Host Connectivity - Warp version of Communications Server is Feature Rich

Market Leading Client Software Now Available for All Popular Operating Systems

For corporations in which connectivity to mainframe and/or midrange computers is essential, IBM Communications Server for OS/2 Warp, Version 4.1, is a rich, state-of-the-art product, filled with a broad set of functions.

These features are necessary as today's networking environments change. Most corporate sites are rapidly implementing intranet and Internet information servers, and in many cases are moving to TCP/IP-based LANs.

The version I tested runs on OS/2 Warp 4.1. However, it interoperates perfectly fine with Windows or Windows NT clients on a Systems Network Architecture (SNA) or TCP/IP network.

Regardless of the operating system environment, many network managers face the challenge of maintaining existing applications on legacy network protocols while deploying new connections to the Internet. They also have to deal with remote users.

Communications Server can handle these challenges due to its protocol independence, which IBM refers to as Multiprotocol Transport Networking.

Having installed other products that compete with Communications Server, it's clear to me that this product definitely stands above rivals in the area of documentation.

IBM developed SNA, and it dominates the mainframe and midrange market. Based on its big-iron background, IBM has created an extremely thorough set of documentation for installing Communications Server.

Practically any question regarding the interfacing of Communications Server with Ethernet, Token Ring, AS/400, Virtual Telecommunications Access Method (VTAM), and 3174 controllers is answered within the product documentation.

My installation of Communications Server to a 3090 mainframe, an AS/400 midrange system, and the Internet was very smooth. However, I have done this before with comparable products. The caveat here is that you must have a thorough understanding of the parameters required for installation.

Depending on the type of connection you are installing, you may have to do a little research to find some esoteric settings, but this is not unusual for a server of this type.

With the mad dash to TCP/IP networking, Communications Server provides for a mixed SNA and TCP/IP environment for LAN, WAN, and remote users.

Communications Server also provides extensive hardware support for Ethernet, Token Ring, Asynchronous Transfer Mode, Synchronous Data Link Control, FDDI, X.25, frame relay, and ISDN connections.

As I would expect in an IBM product, asynchronous, synchronous, and auto-synchronous dial-up connectivity is also supported.

In networks that mix TCP/IP with SNA, the existing SNA backbone can be utilized to handle TCP/IP traffic. This product is especially useful in environments that are moving from SNA to TCP/IP, or those in which SNA and TCP/IP must simply coexist. Communications Server provides an advanced networking solution in that it is capable of sending TCP/IP traffic over SNA networks, and vice versa.

In addition, Communications Server supports the recently developed high-performance routing (HPR) technology. Simply put, HPR is an extension of IBM's Advanced Peer to Peer Network (APPN). Formerly known as APPN+, HPR appends aspects of TCP/IP and frame relay to APPN. HPR is made up of two modules: Automatic Network Routing (ANR) and Rapid Transport Protocol (RTP).

ANR sends data packets through the network using APPN partner location and route calculation. Each data packet has a header identifying which link to forward the packet to. I was pleased to see that with a minimum of system resources, ANR removes this identification header and delivers the packet to the appropriate link.

Error detection

RTP operates on the terminus points of the HPR network, thus establishing a pipe across the ANR nodes. Using this data pipe, RTP handles three primary aspects of network communication: error detection, congestion control, and path/session switching.

I liked the fact that error detection is dealt with by simply requesting selective retransmission of corrupted or missing packets at the terminus points, rather than constantly doing error checking at each node, which would really slow down the network.

RTP uses an adaptive-rate-based (ARB) method to handle end-to-end data flow by constantly monitoring and adjusting the network to avoid congestion.

But the slickest aspect of RTP is that it provides nondisruptive path and session switching, which means that it reroutes the network data by establishing a new connection if the original connection fails.

In addition, if the connection or session fails, it will recover the data using its error-recovery mechanisms. These features of HPR provide for high network availability through automatic

rerouting; high network performance through error recovery, selective retransmission, and ARB flow control; and improved processing through the removal of intermediate error checking.

For true big iron shops with OS/2, Communications Server is an optimal networking solution for interacting with VTAM as well.

Not only do you have the benefits and features of APPN and HPR, but there are also additional features, such as Dependent Logical Unit Requester, which allows dependent logical unit traffic to attach to the mainframe over APPN, and use HPR.

Flexible priorities

From an application standpoint, network administrators can also assign different SNA transmission priorities to different applications.

Naturally, Communications Server provides IBM's architected SNA security for applications that need it.

The SNA data compression facility is also supported, which encompasses industry-standard security algorithms such as Run Length Encoding and Lempel- Ziv.

I also appreciated the fact that support for Self Defining Dependent Logical Units (SDDLUs) is included. This is a VTAM enhancement that allows dependent logical units to be recognized by VTAM upon connection, rather than having to be predefined. You can appreciate what a relief this is if you've ever been in this situation.

An additional benefit of the SDDLU support is the release of memory for the active logical units, rather than all of the previously defined ones.

If your company is running SNA and/or TCP/IP, incorporating Communications Server for OS/2 Warp 4.1 into your network environment is something you will not regret.

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THE BOTTOM LINE: VERY GOOD

IBM Communications Server for OS/2 Warp, Version 4.1

For connecting networked and mobile computer users to mainframe or midrange computers, IBM Communications Server for OS/2 Warp, Version 4.1, is a solid solution. The multiprotocol support is important for companies making the transition to TCP/IP.

Pros: Excels at Systems Network Architecture and TCP/IP connectivity; supports 3270 emulation, frame relay, and high-performance routing.

Cons: Requires solid technical knowledge to install.

IBM, Research Triangle Park, N.C.; (800) 426-3333; fax: (800) 232-9426; http://www.networking.ibm.com/cm2/cm2prod.html.

Price: $699 per server; $69 for one end-user license; $328 for five licenses; $642 for 10 licenses; $3,174 for 50 licenses.

Platforms: OS/2, AIX, OS/390, Windows NT (scheduled for this quarter).