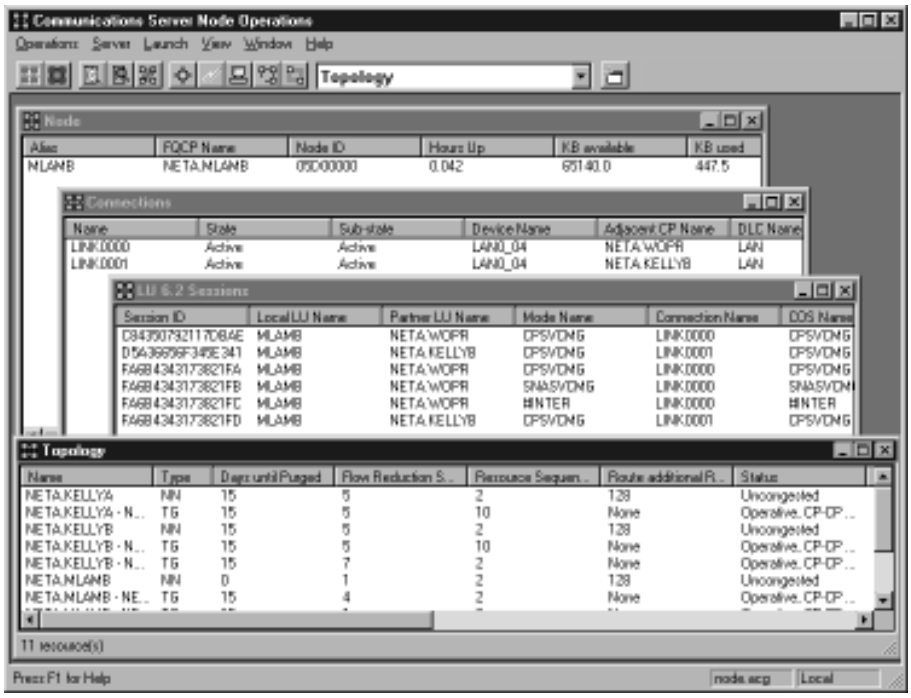
3270 and 5250 Emulation

Communications Server includes an entry-level version of the popular Personal Communications 3270 and 5250 emulator for administrative purposes. This emulator provides basic 3270 and 5250 support, and provides a subset of the features and functions that are in the full-function IBM Personal Communications family of emulators.

Local and remote configuration

Entering configuration data is simple with the configuration graphical user interface (GUI). Local configuration is supported at both the client and server level.

The node operations application allows you to remotely or locally stop, start, and monitor resources in your network. The node operations application is supported from any Windows NT client.



Have you ever wanted to use the Internet for remote system administration? Well, now you can, with the Web administration utility shipped with Communications Server for NT. This Web-based utility can be selectively installed to provide you with remote, integrated server administration capability.

Systems management

You can monitor and manage your SNA networks with several network management tools, including:

- Message logs and error logs. Communications Server writes its message-log and error-log entries to the log files maintained on each workstation. Log files can be retrieved and viewed from a 32-bit Windows client.

- Trace files. Communications Server provides trace tools for problem determination.

- Configuration and management. You can use the node operations application to help manage the resources in your network. Also, the systems management programming capabilities of Communications Server enable you to configure and manage the nodes within your SNA network. To accomplish this, Communications Server provides a subset of systems management verbs that you can use to configure your node and to build sophisticated management programs for your active node.

- Systems management tools. Communications Server provides a variety of tools to assist you in network management. The tools include Node Operations and Trace Services.

  The node operations facility is an online facility for monitoring and controlling communication resources maintained by Communications Server. Users can perform installation, testing, tuning, and special development activities of Communications Services. It also assists in problem determination.

Simplified configuration

The Communications Server provides advanced graphical configuration aids to help you drastically reduce configuration time. You can now configure and use Communications Server based on the task you are trying to accomplish. By selecting the configuration type you want, the program will walk you through the configuration.

Powerful programming support

Communications Server is a sophisticated programming interface that makes it an excellent platform for programming and application integration. Communications Server supports a wide range of 32-bit APIs for the developer. These APIs provide convenient ways for application programmers to access Communications Server functions and allow applications to address the communication needs of connections to both IBM and other computers. In addition, the provided interfaces support SNA protocols so that standardization is ensured.

The APIs supported include:

- APPC
- CPI-C
- Conventional LU Application Interface (LUA) RUI
- WinSock
- Network Operator Facility
- Management Services
- Common Services

On the Windows clients, the EHNAPPC API is also provided.

For more information

To learn more about the Communications Server for Windows NT product line, contact your IBM representative or IBM Business Partner. Or visit our World Wide Web home pages at URL:

http://www.software.ibm.com/is/sw-servers

http://www.networking.ibm.com/csn/csnprod.html

IBM Communications Server for Windows NT at a glance

Hardware requirements	• Intel Pentium machine, minimum 100 MHz (may vary depending on network environment)
Software requirements	• Microsoft Windows NT Server, Version 4.0, or Version 3.51 with Service Pack 4, or higher
Memory and storage requirements	• 32 MB of random access memory (RAM) • Minimum 75 MB of disk space • Minimum (temporary) 10 MB of available space is needed for installation
Supported communication services and protocols	• Asynchronous • ATM (LAN emulation) • Ethernet • ESCON and block multiplexer channel • Fiber Distributed Data Interface (FDDI) • Frame relay • Hayes Autosync • IBM Token-Ring Network • ISDN • Synchronous Data Link Control (SDLC) • Twinaxial • X.25

For SNA API Client:	
Hardware requirements	• Runs on hardware of base operating system
Software requirements	• OS/2 Warp, Version 3.0, or higher • MS Windows, Version 3.1.1, or higher, and TCP/IP • MS Windows 95 with Service Pack 1 • MS Windows NT Workstation or Server, Version 4.0, or Version 3.5.1, with Service Pack 4, or higher

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Research Triangle Park, NC
USA

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2-97
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