IBM eNetwork Communications Server for Windows NT

Highlights

Reach new customers and business partners by publishing your host applications on the Web

Run your business applications over multiple protocols and platforms

Provide access to applications and data from multiple mainframe systems, including AS/400 systems

Maximize network performance and reliability with High-Performance Routing, load balancing and hot standby

Reduce application development time with the Host Access Class Library API for Java

Simplify network administration with a new tree-view graphical interface

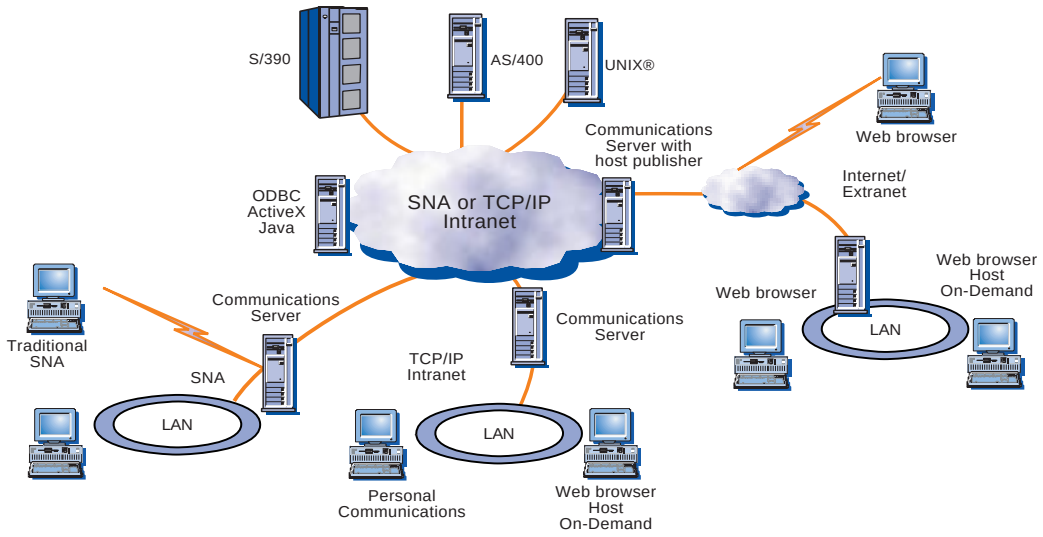
Perform Web-based server administration

Secure your business information assets from unauthorized access

Build a path to your customers

Remember when having the best product meant generating more revenue for your company? Unfortunately, the world no longer beats a path to the doors of those who build better, faster widgets. To win, you have to build a better, faster path to your customers and business partners.

IBM® eNetwork™ Communications Server for Windows NT® can connect your employees, customers and business partners to the information and applications they need, regardless of the underlying network. And Communications Server offers the reliability, performance and security you need to win in today's competitive market.



Communications Server for Windows NT provides a total connectivity solution.

The functions of Communications Server are described here to help you evaluate the benefits they can bring to your business.

Extend your business to the Web

Integrating diverse host applications and publishing them to the Web is a major step toward building your e-business and delivering your products to market faster than your competition. With the host publisher function of Communications Server, you can combine information from multiple sources into composite Web-based applications – and you don't need to rewrite your existing applications! Host publisher gives you a competitive advantage by extending your sales channels, providing new Web browser-based services and improving user productivity with new interfaces for your aging applications.

Host publisher uses system integration modules (SIMs) to access and integrate common data sources and extend them to the Web. Several prebuilt SIMs are included in Communications Server for accessing ActiveX, Java™ and ODBC data sources. SIMs for accessing 3270 and 5250 applications will be available soon*. A SIM developer's kit, included in Communications Server, enables you to build customized SIMs for integrating and publishing other data sources to the Web.

Eliminate network dependencies

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

Acting as a multiprotocol gateway, Communications Server enables applications to run over multiple network protocols. You can run TCP/IP applications over existing SNA networks without adding a separate TCP/IP network. Likewise, you can extend SNA applications to TCP/IP users without adding a separate SNA network.

Communications Server also works as a Telnet server, providing SNA network access to client applications running anywhere in your TCP/IP network.

The TN3270E server provides access to SNA networks for a wide range of TCP/IP clients. You can print from 3270 applications to locally attached printers or network printers residing anywhere in the TCP/IP network. The TN5250 server enables TCP/IP users to access applications on an AS/400® system in an SNA network. Both TN3270E and TN5250 servers support IP and hostname filtering, which allows controlled access to LUs without modifying your client configurations.

In addition to the TN5250 server function, Communications Server allows you to access data on AS/400 systems, through the following functions:

- AS/400 network drive support
- AS/400 OLE DB provider

Communications Server enables you to create disk devices on the server that communicate with AS/400 folders through the AS/400 Integrated File System (IFS). Additionally, if the server shares these disk devices, clients can NET USE to them. Multiple clients can connect to folders on the AS/400 system as though they were drives on their workstations.

With OLE DB support, application developers can now get access to AS/400 databases at the record level.

Maximize network performance

Communications Server allows you to configure and administer the network easily, save money and improve network performance. 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. Full-function APPN network nodes create a highly robust, low-maintenance networking backbone.

The benefits of an APPN network include improved bandwidth utilization and scalability.

Furthermore, APPN lowers your network administration and maintenance costs by using dynamic and simplified configuration. Because Communications Server supports DLUR, dependent LUs and 3270 applications can also benefit from APPN networking.

Enterprises with hundreds to thousands of branch sites, with SNA applications in the data center and APPN clients in the branches, can save substantially on the network cost with the new IBM branch extender technology incorporated in Communications Server.

Communications Server can also improve the reliability and performance of your network. The High-Performance Routing (HPR) function of Communications Server can transparently reroute traffic around network failures and congestion. Communications Server also supports HPR connections on IP networks with enterprise extender. To the HPR network, the IP backbone appears to be a logical link. This results in efficient use of the intranet infrastructure for IP clients that access SNA-based data, such as Web browsers using IBM Host On-Demand.

The hot standby function of Communications Server enables a backup server to take over if your critical server ever fails. Configured connections to a host can continue to function by activation of alternative connections on a backup server.

Communications Server also includes MPC+ support for ESCON®, which provides multiple subchannels between the S/390® and the Communications Server. High availability can be achieved through nondisruptive recovery over alternate subchannels along with improved throughput.

Share the workload

As an SNA gateway, 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 allows clients to dynamically access a backup computer that shares the workload and improves availability of resources. SNA gateway allows you to reset and manage sessions, automatically logging off unattended workstations to free up access for other users.

The SNA gateway function supports the SNA protocols LU0, 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.

SNA session level compression implements data compression in the LU-LU half session. It is available to all LU types 0, 1, 2, 3 and 6.2. Data compression at the session level increases throughput for large amounts of data across communication links, resulting in enhanced throughput across slow-speed lines and faster response times. Communications Server supports run-length encoding (RLE) and forms of Lempel-Ziv (LZ), LZ9 and LZ10.

Reduce demands on clients

The Communications Server SNA application program interface (API) client support allows TCP/IP- and IPX-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, allowing you to reduce DASD, memory and processor demands on your clients. And your system administrator saves time by not having to configure SNA on every client.

SNA API clients can now access their configuration across your network, using the Lightweight Directory Access Protocol (LDAP).

Balance the workload

Communications Server supports load balancing for TN3270E- and TN5250-connected clients of the same host resource, when the client supports Service Locator Protocol (SLP).

Load-balancing capabilities of Communications Server are built into the SNA API clients. Clients that support the SNA APIs can use the load-balancing capabilities provided by Communications Server.

Manage your resources

The systems management facilities enable you to monitor and control the communication resources of Communications Server. They also enable you to adjust these resources to improve the efficiency of SNA communication services or to monitor and test these services during problem determination.

You can manage Communications Server with the following facilities:

- SNA node operations
- Command line utilities
- Web-based administration
- Tivoli® Plus module

You can use any combination of these facilities for Communications Server management. Each systems management facility can display resource information, start, stop and delete resources and initiate path switches.

The node operations function of Communications Server enables you to select and modify resources in a tree-view graphical interface. In addition, a graphical user interface (GUI) configuration utility supplies defaults so you can configure your system easily, using a minimum number of parameters. And when your configuration is complete, an automatic verification step takes place to examine your configuration files.

Communications Server allows you to perform server administration over an intranet or the Internet. Either from a remote or local workstation, the administrator can manage Communications Server through a Web browser.

Communications Server is enabled for Tivoli software to centrally manage the devices and applications in your network. This enables you to:

- Distribute, install and uninstall Communications Server
- Start, stop and query the server
- Display and modify server resources
- List configuration files
- Route error messages from Communications Server to a Tivoli Enterprise Console
- Establish monitors and thresholds for key Communications Server attributes

Communications Server supports Simple Network Management Protocol (SNMP) requests for APPN management information from any SNMP management system.

S/390 Remote Operations Service (ROPS) for Tivoli NetView® provides network information that is displayed on the screen and entered in the NetView log.

Power programming

Communications Server supports a wide range of 32-bit application programming interfaces (APIs) on the server for the application program developer. These APIs provide convenient ways for 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 provided interfaces support SNA protocols so that standardization is ensured.

The Communications Server Software Developer's Kit is available for application developers to use. This toolkit contains samples, header files, library files and online manuals for each of the APIs.

Security

Communications Server supports client/server data encryption of application data when communicating with the SNA API client. In addition, Windows 95 and Windows NT SNA API clients and remote administrators can use Windows NT domain security to authenticate the client connection to the server without reentering the user ID and password.

Communications Server provides a key ring management utility that generates and manages keys and certificates for the server used by Secure Sockets Layer (SSL), Version 3.

TN3270E and TN5250 servers support SSL authentication and encryption, providing secure access across the TCP/IP network. With the built-in security of SSL, you can now protect your data from eavesdropping, tampering or message forgery over TCP/IP when using SSL-enabled TN3270 and TN5250 clients connected to the Communications Server.

SNA session-level encryption enables you to encrypt workstation data that is transferred between the server and the host. To protect the transfer of data between the host and the server, the host must be configured to use encryption, and an IBM SecureWay™ 4758 PCI Cryptographic Coprocessor adapter must be installed on the server.

IBM Communications Server for Windows NT feature summary

Feature	*Benefit*
Host integration	• Provides a link to new customers, business partners and business data with networking infrastructure • Extends your network to your customers or partners, regardless of where they are, or what network connectivity they have • Provides easy access to host applications and data by packaging DB2®, CICS® and MQSeries® clients in the server
Web-to-host publishing	• Extends your existing applications to the Web without rewriting • Easily integrates ActiveX, Java, ODBC and, coming soon, 3270 and 5250 applications and data within industry-standard Web pages with host publisher*
SNA gateway support	• Allows many SNA clients to access multiple central computers, both S/390 and AS/400, through one or more physical connections. • Brings large-computer resources to many users, while keeping adapter and line costs down. • Allows you to preset and manage sessions, automatically logging off unattended workstations. • 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 the configuration and startup requirements at the central computer.
TN3270E and TN5250 servers	• Allows TCP/IP users to access 3270 applications and print services through TN3270E server • Allows TCP/IP users to access 5250 applications through TN5250 server
Multiprotocol Communications Server	• Allows TCP/IP socket applications to run over SNA networks and allows SNA applications to run over TCP/IP without application changes • Provides greater freedom and more choices in mixing and combining network protocols, while protecting investment in user applications • Allows users to select applications based on business need, not on your network protocol
AS/400 access	• Provides access to AS/400 data with AS/400 network drive support without additional configuration or code installation on the client machine • Offers record-level access to AS/400 data with OLE DB access
Advanced Peer-to-Peer Networking (APPN)	• Provides APPN network node and end node support, with the benefits of peer networking – including simplified configuration, better availability, dynamic routing and easier maintenance • Allows 3270 applications to flow over APPN networks, with dependent LU requester (DLUR) enablement • Extends the reach of an APPN network with branch extender as less network topology information needs to be transmitted and overhead is reduced
High-Performance Routing (HPR)	• Increases data routing performance and reliability • Offers nondisruptive routing around network outages • Provides backup server which automatically connects to the host when the critical server fails • Enables you to distribute sessions across multiple servers for improved response times
Application programming support	• Provides an excellent platform for programming and application integration • Includes a rich set of APIs, including CPI-C, APPC, LUA RUI and SLI, HACL, JCPI-C, WinSock, Network Operator Facility, Management Services and Common Services • Provides a core set of classes and methods that allow the development of platform-independent applications with HACL API
Security	• Provides authentication, integrity and data privacy for a more secure deployment of distributed applications
Configuration/installation administration options	• Selectively chooses the components you want to install with the easy-to-use, quick-install option • Introduces a new easy-to-use graphical user interface, with a tree-view diagram of your configuration in a hierarchical view that significantly increases the productivity of system administrators
Systems management	• Enables management of Communications Server with Tivoli software to distribute, install and uninstall the server, display and modify resources and check status – all at a central site

IBM Communications Server for Windows NT at a glance	
Hardware requirements	• Intel Pentium® processor, minimum 100 MHz (may vary depending on network environment)
Media	• CD-ROM
Software requirements	• Microsoft® Windows NT Server, Version 4.0, or higher • Microsoft TCP/IP and/or IPX/SPX (SNA API clients)
Memory requirements	• 32 MB of real memory
Hard drive requirements	• Minimum 75 MB of disk space • Additional 10 MB minimum of available space is required temporarily for installation
Supported communication services and protocols	• Asynchronous • ATM (LAN emulation) • Ethernet • ESCON channel, including multipath channel support and block multiplexer • FDDI • Frame relay • Hayes Autosync • IBM Token-Ring Network • ISDN • SDLC • Twinaxial • X.25

For remote client:	
Hardware requirements	• Hardware required by Windows NT
Software requirements	• Windows NT Workstation or Server, Version 4.0, or Windows 95
For SNA client:	
Hardware requirements	• Hardware required by base operating system
Software requirements	• OS/2 Warp, Version 3.0, or higher • Windows® 3.1.1, or higher, and TCP/IP • Windows 95, with service pack 1, or higher • Windows NT workstation or server, Version 3.5.1, with service pack 4, or higher, and Version 4.0, with service pack 3 (recommended) • TCP/IP and/or IPX/SPX to communicate with Communications Server

For more information

To learn more about Communications Server products, contact your IBM representative or IBM business partner.

Visit our Web site at *www.software.ibm.com/enetwork.*

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