IBM

Communications Server for AIX

Highlights

Lets you make application decisions, independent from existing network protocols, based on business needs

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

**Provides access to any TCP/IP 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 networks to large enterprise networks

Includes single session license for IBM 3270 Host Connection Program for administrative use
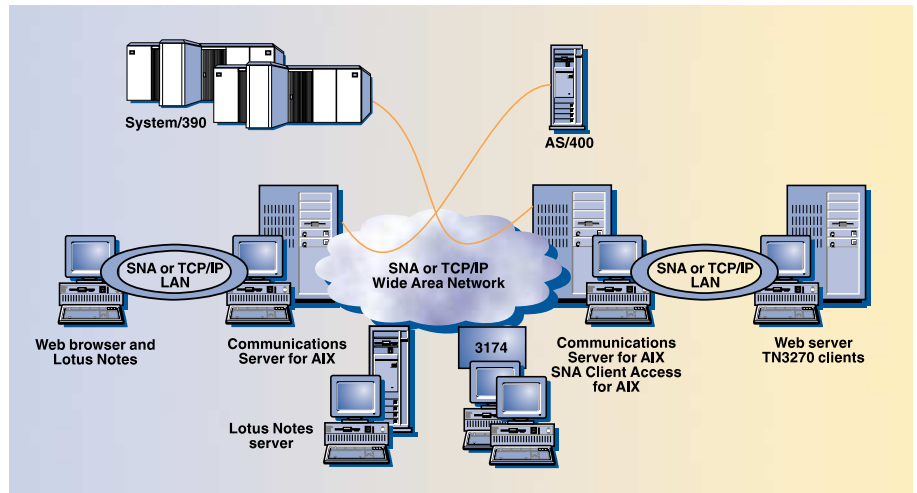
With your existing SNA network and the Sockets over SNA capability of Communications Server for AIX, you can access other Socket applications, such as Lotus Notes, or even connect to the Web.

Step up to internetworking

You need to combine your SNA and UNIX networks. You have a variety of equipment and protocols—some new client/server technology, SNA and TCP/IP networks, and 3270 and 5250 terminals connected to mainframe servers and mid-range systems. They all need to share data and applications. The challenge: connect them so they look and feel like one efficient, seamless network!

IBM Communications Server for AIX, Version 4, (Communications Server) can help you enter the brave new world of

internetworking. Communications Server offers a total enterprise networking solution: SNA-to-UNIX connectivity and a whole lot more. Communications Server brings reliability, performance, scalability, and the efficiency of SNA to your internetwork.

Communications Server is a UNIX application platform that extends the communication capability of the IBM AIX Base Operating System, by acting as an enterprise server for AIX and SNA networks, as well as a connectivity platform between them.

Multiprotocol networking is getting easier, with Communications Server

Seamless integration and scalability

Communications Server was designed with AIX and RS/6000 in mind. By taking advantage of system facilities, this design enables maximum performance and data throughput. From a network of just a few nodes to a network of tens of thousands of nodes, Communications Server integrates applications and protocols seamlessly.

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. With APPN, you can lower 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.

Communications Server is a full-function APPN network node. APPN provides a highly robust, low-maintenance networking backbone that scales easily. It provides improved reliability and performance through high-performance routing (HPR) automatic network routing (ANR). With dependent LU requester (DLUR) support, dependent LUs and 3270 applications can take advantage of APPN networking.

High performance

Communications Server exploits the parallel processing capabilities of the symmetrical multiprocessor systems, improving performance up to three times over non-symmetrical multiprocessor systems. Because of this efficiency, performance on uniprocessor platforms has also increased significantly when compared to IBM SNA Server/6000.

Using the efficiency of APPN and HPR ANR in conjunction with the robust and powerful AIX platform, Communications Server consistently and reliably delivers peak performance from your network.

With APPN, Communications Server can achieve effective data transfer rates. In fact, Communications Server can use up to 90 percent of the available bandwidth of a token ring or FDDI ring during file transfer.

Multiprotocol independence

With the explosion of TCP/IP networks and UNIX systems, integrating a diverse environment of mainframe servers, mid-range computers, and workstations across SNA and TCP/IP networks can be a formidable task. Now, however, you can use IBM's Communications Server to share data or applications across multiprotocol networks.

Communications Server offers several solutions for your diverse environment. IBM's AnyNet functions, based on Multiprotocol Transport Networking (MPTN) technology, an open industry-standard architecture, is designed to allow any application to run over any network protocol. This means you can add applications designed to run over different protocols—without modifying applications or changing hardware.

For example, with AnyNet Sockets over SNA, you can run sockets applications over existing SNA networks without adding a separate TCP/IP network. Such applications include file transfer protocol (FTP), Telnet, simple network management protocol (SNMP), Lotus Notes, Web browsers, and the TME 10 Netview program.

Likewise, with AnyNet APPC over TCP/IP, you can extend advanced program-to-program communication (APPC) or Common Programming Interface for Communications (CPI-C) applications to TCP/IP users, without adding a separate SNA network. This allows AIX APPC or CPI-C applications, such as CICS/6000 or Database 2/6000 (DB2/6000), to communicate with centralized computers and workstations across a TCP/IP network, without changing the applications.

Through AnyNet gateways, similar applications can communicate over unlike networks. Paired AnyNet gateways allow you to connect two TCP/IP LANs across an SNA network or two SNA LANs across a TCP/IP network.

TN3270E solution

IBM SNA Client Access, a separately licensed program, provides access to SNA networks for a wide range of TCP/IP clients. It's the software solution best suited to allow easy access to S/390 and AS/400 computers. Running in conjunction with Communications Server, SNA Client Access works as a TCP/IP Telnet server, providing SNA network access service to client applications running anywhere in the TCP/IP network. Client connectivity is enhanced through multivendor operating systems support, including OS/2, DOS, AIX, Windows, Windows NT, HP-UX, and Sun Solaris.

Gateway support

The SNA Gateway function of Communications Server allows many SNA clients to share a single physical connection to one or more centralized computers. It also allows clients to dynamically access a backup computer that shares the workload and improves availability of resources. SNA Gateway allows you to preset and manage sessions, automatically logging off unattended workstations to free up access for other users.

Right-sized solutions

If your mainframe server is running at capacity and you can't expand, you need a way to offload central computer activity to free up application processing. The SNA Channel Attachment feature of Communications Server supports a direct-attached connection from your centralized computer to your RS/6000 or RS/6000 SP system.

The SNA Channel Attachment feature operates as a high-capacity network controller and as an application server for offloading centralized computer applications, such as DB2 and Customer Information Control System (CICS).

Complete connectivity

Whether you want to connect networks over a wide area network (WAN) using SDLC or X.25, or over a local area network (LAN) using token ring, Ethernet, Fiber Distributed Data Interface (FDDI), or direct-attached channel, Communications Server is the solution for you.

You can also use Communications Server to connect multiple physical units (PUs) across a single physical adapter for token ring, Ethernet, X.25, Synchronous Data Link Control (SDLC), FDDI, and channel. 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 Emulation

Included with Communications Server for AIX is a single session license for IBM 3270 Host Connection Program for administrative and support use. The full multiuser version can be ordered separately.

Simplified configuration

Communications Server's streamlined organization of configuration profiles help you drastically reduce configuration time. You can update the configuration database even when Communications Server is running, and the new configuration information doesn't become part of the database until you verify that it's correct.

Because Communications Server supports APPN, you have fewer devices to define to your network. APPN simplifies the configuration process, reducing the time required to configure a node and eliminating many sources of configuration errors. This improves your productivity and reduces the complexity of your network.

IBM Communications Server for AIX , Version 4, at a glance

Hardware requirements	• RS/6000 or other AIX platform

Software requirements	• IBM AIX, Version 4.1.4, or higher
	• For SNA Channel Attachment feature, at least one of the following:
	  – ESCON Channel Connectivity for AIX, Version 1.1,
	  – Block Multiplexer Channel Connectivity for AIX, Version 1.1

Memory and storage requirements	For RS/6000 running Communications Server for AIX, Version 4, minimum fixed disk storage capacity: • 21-58 MB of available space is needed for installation, depending on features installed • 16-51 MB of permanent space is required • 0.5-1.0 MB per language is required for messages, depending on language • For Communications Server for AIX, Version 4, minimally configured AIX system with 24-MB real memory; for Gateway or AnyNet functions, 32-MB real memory
Supported communication services and protocols	• Synchronous Data Link Control (SDLC) • IBM Token-Ring Network • Ethernet • X.25 • Fiber Distributed Data Interface (FDDI) • ESCON and block multiplexer channel

Problem determination

When problems occur, you can find and fix them quickly using SNA format utility. This utility formats complex link traces into easy-to-understand, fully deciphered output files.

Systems management

You can use the Xsna graphical interface tool to display and manage your SNA resources easily. Based on X-Window System and Motif, the Xsna tool provides a familiar "look and feel." You can display link and session information, start and stop resources, and turn on traces—all with the click of a mouse button. System Management Interface Tool (SMIT) is also available for easy management in the AIX environment.

Power programming

Communications Server is not just a powerful stand-alone network server; it is a sophisticated programming interface that makes it an excellent platform for programming and application integration. Communications Server provides a number of application programming interfaces (APIs), ranging from platform to device level, including interfaces to:

- LUs 0, 1, 2, 3, and 6.2 (CPI-C and APPC)

- Generic SNA (for device-level programming)

- SNA Management Services

Tools to aid program generation

Communications Server includes an SNA interactive transaction program generator (SNAPI) that provides help for developing APPC and CPI-C transaction programs. You can use this tool to quickly develop programs that interact with existing programs on any remote system that supports LU 6.2, including AIX, CICS, information management system (IMS), OS/400, Communications Manager/2, and Communications Server for OS/2 Warp.

Applications supported

Some of the applications supported by Communications Server include:

- DB2/6000: DDCS/6000 and Client Support/6000, SNA Support Feature

- CICS for AIX, Version 2.1

- Encina for AIX, Version 2.1

- IBM 3270 Host Connection Program (HCON)

- IBM Connection Program/400 for UNIX Environment

- SystemView for AIX, Version 1

- ADSTAR Distributed Storage Manager, Version 2.1

- CallPath Server, Version 1.1

- DirectTalk/6000, Version 1

For more information

To learn more about the Communications Server for AIX product line, contact your IBM representative or IBM business partner. Or visit our World Wide Web home page at URL:

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

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