



IBM eNetwork Communications Server for UnixWare 7, Version 5.0 – A Full Range of Communications and Connectivity Offerings for the UnixWare 7/Intel Environment

Overview

IBM eNetwork™ Communications Server for UnixWare 7 is the newest member of IBM's eNetwork Software family of communications servers, which currently consists of servers for the AIX®, Windows NT®, and OS/2® environments. These servers provide enterprise-class universal connectivity and information access for cost-effective network computing.

This communications server was developed for Santa Cruz Operation's (SCO's) new UnixWare 7 operating system. UnixWare 7 combines the power, reliability, and scalability of the UNIX® system with the value and versatility of a standard Intel platform. The eNetwork Communications Server for UnixWare 7 was based on the same code base as the recently released eNetwork Communications Server for AIX and includes most of the same features and functions.

The eNetwork Communications Server for UnixWare 7 enables you to design and implement complete solutions for all your networking needs, whether in local-office communications, city-wide transactions, or domestic and international networking. It also enables you to connect across multiplatform networks and connect networks running different protocols. As a result, all the transaction processing and data communications needs in your business have a single solution. The eNetwork Communications Server for UnixWare 7 will help you get users communicating with each other in networks of all sizes, from small workgroups to large corporate headquarters.

The eNetwork Communications Server for UnixWare 7:

- Provides access to critical enterprise data and applications from both SNA and TCP/IP users
- Offers an enterprise-class TN3270E server as well as client-server (split stack) support for Windows 95 and Windows NT clients, providing access for TCP/IP users to enterprise host systems
- Provides the latest in advanced SNA support, such as, APPN® network node and end node, SNA gateway, high performance routing, DLUR, and a broad range of connectivity and API options

Intended Customers

- Customers who require a full range of communications and connectivity offerings in the UnixWare 7/Intel environment

Key Prerequisites

- SCO UnixWare 7 operating system
- Intel-based machine supported by SCO UnixWare 7

Planned Availability Date

July 31, 1998

At a Glance

eNetwork Communications Server for UnixWare 7, Version 5.0 gives customers a broad range of communication, connectivity, and networking options. In addition, this communications server:

- Provides a powerful SNA gateway
- Includes best-of-breed, SNA support for both the host and peer-to-peer distributed network environments
- Simplifies application development with support for a broad range of APIs
- Uses a client/server architecture, providing end users and administrators with additional flexibility and performance
- Provides access to SNA networks for a wide range of TCP/IP clients
- Includes extensive connectivity support for LAN and WAN networks

For ordering, contact:

Your IBM representative, an IBM Business Partner, or IBM North America Sales Centers at

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Reference: YE001

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Description

IBM eNetwork Communications Server for UnixWare 7 provides all-in-one communications services between workstations and a System/390® or an AS/400® system, as well as other workstations. Its capabilities include:

- A full-function SNA gateway
- The most Advanced Peer-to-Peer Networking® system in the industry
- Support for many types of connectivities
- A rich set of application programming interfaces (APIs)

Of particular significance is the support of SNA, which is based on IBM's long experience as the architect and developer of this important protocol. The capabilities of this industrial-strength server gives companies the freedom to be responsive to the changing demands of business applications, while minimizing network impacts.

The eNetwork Communications Server for UnixWare 7 is built on the recently released eNetwork Communications Server for AIX, Version 5.0 and includes most of the robust function-rich characteristics. The following is a summary of this new communications server for the UnixWare and Intel environments.

SNA Support

The eNetwork Communications Server for UnixWare fully supports IBM's Systems Network Architecture (SNA) in both the host-mediated (hierarchical) and peer-to-peer configurations.

The host-mediated networks are hierarchically organized, with one or more host computers controlling communication between workstations, managing the network, and providing processing services and high-capacity data storage. All other nodes in the network are dependent on the control of the host. The eNetwork Communications Server for UnixWare 7 can participate in a host-mediated network by being configured as host dependent nodes.

For distributed processing environments, eNetwork Communications Server for UnixWare fully supports APPN networks. In these peer-to-peer networks, workstations retain processing functions and communicate directly with each other as peers.

The APPN support includes:

- Network node (which provides traffic control, dynamic route computation and selection services, and network management services)
- End node (which uses APPN network node services to communicate with peer nodes)
- Low-entry networking node (which communicates directly with adjacent nodes or nodes configured to appear adjacent)

The full function APPN network support enables a highly robust, low maintenance networking backbone that offers a number of benefits, including improved bandwidth utilization, reliability, scalability, performance and ease of configuration and administration.

Network reliability and performance are also improved by the High- Performance Routing (HPR) ability to non-disruptively reroute traffic around network failures and congestion. Furthermore, APPN lowers your network administration and maintenance costs by using dynamic and simplified configuration. The Dependent LU

Requester (DLUR) function enables traffic between hosts and host-dependent nodes to be carried in an APPN network and provides the benefits of APPN networking to the host-mediated configurations.

SNA Gateway

The SNA gateway function allows many SNA workstations to access one or more centralized host systems, both S/390® and AS/400, through one or more physical connections. The gateway function supports the SNA protocols LU0, 1, 2, 3, and dependent LU6.2 advanced program-to-program communication (APPC).

The SNA gateway:

- Allows workstations to dynamically access a backup host system that shares the workload and improves the availability of resources
- Allows workstations to dynamically access a backup host system in the event of link outage
- Support for the same link-level communication protocols for both upstream and downstream links as the eNetwork Communications Server
- LUs defined in the gateway can be dedicated to a particular workstation or pooled among multiple workstations

Broad Range of APIs

The eNetwork Server for UnixWare 7 provides APIs that support SNA protocols and are compatible with the APIs provided with the other eNetwork Communications Server family of products for the AIX, OS/2 Warp, and Windows NT environments. The following APIs are provided:

- LUA API enables application programmers to write applications that communicate with host applications at the request unit and response unit (RU) level. LUA supports LU0, 1, 2, or 3 communications with the host.
- NOF (Node Operator Facility) can be used to write applications that administer configuration and management resources.
- CPI-C and APPC APIs supporting both dependent and independent LU6.2.
- CSV (Common Service Verb) API provides utility verbs that enable an application program to perform functions such as character set conversion and trace file control.
- The MS (Management Services) API enables an application to communicate with other MS products in an APPN network.
- The new eNetwork Host Access Class Library (Host Access API) is a Java™ API that provides the ability for users to develop 3270, 5250, or VT Java applications. Host Access API for Java provides a core set of classes and methods that allow the development of platform-independent applications that can access host information at the data stream level.

SNA API Client/Server Configuration

The SNA API client/server support allows TCP/IP-attached clients to access SNA APIs without requiring SNA protocols to flow between the clients and the server. The client/server configuration provides the following benefits:

- Concentrating SNA resources on servers reduces the load on clients, improving client performance and

minimizing the storage needed to provide SNA services to clients.

- Multiple servers can provide redundant connectivity (for example, by having multiple servers providing access to the same host). Having multiple paths to an SNA resource enables load sharing across the different servers and provides immediate backup in the event that a particular server or link fails.
- By using LU pools across multiple servers, the administrator can easily configure and add servers and users.

The eNetwork Communications Server for UnixWare 7 supports SNA API clients on Windows 95 and Windows NT. The SNA API exposes the following APIs which are defined by Microsoft™ as part of the WOSA (Windows™ Open System Architecture):

- Windows APPC
- Windows CPI-C
- Windows LUA
- Windows CSV
- 3270 Emulator Interface Specification

This support allows applications written to use other products which provide these APIs (for example, Microsoft SNA Server) to run unmodified on eNetwork Communications Server clients and to use the services of the eNetwork Communications Servers.

Integrated TN3270E Server

This function provides access to SNA networks for a wide range of TCP/IP client applications running anywhere in the TCP/IP network. TN3270E Server provides a method, based on standards, that allows TN3270 clients easy access to the large number of existing mission critical applications residing on IBM host systems without having to make any changes to the application programs.

The TN3270E Server is compliant with the industry-standard Request for Comment (RFC) 1576, 1646 and 1647. This capability provides 3270 terminal and printer emulation to TCP/IP users in an open, standard environment. TN3270E defines a new Telnet option and subnegotiations that allow a client or server to negotiate exactly which terminal type and features are supported. Clients and servers supporting TN3270E can now negotiate to pass SNA responses to guarantee end-to-end printer confirmation. Users can print from 3270 applications to locally attached printers or to network printers residing anywhere in the TCP/IP network.

The eNetwork Communications Server for UnixWare 7 supports load sharing for client connections of TN3270E servers that connect to the same host resources TN3270E server supports IP and hostname filtering that allows controlled access to LUs without modifying client configurations.

Connectivity

The eNetwork Communications Server for UnixWare 7 offers many connectivity options to help you meet your network's size, speed, security, and cost considerations. It supports data links for local area networks (LANs) and wide area networks (WANs).

LANs:

- Token ring
- Standard Ethernet
- IEEE 802.3 Ethernet
- FDDI (Fiber Distributed Data Interface)

WANs:

- SDLC
- X.25
- Frame Relay (using an emulated token ring interface)

These WAN link types require additional, separately orderable products.

Motif Administration Program

Motif provides complete configuration and management facilities for the eNetwork Communications Server through an easy-to-use graphical user interface. Extensive help screens provide guidance to perform specific tasks and include overview and reference information. Dynamic updates to the configuration can be made while the SNA node is active. Up-to-date status is displayed, and resources can be activated and deactivated through this same easy-to-use interface. In addition, configuration changes made using the Motif administration program, the command-line program, and the NOF API are applied immediately to the node configuration file.

Emulator Product

Included on the CD-ROM for the eNetwork Communications Server for UnixWare 7 is a single-user, 30-day license TPS/3270 (SNA) for UnixWare emulator product from TPS Systems, Inc. This product is a full featured 3270 terminal and printer emulator and may be useful in installation and initial system administration. Details on how to order the product from TPS Systems, Inc. are included with the program package.

Host Integration

The eNetwork Communications Server for UnixWare 7, Version 5.0 will be included in the recently announced IBM eNetwork Host Integration Solution. The Host Integration Solution is the most complete answer to host access and network integration in the industry. Regardless of platform or network environment, it provides every user with secure access to mission-critical business systems. Highlights include:

- Software components include both IBM eNetwork Communications Servers and eNetwork Software Client products
- Single pricing structure with one price per each registered user
- Pricing is independent of the total number of clients and servers
- Available for the VPO and CO offerings associated with Passport Advantage

Refer to Software Announcement 298-195, dated June 16, 1998, for additional information about the Host Integration Solution.

Year 2000

This product does not have date dependencies and is therefore Year 2000 ready.

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with the product properly exchange accurate date data with it.

The maintenance end date for this Year 2000 ready product is January 31, 2001.

Product Positioning

IBM eNetwork Communications Server for UnixWare 7, Version 5.0 takes advantage of IBM's experience with systems network architecture (SNA), Transmission Control Protocol (TCP/IP), and multiplatform communications servers to provide a high-performance, high-quality communications solution for the UnixWare 7 environment. This server provides an essential foundation for network computing by providing industrial-strength support for the most widely used networking technologies, enabling customers and business partners to build client/server applications that are independent of networking protocol.

The eNetwork Communications Server for UnixWare is positioned to meet a wide range of customer requirements by providing APIs, such as LUA, NOF, CPI-C, and APPC to allow user-written applications to communicate with other applications using IBM's SNA as the communications protocol.

The full implementation of APPN (end node and network node), high performance routing (HPR), and dependent logical unit requester (DLUR), along with the integrated gateway capabilities, positions the eNetwork Communications Server as a participant in either a host (hierarchical) or peer-to-peer distributed network environment.

With the TN3270E Server the eNetwork Communications Server is well positioned for customers with multiprotocol networking environments.

The eNetwork Communications Server is the solution for companies in the AIX environment that:

- Run multiprotocol or multiple networks
- Want to consolidate or change their backbone networks
- Want to provide SNA 3270 host applications to TCP/IP users via TN3270E
- Have existing SNA applications they want to extend over TCP/IP networks
- Have existing sockets applications they want to extend over SNA networks
- Want to access data from anywhere using familiar interfaces and protocols

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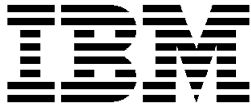
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IBM US Announcement Supplemental Information

July 21, 1998

UnixWare 7

The Santa Cruz Operation, Inc. (SCO) recently announced the availability of their new UnixWare 7 operating system. UnixWare 7 combines the power, reliability, scalability of the UNIX® System with the value and versatility of a standard Intel platform.

SCO is a leading provider of system software for business-critical network computing on the Intel hardware platform. SCO sells and supports its products, including UnixWare 7, through a worldwide network of distributors, resellers, system integrators, and OEMs. For more information refer to SCO's home page at:

<http://www.sco.com>

Publications

One copy of *IBM eNetwork™ Communications Server for UnixWare 7: Quick Beginnings* is shipped with the program package.

The following publications can be ordered separately from IBM after planned availability. To order, contact your IBM representative or phone 800-879-2755.

Title	Order Number
Quick Beginnings	GC31-8702
General Information	GC31-8703
Administration Guide	SC31-8704
Administration Command Reference	SC31-8705

Displayable Softcopy Publications: IBM eNetwork Communications Server for UnixWare 7 publications are offered in displayable softcopy form. All unlicensed manuals are included.

The publications included on the installation media for the product are in Hypertext Markup Language (HTML) softcopy format. They can be used with any browser that supports HTML 3.2

Technical Information

Specified Operating Environment

Hardware Requirements: IBM eNetwork Communications Server for UnixWare 7, Version 5.0 can be used on all Intel-based systems supported by the SCO UnixWare 7 operating system. An Intel Pentium™ machine, 100 MHz CPU with 32 MB of RAM, is the minimum recommended server hardware. Depending on the network environment, a faster processor and larger memory may be necessary. 27 MB of disk space is required, with an additional 2 MB temporary storage required during installation.

Communication Adapters: One or more communication adapters (and appropriate cable) may be required. Communications Server for UnixWare 7 supports communication adapters for the following link protocols:

- Token Ring
- Ethernet (standard or IEEE 802.2)
- Fiber Distributed Data Interface (FDDI)

The following WAN link protocols are supported but require additional, separately orderable products, that are not available from IBM.

- SDLC
- X.25
- Frame Relay (using an emulated token ring interface)

The eNetwork Communications Server for UnixWare 7 is compatible with the SBE wanXL adapter cards for UnixWare 7, including software drivers, for X.25 and SDLC. These adapters are available from SBE, Inc.

For current and complete information relative to hardware and software compatibility for LAN and WAN adapters refer to the Communications Server Web pages at URL:

<http://www.software.ibm.com/enetwork/commserver>

Software Requirements: The eNetwork Communications Server for UnixWare 7 requires the SCO UnixWare 7 base operating system. Additionally:

- Appropriate DLC for the selected communication adapters
- Motif level 1.2 and TriTeal Enterprise Desktop (CDE desktop), both are part of the UnixWare base operating system, are required for the Motif Administration program
- TCP/IP for client/server configuration

Performance Considerations: Performance can be affected by:

- Type of connection and network characteristics
- Number of user and concurrent sessions
- Type of tasks
- Available installed memory
- RAS and/or trace activity

Planning Information

License Management: eNetwork Communications Server for UnixWare 7 includes a tool for license management. This license is included in the program package on the CD-ROM and is installed along with the product. During installation you are prompted to enter the number of concurrent licenses purchased. Each workstation counts as one licensed user regardless of the number of sessions that are active with the Communications Server .

If the number of concurrent users exceeds the number of concurrent licenses purchased, then an error message is

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logged. No product function is disabled even in the case of the licenses being exceeded. Further connections are still allowed with an error message being logged for each connection as long as the license count is exceeded. You are expected to monitor the log and purchase additional licenses if you consistently exceed your initial license quantity.

Packaging: The eNetwork Communications Server for UnixWare 7, Version 5.0 package includes:

- One CD-ROM for the Communications Server
- Hardcopy publication: Quick Beginnings
- IBM International Program License Agreement Booklet
- License Information Booklet

Evaluation Emulator: Included on the CD-ROM for the Communications Server is 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 may be useful in installation and initial system administration. If you would like to purchase a permanent license call your IBM representative or authorized business partner.

Security, Auditability, and Control

The eNetwork Communications Server for UnixWare 7, Version 5.0 uses the security and auditability features of the UnixWare 7 operating system.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering Information

eNetwork Communications Server for UnixWare 7, Version 5.0 is a client/server type product which has two charge units: server install and concurrent users. The server install is available in a fixed order quantity of 1. The concurrent users are available in fixed order quantities of 1, 5, 10, and 50. There is only one program package supplied with this product.

Ordering Notes™: Charges for eNetwork Communications Server for UnixWare 7, Version 5.0 are based on concurrent users (not sessions). A concurrent user is an active upstream or downstream connection established to the eNetwork Communications Server for UnixWare 7. An active connection includes TN3270, SNA API (split stack), and SNA (APPN®, DLUR, full stack). In an APPN environment a connection is an active link to an adjacent node(s). If a multiplexing program or application server (for example, Transaction Server, DB2®) connects to the Communications Server for UnixWare 7 providing access on behalf of multiple concurrent users, then one user license is required for each of these multiple concurrent users.

Upgrade Notes: Upgrades to eNetwork Communications Server for UnixWare 7, Version 5.0 are available from any IBM or non-IBM (competitive offering) SNA gateway or communications server product. The following upgrade information applies:

- The eNetwork Communications Server for UnixWare 7, Version 5.0 includes authorization for 1 concurrent user.
- When upgrading from a usage-based product, you are authorized to acquire the equivalent number of users

at a reduced price by specifying the concurrent user upgrade feature.

- When upgrading from a product that is priced based on sessions, such as Communications Server for AIX® Version 4.X the customer is eligible for a number of concurrent user upgrades equal to the actual number of concurrent users being supported on the prior product. For example, if the customer has licensed 50 sessions on a previous product, and actually supports 25 concurrent users, each running 2 sessions, they would purchase 25 concurrent user upgrades with Communications Server for UnixWare 7, Version 5.0.
- New and additional users must be acquired at the full price using the applicable concurrent user features for 1, 5, 10, and 50.
- When upgrading from a non usage-based product, you are not entitled to any concurrent users for upgrade. All users are considered as new users and must be acquired at the full price.

Program Name/Description	Order Type Number	Feature Number	Part Number
eNetwork Communications Server for UnixWare 7, Version 5.0 Program Package — US English CD-ROM	5801-AAR	3586	31L1135
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Server Install	5802-AAR	2690	31L0770
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Concurrent User	5807-AAR	8768	31L0772
eNetwork Communications Server for UnixWare 7, Version 5.0 5 Concurrent Users	5807-AAR	8769	31L0773
eNetwork Communications Server for UnixWare 7, Version 5.0 10 Concurrent Users	5807-AAR	8770	31L0774
eNetwork Communications Server for UnixWare 7, Version 5.0 50 Concurrent Users	5807-AAR	8771	31L0775
Upgrades			
eNetwork Communications Server for UnixWare 7, Version 5.0 US English Program Package Upgrade from any IBM or non-IBM gateway or communications server CD-ROM	5803-AAR	1406	31L1136
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Server Install Upgrade from any IBM or non-IBM gateway or communications server	5804-AAR	0953	31L0771
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Concurrent User Install Upgrade from any IBM or non-IBM gateway or communications server	5808-AAR	0437	31L0776

Terms and Conditions

Licensing: IBM International Program License Agreement. Proofs of Entitlement (PoE) are required for all authorized use.

Limited Warranty: Yes

Program Services: Available until January 31, 2001.

Money-back Guarantee: 30-day, money-back guarantee for program packages

Copy and Use on Home/Portable Computer: No

Support Line: AIX

Upgrades: Customers may acquire upgrades up to the currently authorized level of use of the qualifying programs.

Volume Orders: Yes, contact your IBM representative

Passport Advantage Applies: Yes

AIX/UNIX Upgrade Protection Applies: No

Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees: No

Variable Charges Apply: No

Charges

Program Name/Description	Part Number	One-Time Charge
eNetwork Communications Server for UnixWare 7, Version 5.0 Program Package —US English CD-ROM	31L1135	\$ 995
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Server Install	31L0770	965
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Concurrent User	31L0772	69
eNetwork Communications Server for UnixWare 7, Version 5.0 5 Concurrent Users	31L0773	328
eNetwork Communications Server for UnixWare 7, Version 5.0 10 Concurrent Users	31L0774	642
eNetwork Communications Server for UnixWare 7, Version 5.0 50 Concurrent Users	31L0775	3,174
Upgrades		
eNetwork Communications Server for UnixWare 7, Version 5.0 US English Program Package Upgrade from any IBM or non-IBM gateway or communications server CD-ROM	31L1136	595

Program Name/Description	Part Number	One-Time Charge
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Server Install Upgrade from any IBM or non-IBM gateway or communications server	31L0771	\$565
eNetwork Communications Server for UnixWare 7, Version 5.0 1 Concurrent User Upgrade from any IBM or non-IBM gateway or communications server	31L0776	41

Monthly Optional AIX Support Line Charge: \$242

Note: For additional Passport Advantage information, ordering information and charges, contact your IBM representative, authorized reseller, or go to the URL:

<http://www.Lotus®.com/passportadvantage>

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