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IBM TCP/IP VERSION 2.0 FOR OS/2

Contents

[Announcement Letter Number 293-410 dated August 17, 1993](#)

[US - Last Revised on August 17, 1993](#)

Brief Description of Announcement, Charges, and Availability

Transmission Control Protocol/Internet Protocol (TCP/IP) Version 2.0 for OS/2 (R) provides upgrades to functions previously provided in Version 1.2 and Version 1.2.1 for OS/2 and includes support for the OS/2 2.0 and OS/2 2.1 operating systems. Additionally, new functions further highlight and define the IBM business solution for customers who are in a multivendor environment or use connectivity.

TCP/IP Version 2.0 for OS/2 interoperates with IBM TCP/IP products for MVS, VM, DOS, OS/400 (R), System/88 (R), and the AIX (R)/UNIX (1) family. To provide flexibility in ordering to customers with different networking needs, IBM will continue to offer various packaging options, plus new packages for most of the new functions. Also, IBM is introducing a new price structure for TCP/IP for OS/2. This structure allows customers to obtain various kits at a larger discount. Refer to IBM Programming Announcement 293-407, dated August 17, 1993, for more information.

The new kits with Version 2.0 include: X Window System Client Kit, DOS/Windows (2) Access Kit, Applications Kit, NetBIOS Kit, and the Domain Name Server Kit. There will be no Source Kit offered. In November 1993, a MultiMail Kit and an OSF/Motif (3) Kit will be available.

Price: See Charges section.

Planned Availability Dates: August 27, 1993; October 29, 1993

for Asia/Pacific Kit; November 19, 1993, for the MultiMail and OSF/Motif Kits.

(R) Registered trademark of International Business Machines Corporation.

(1) UNIX is a registered trademark of UNIX System Laboratories, Inc.

(2) Windows is a trademark of Microsoft Corporation.

(3) OSF/Motif is a trademark of Open Software Foundation.

(TM) Trademark of International Business Machines Corporation.

IN BRIEF . . .

- o TN5250 emulator program
- o 32-bit application program interfaces (APIs)
- o 32-bit X-Windows X11R5 server support
- o File Locking for NFS client
- o Workplace Shell (TM) integration for selected applications
- o NetBIOS support
- o X-Windows client support
- o OSF/Motif client support
- o Configuration, Installation, and Distribution (C/I/D) enablement for network installation
- o Frame relay support
- o Fiber distributed data interface (FDDI) support
- o DOS/Windows access
- o SNALink LU6.2 support
- o TN3270 external translate tables
- o SNMP DPI Version 1.1 enhancements
- o New Applications Kit for customers on protocol stacks that are equivalent to the protocol stack that is contained in the TCP/IP Version 2.0 Base Kit.
- o Serial Line Internet Protocol (SLIP) scripting capability for VJ compression.

Customer Letter Section

DESCRIPTION

USER PRODUCTIVITY

The IBM TCP/IP Version 2.0 product has been designed to improve the productivity of the end user. New functions have been added to TCP/IP Version 2.0, with the goal of end user productivity in mind.

BASE KIT:

o C/I/D Enablement

TCP/IP Version 2.0 for OS/2 uses IBM's Configuration, Installation, and Distribution (C/I/D) guidelines. C/I/D enablement enhances the ability to manage the installation and configuration of this product in sites that have multiple licenses. Installation over a network drive enables the system administrator to keep product diskette images and configuration information on a centralized code server. This process will also enhance the distribution of corrective service software.

o Workplace Shell Support

This function relates to the similar function now supported by OS/2 Versions 2.0 and 2.1. Because of this additional support, TCP/IP Version 2.0 is easy to use. Most commonly used functions can be accessed via icons on the OS/2 desktop. File transfer and printing can be done by using the mouse to drag files to file transfer windows and print icons. This function resides in the Base Kit and the Applications Kit.

o 32-Bit APIs

IBM TCP/IP Version 2.0 for OS/2 will provide 32-bit Socket APIs, which include C Set/2 support. The socket library is divided into two parts: protocol-independent calls and protocol-dependent calls. Static linking is not provided in Version 2.0. 16-bit application development using Microsoft (4) C6.00A will NOT be supported in Version 2.0, but all 16-bit TCP/IP applications developed with the TCP/IP Version 1.2.1 Programmer's Toolkit will run unchanged with TCP/IP Version 2.0.

o Frame Relay support

Support for frame relay using the Network Driver Interface Specification (NDIS) is provided in this release.

- o FDDI Support

Support for FDDI using the NDIS is provided in this release.

- o SNMP DPI Enhancements

The original SNMP DPI Version 1.0 has been documented as part of Request for Change (RFC) 1228. With this release of TCP/IP, SNMP DPI Version 1.1 is now supported. DPI Version 1.1 now has two additional DPI library routines, and changes in the structures are now available as well. This support is provided in the Base Kit and the Programmer's Toolkit.

- o TN5250 Support

This function allows AS/400s to interconnect with the PS/2 (R) units relative to TCP/IP networks.

- o SLIP Enhancements

SLIP support now includes the ability to write REXX scripts for remote connections with site-specific requirements, such as passwords and dynamically assigned IP addresses. SLIP also supports VJ compression for better performance to remote hosts that also have VJ compression.

(4) Microsoft is a registered trademark of Microsoft Corporation.

X WINDOW SYSTEM SERVER KIT: This is a distributed, window-based graphics system developed at the Massachusetts Institute of Technology. With this new release, TCP/IP supports Version 11 Release 5 (X11R5) of the X Window System server function. The OS/2 X Window System server enables the end user to display and control X Window System client application programs in an OS/2 windowed session. These application programs can reside in one or more IBM or other computing systems that support the X Window System client function.

X WINDOW SYSTEM CLIENT KIT: The X Window System (X11R5) enables X Window System client applications to run on OS/2. It includes X libraries and Intrinsics libraries.

NETWORK FILE SYSTEM KIT: The Network File System (NFS) allows users to access files and run programs on remote systems if they are local.

This kit includes both an NFS client and server. In this release, the NFS client now supports file sharing and record locking. This provides a method of protection when sharing files with other users. This support adheres to Version 3 of Sun (5)'s. Network Lock Manager (NLM) protocol.

(5) Sun is a registered trademark of Sun Microsystems, Inc.

DOS/WINDOWS ACCESS KIT: This facility allows DOS applications written to the IBM TCP/IP for DOS Version 2.1 programming interfaces, and Windows applications written to the Windows Sockets API Version 1.0 or Version 1.1 specifications to run in an OS/2 environment on top of IBM TCP/IP Version 2.0 for OS/2. This product requires the customer to have the OS/2 Version 2.1 operating system installed.

PROGRAMMER'S TOOLKIT: The Programmer's Toolkit consists of 32-bit APIs, which include sockets, Sun RPC, FTP API, and SNMP DPI functions. It provides support for the IBM C Set/2 Compiler.

DOMAIN NAME SERVER KIT: A Domain Name Server is a designated network node that enables clients to obtain host names, Internet addresses, and host information. It is also used to deliver and route Internet mail to designated hosts. IBM's Domain Name Server is based on BIND (Berkeley Internet Name Domain) 4.8.3 and supports primary, secondary, and caching-only name servers.

EXTENDED NETWORKING KIT: The SNALink interface with TCP/IP for OS/2 allows you to connect to another TCP/IP network over a SNA network. With this release, TCP/IP now supports the LU6.2 level of SNA networks. SNALink uses the System Network Architecture Advanced Program-to-Program Communication (APPC) to communicate to remote hosts and establish sessions between SNALink hosts.

Also included in this kit is the Extended Networking (X25) interface. The X25 interface is the standard for protocols and standard formats that define the interface between a terminal and a packet-switching network. TCP/IP packets are encapsulated into X.25 packets and are transferred over X.25 switched virtual circuits (SVCs), as described in RFC 877.

NETBIOS KIT: The IBM TCP/IP Version 2 for OS/2 NetBIOS kit is an implementation of the Network Basic Input/Output System (NetBIOS) that has been specifically designed to operate with IBM TCP/IP Version 2.0. NetBIOS provides a standard interface for access to network resources by an application program. The NetBIOS program allows peer-to-peer communication over the network with other computers that provide compatible services. The NetBIOS Kit enables communication with any computer conforming to NetBIOS Internet RFCs 1001 and 1002. This is the same product that was previously released under a separate announcement.

APPLICATIONS KIT: This kit is comprised of all of the applications that exist in the IBM TCP/IP Version 2.0 for OS/2 Base Kit today. They include LPR/LPD, FTP, TELNET, ROUTE/ROUTED, REXE C, and RSH. This kit can be used only if the customer has installed a protocol stack equivalent to the protocol stack supplied in the IBM TCP/IP Version 2.0 for OS/2 Base Kit.

OSF/MOTIF KIT: This support includes the OSF/Motif Version 1.2 libraries for OSF/Motif client applications on OS/2. The TCP/IP for OS/2 X Window System Client Kit is a prerequisite for the OSF/Motif Kit.

ASIA/PACIFIC KIT: This kit is comprised of the Base kit plus DBCS functions for the Asia/Pacific community. The DBCS functions include: FTP, LPR, and LPD.

The Asia/Pacific kit will be available on October 29, 1993.

TOTAL KIT: This kit is comprised of the following kits: Base, NFS, X Window System Server, and Extended Networking. It is provided as a convenience for those customers that may require all four kits.

MULTIMAIL KIT: MultiMail is the state-of-the-art implementation of electronic mail. It can be used to send electronic mail across a heterogeneous TCP/IP network. A more basic electronic mail capability is also provided in the Sendmail and LaMAIL functions of the Base Kit, and MultiMail can be used to exchange text mail with these functions or with any standard implementation of TCP/IP electronic mail.

MultiMail can be used to transmit multimedia messages in conformance with the MIME RFC multimedia mail standard. It supports a wide variety of multimedia data, including text, Rich Text, images (BMP, GIF, and TIFF), audio (wave and MIDI), simple video clips, and binary files. MultiMail provides an easy-to-use Workplace Shell interface to implement mail objects (folders, address books, and envelopes) which behave and resemble objects that exist in the more traditional paper world.

MultiMail will become generally available on November 19, 1993.

INVESTMENT PROTECTION

For customers who have existing IBM TCP/IP Version 1.2 or Version 1.2.1 applications and need to extend their communications into a broader environment, IBM TCP/IP Version 2.0 provides a practical solution. Investment in existing applications is protected because there is no change to those applications. However, support for Kerberos Version 4 and NCS Version 1 functions at the 32-bit API level does not exist in this new version. All applications, including Kerberos and NCS applications, that were created and compiled on TCP/IP Version 1.2 or TCP/IP Version 1.2.1 will run on TCP/IP Version 2.0.

SYSTEM MANAGEMENT

IBM TCP/IP Version 2.0 provides the system administrator and network administrator with the following tools to assist in the daily operations of their TCP/IP for OS/2 networks:

- o Desktop computers with IBM TCP/IP Version 2.0 can now be managed through the simple network management protocol (SNMP) agent support. An SNMP network monitor can get management information base (MIB-II) data collected by the TCP/IP SNMP agent. The SNMP agent can also provide unsolicited notifications of significant events to the SNMP monitor. The SNMP DPI Version 1.1 is provided to allow for user-defined MIB data.
- o To improve problem determination and serviceability, IBM TCP/IP

Version 2.0 provides IP packet tracing.

- o The PING command can be used to determine accessibility of hosts and to isolate trouble. The server and client functions allow users to PING from one personal computer to another.
- o The IFCONFIG command helps in managing network interfaces.
- o The NETSTAT command allows users to query sockets, protocol, memory, and interface statistics.
- o The NSLOOKUP command allows users to query Internet domain name servers.

ADDITIONAL PRODUCT INFORMATION

The following chart summarizes the protocols and functions provided by IBM TCP/IP Version 2.0 for OS/2. To provide flexibility in ordering for different network needs, 14 kits are offered:

BASE KIT (65G1220):

- o Protocols: TCP/IP/UDP/ARP/ICMP (TCP/IP Protocol Stack)
- o LAN Protocols: Token-Ring, Ethernet Version 2, IEEE 802.3, and all NDIS-compliant device drivers
- o LAN Access: NDIS, SLIP, Coaxial
- o Environments: OS/2 2.0 or 2.1 or later
- o OS/2 based:
 - FTP -- file transfer
 - TELNET (ANSI, VT100, VT220, 3270, 5250)
 - SMTP client/server -- electronic mail
 - SMTP user interface -- LaMAIL
 - ROUTED/RIP
 - Workplace Shell integration
 - C/I/D enablement
 - REXEC, RSH -- remote execution
 - ARP
 - PING
 - LPR Client and LPR Server -- network printing
 - SNMP (agent and monitor) -- network management
 - NETSTAT
 - ROUTE

- HOST
- FINGER
- IFCONFIG
- Frame relay support
- FDDI support
- NR2 -- Internet news reader

NFS KIT (65G1255):

- o Network file sharing
- o NFS client and server
- o File locking on client

NETBIOS KIT (65G1240):

- o Compliant with RFCs 1001 and 1002
- o Supports NetBIOS applications over IP

PROGRAMMER'S TOOLKIT (65G1236):

- o 32-bit APIs
- o FTP API
- o SNMP DRVR
- o Berkeley Sockets 4.3
- o Sun's RPC with XDR

ASIA/PACIFIC KIT (65G1252):

All base kit functions plus

- o DBCS support for LPR, LPD, and FTP
- o OS/2 J2.0, H2.0, and K2.0 support

EXTENDED NETWORKING KIT (65G1224):

- o Extended Networking RFC 877
- o Supports IP over X.25 network via encapsulation
- o TCP/IP over SNA LU6.2

X WINDOW SYSTEM SERVER KIT (65G1228):

- o Version 11 Release 5 (X11R5)
- o 32-bit support

X WINDOW SYSTEM CLIENT KIT (65G1243):

- o Enables X client applications to run on OS/2
- o XLIB, and Intrinsics libraries

TOTAL KIT (65G1232):

- o Base Kit
- o Extended Networking Kit
- o X Window System Server Kit
- o Network File System Kit

OSF/MOTIF KIT (71G9486):

- o Enables OSF/Motif applications to run on OS/2
- o OSF/Motif Version 1.2 libraries

DOS/WINDOWS ACCESS KIT (70G3751):

- o Full support for Winsock API, which allows DOS and Windows 3.1 applications to run on OS/2

APPLICATIONS KIT (70G3884):

- o FTP -- file transfer
- o TELNET (ANSI, VT100, VT220, 3270, 5250)
- o SMTP client/server -- electronic mail
- o SMTP user interface -- LaMAIL
- o ROUTED/RIP
- o Workplace Shell integration
- o C/I/D enablement
- o REXEC, RSH -- remote execution
- o ARP
- o PING
- o LPR client and LPR server -- network printing
- o SNMP (agent and monitor) -- network management
 - NETSTAT
 - ROUTE
 - HOST
 - FINGER
 - IFCONFIG
- o Frame relay support
- o FDDI support
- o NR2 -- Internet news reader

DOMAIN NAME SERVER KIT (76G8086):

- o Domain name server libraries

MULTIMAIL KIT (65G1249):

- o MIME RFC 1341

PRODUCT POSITIONING

IBM TCP/IP Version 2.0 for OS/2 enhances the IBM family of TCP/IP products, which includes TCP/IP on VM, MVS, OS/2, OS/400, and the AIX family, and IBM 3174 TCP/IP TELNET. These products are designed to address multivendor communication requirements and to allow most IBM platforms access to networks involving non-IBM systems. IBM's TCP/IP Version 2.0 for OS/2 meets these requirements. Users of the past release of TCP/IP for OS/2 should consider upgrading to Version 2.0, which offers usability and functionality advantages.

PUBLICATIONS

IBM TCP/IP VERSION 2.0 FOR OS/2: INSTALLATION AND ADMINISTRATION (SC31-6075) is shipped as documentation with the TCP/IP for OS/2 Base Kit, and the Total Kit.

IBM TCP/IP VERSION 2.0 FOR OS/2: PROGRAMMER'S REFERENCE (SC31-6077) is shipped as documentation with the TCP/IP for OS/2 Programmers' Toolkit.

The following publications are not shipped as documentation with the remaining TCP/IP for OS/2 application and development packages. However, softcopy diskettes are included in each of these kits and are provided with a print tool to allow printing of the manuals locally.

| TITLE | ORDER NUMBER |
|--|--------------|
| IBM TCP/IP Version 2.0 for OS/2: X Window System Server Guide | SC31-7070 |
| IBM TCP/IP Version 2.0 for OS/2: User's Guide | SC31-6076 |
| IBM TCP/IP Version 2.0 for OS/2: NetBIOS Guide | SC31-6122 |
| IBM TCP/IP Version 2.0 for OS/2: Network File System Guide | SC31-7069 |
| IBM TCP/IP Version 2.0 for OS/2: X Window System Client Guide | SC31-7070 |
| IBM TCP/IP Version 2.0 for OS/2: | |

Extended SC31-7071

Networking Guide

IBM TCP/IP Version 2.0 for OS/2:

MultiMail Installation and

Configuration Guide

SC31-7120

IBM TCP/IP Version 2.0 for OS/2:

Domain Name Server Guide

SC31-7174

IBM TCP/IP Version 2.0 for OS/2:

Command Reference

SX75-0070

Copies of these publications will be available through your IBM representative at product general availability, except for the

MultiMail Guide, which will be made available on November 19, 1993.

DISPLAYABLE SOFTCOPY PUBLICATIONS

IBM's TCP/IP Version 2.0 for OS/2 publications are offered in displayable softcopy form. The displayable manuals are part of the basic machine-readable material. The files are shipped on the same media type as the basic machine-readable material.

The ILR (IBM BookManager (R) Library Reader (TM)) for OS/2 workstations will be shipped with the displayable softcopy publications. These displayable manuals can be viewed and searched with the ILR. Terms and conditions for use of the machine-readable files are shipped with the files.

EDUCATION SUPPORT

The appropriate curriculum will be updated, as necessary, to include the enhancements described in this announcement.

Details of the education support will be provided by product availability through separate Education Announcements.

Descriptions of all classroom and self-study courses are contained in the CATALOG OF IBM EDUCATION (G320-1244).

Call Skill Dynamics (TM) at the toll-free number 800-IBM-TEACH (426-8322) for schedules and enrollments.

TECHNICAL INFORMATION

SPECIFIED OPERATING ENVIRONMENT

MACHINE REQUIREMENTS: Any personal computer (or IBM industrial computer) with an Intel (6) 80386 or above microprocessor (80x86 processors) that supports IBM OS/2 Version 2.0 or later with a fixed disk drive and a 3.5-inch diskette drive.

Refer to the following IBM Programming Announcements for specific operating environments and hardware models supported:

- o IBM OS/2 Version 2.0, dated October 22, 1991, Programming Announcement 291-598
- o IBM OS/2 Version 2.1, dated May 18, 1993, Programming Announcement 293-256.

The IBM TCP/IP for OS/2 Base Kit supports all LAN adapters that provide a device driver written to the Network Driver Interface Specification (NDIS) Version 2.0. The Base Kit includes NDIS device drivers for several IBM and non-IBM adapters. The device drivers that are included are the same device drivers that shipped with NTS/2 Version 1.0. For more information, please review IBM Programming Announcement 292-582, dated October 6, 1992.

(6) Trademark of Intel Corporation.

PROGRAMMING REQUIREMENTS: TCP/IP Version 2.0 is designed to operate with Operating System/2 (R) Version 2.0 or later.

Customers wanting to use any of the application kits (except the Applications Kit) will require the IBM TCP/IP for OS/2 Base Kit, or a protocol stack that is equivalent to the protocol stack supplied in the IBM TCP/IP Version 2.0 for OS/2 Base Kit.

Customers wishing to develop TCP/IP applications using the socket library, RPC, SNMP DPI, or FTP API will need the IBM TCP/IP Version 2.0 for OS/2 Programmer's Toolkit (65G1236).

PLANNING INFORMATION

Memory requirements for TCP/IP Version 2.0 for OS/2 are directly dependent on the number and types of applications that are run. For assistance in determining OS/2 requirements, refer to the OS/2 2.0 OR 2.1 INFORMATION AND PLANNING GUIDE (GC30-2650), which instructs the user in how to determine complete OS/2 system needs. For information in determining TCP/IP Version 2.0 for OS/2 needs,

refer to IBM TCP/IP VERSION 2.0 FOR OS/2 INSTALLATION AND ADMINISTRATION (SC31-6075).

PACKAGING: The IBM TCP/IP Version 2.0 for OS/2 -- Base Kit is distributed with the following materials:

- o IBM Program License Agreement and Programming Support Summary
- o Proof of License
- o License Information including the Statement of Service
- o Product and softcopy diskettes: 3.5-inch, 1.44MB diskettes
- o IBM Transmission Control Protocol/Internet Protocol for OS/2 Installation and Administration (SC31-6075).

The IBM TCP/IP for OS/2 -- Programmer's Toolkit is distributed with the following materials:

- o IBM Program License Agreement and Programming Support Summary
- o Proof of License
- o License Information including the Statement of Service
- o Product and softcopy diskettes: 3.5-inch 1.44MB diskettes
- o Installation booklet
- o IBM Transmission Control Protocol/Internet Protocol for OS/2 Programmer's Reference (SC31-6077).

The IBM TCP/IP Version 2.0 for OS/2 Total Kit is distributed with the following materials:

- o The Base Kit
- o The Network File Systems (NFS) Kit
- o The Extended Networking Kit
- o The X Window System Server Kit
- o IBM Program License Agreement and Programming Support Summary
- o Proof of License
- o License Information including the Statement of Service
- o Product and softcopy diskettes: 3.5-inch, 1.44MB diskettes
- o IBM Transmission Control Protocol/Internet Protocol for OS/2 Installation and Administration (SC31-6075).

The IBM TCP/IP for OS/2 -- Asia/Pacific Kit is distributed with the following material:

- o IBM Program License Agreement and Programming Support Summary

- o Proof of License
- o Installation and Usage Information
- o License Information including the Statement of Service
- o Product and Softcopy Diskettes: 3.5-inch, 1.44MB diskettes
- o IBM Transmission Control Protocol/Internet Protocol for OS/2 Installation and Administration (SC31-6075).

The IBM TCP/IP for OS/2 application kits (NFS, Extended Networking, X Window System Server, X Window System Client, OSF/Motif, NetBIOS, Applications, DOS/Windows Access, Domain Name Server, and the MultiMail) are all distributed with the following materials:

- o IBM Program License Agreement and Programming Support Summary
- o Proof of License
- o License Information including the Statement of Service
- o Product and softcopy diskettes: 3.5-inch, 1.44MB diskettes
- o Installation booklet.

Customers ordering the new multivolume User Paks will find a copy of the original physical kit plus a Proof of Additional License Certificate indicating the amount of additional licenses for which the customer is authorized.

SECURITY, AUDITABILITY AND CONTROL

IBM TCP/IP Version 2 for OS/2 uses the security and auditability features of the OS/2 2.0 operating system and later.

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

ORDERING INFORMATION

Orders for new licenses will be accepted now. For TCP/IP Version 2.0 for OS/2, except for the MultiMail Kit (65G1249) and the OSF/Motif Kit (71G9846), orders entered prior to the planned availability date will be assigned a schedule date of September 3, 1993.

For TCP/IP Version 2.0 for OS/2 -- Asia/Pacific Kit (65G1252),

unless a later date is specified, orders entered prior to the planned availability date will be assigned a schedule date of November 5, 1993.

For the TCP/IP Version 2.0 for OS/2 MultiMail Kit (65G1249) and the OSF/Motif Kit (71G9486), unless a later date is specified, orders entered prior to the planned availability date will be assigned a schedule date of November 26, 1993. Shipment of orders will commence on the availability date.

Orders entered after the planned availability date will be scheduled for shipment on the Friday following the week of order entry or as soon thereafter as supply permits.

Orders may be placed through a local office or by calling the IBM Catalog Solution Center at 800-IBM-CALL.

To order the programs in this announcement for order type, specify the order type number, feature number, part number, program name, and quantity.

ORDER-TYPE PROGRAM NUMBER: 5875-XXX

| FEATURE NUMBER | PART NUMBER | PROGRAM NAME | MEDIUM |
|----------------|-------------|---|--------|
| 5547 | 65G1220 | TCP/IP Version 2.0 for OS/2 -- Base Kit | 3.5 |
| 5551 | 65G1224 | TCP/IP Version 2.0 for OS/2 -- Extended Networking Kit | 3.5 |
| 5555 | 65G1228 | TCP/IP Version 2.0 for OS/2 -- X Window System Server Kit | 3.5 |
| 5559 | 65G1232 | TCP/IP Version 2.0 for OS/2 -- Total Kit | 3.5 |
| 5563 | 65G1236 | TCP/IP Version 2.0 for OS/2 -- Programmer's Toolkit | 3.5 |
| 5569 | 65G1240 | TCP/IP Version 2.0 for | 3.5 |

| | | | |
|------|---------|------------------------|-----|
| | | OS/2 -- NetBIOS Kit | |
| 5572 | 65G1243 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- X Window | |
| | | System Client Kit | |
| 5580 | 65G1249 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- MultiMail Kit | |
| 5583 | 65G1252 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- Asia/Pacific | |
| | | Kit | |
| 5586 | 65G1255 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- NFS Kit | |
| 5636 | 71G9486 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- OSF/Motif Kit | |
| 5652 | 70G3751 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- DOS/Windows | |
| | | Access Kit | |
| 5668 | 70G3884 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- Applications | |
| | | Kit | |
| 5681 | 76G8086 | TCP/IP Version 2.0 for | 3.5 |
| | | OS/2 -- Domain Name | |
| | | Server Kit | |

ORDER-TYPE PROGRAM NUMBER: 5872-XXX

| FEATURE NUMBER | PART NUMBER | PROGRAM NAME |
|-------------------|----------------|--|
| 5549 | 65G1222 | TCP/IP Version 2.0 for OS/2 -- Base Kit Proof of Additional License Certificate |
| 5553 | 65G1226 | TCP/IP Version 2.0 for OS/2 -- Extended Networking Kit Proof of Additional License Certificate |

ORDER-TYPE PROGRAM NUMBER: 5872-XXX

| FEATURE NUMBER | PART NUMBER | PROGRAM NAME |
|-------------------|----------------|---|
| 5557 | 65G1230 | TCP/IP Version 2.0 for OS/2 -- X Window System Server Kit Proof of Additional License Certificate |
| 5561 | 65G1234 | TCP/IP Version 2.0 for OS/2 Total Kit Proof of Additional License Certificate |
| 6714 | 65G1238 | TCP/IP Version 2.0 for OS/2 -- Programmer's Toolkit Proof of Additional License Certificate |
| 5571 | 65G1242 | TCP/IP Version 2.0 for OS/2 -- NetBIOS Kit Proof of Additional License Certificate |
| 5575 | 65G1245 | TCP/IP Version 2.0 for OS/2 -- X Window System Client Kit Proof of Additional License Certificate |
| 5582 | 65G1251 | TCP/IP Version 2.0 for OS/2 -- MultiMail Kit Proof of Additional License Certificate |
| 5585 | 65G1254 | TCP/IP Version 2.0 for OS/2 -- Asia/Pacific Kit -- Proof of Additional License |

| | | |
|------|---------|---|
| | | Certificate |
| 5588 | 65G1257 | TCP/IP Version 2.0 for OS/2 -- NFS Kit Proof of Additional License Certificate |
| 5638 | 71G9488 | TCP/IP Version 2.0 for OS/2 -- OSF/Motif Kit Proof of Additional License Certificate |
| 5653 | 70G3752 | TCP/IP Version 2.0 for OS/2 -- DOS/Windows Access Kit Proof of Additional License Certificate |
| 5611 | 71G9487 | TCP/IP Version 2.0 for OS/2 -- Domain Name Server Kit Proof of Additional License Certificate |
| 5613 | 71G9490 | TCP/IP Version 2.0 for OS/2 -- Applications Kit Proof of Additional License Certificate |

ORDER-TYPE PROGRAM NUMBER: 5875-UPG

| FEATURE NUMBER | PART NUMBER | PROGRAM NAME | MEDIUM |
|-------------------|----------------|---|--------|
| 5550 | 65G1223 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Base Kit Upgrade | 3.5 |
| 5589 | 65G1258 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- NFS Kit Upgrade | 3.5 |

| | | | |
|------|---------|--|-----|
| 5554 | 65G1227 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Extended Networking Kit Upgrade | 3.5 |
| 5558 | 65G1231 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- X Window System Server Kit Upgrade | 3.5 |
| 5562 | 65G1235 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Total Kit Upgrade | 3.5 |
| 5566 | 65G1239 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Programmer's Tool Kit Upgrade | 3.5 |
| 5649 | 71G9489 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Asia/Pacific Kit Upgrade | 3.5 |

ORDER-TYPE PROGRAM NUMBER: 5874-UPG

| FEATURE NUMBER | PART NUMBER | PROGRAM NAME |
|-------------------|----------------|--|
| 5600 | 71G9305 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Base Kit Upgrade Proof of Additional License Certificate |
| 5602 | 71G9307 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Extended Networking Kit Upgrade Proof of Additional |

| | | |
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| 5604 | 71G9309 | License Certificate TCP/IP Version 1.2 for Version 1.2.1 for OS/2 -- X Window System Server Kit Upgrade Proof of Additional License Certificate |
| 5606 | 71G9311 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Total Kit Upgrade Proof of Additional License Certificate |
| ORDER-TYPE PROGRAM NUMBER: 5874-UPG | | |
| FEATURE | PART | |
| NUMBER | NUMBER | PROGRAM NAME |
| 5608 | 71G9313 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- Programmer's Tool Kit Upgrade Proof of Additional License Certificate |
| 5610 | 71G9315 | TCP/IP Version 1.2 or Version 1.2.1 for OS/2 -- NFS Kit Upgrade Proof of Additional License Certificate |
| 5616 | 71G9304 | TCP/IP Version 1.2 for Version 1.2.1 for OS/2 -- Asia/Pacific Kit Upgrade Proof of Additional License Certificate |

The available order types are as follows:

- o Program Package -- program diskette with documentation.
- o Additional License Copies -- authorization for the customer who has a program package to make a single copy of the program

diskette and documentation. The customer must order a Proof of Additional License Certificate. The ICA is not required.

- o Additional License Copy Upgrade -- authorization for the customer who has a program package upgrade to make a single copy of the program diskette and documentation. The customer must order a Proof of Additional License Upgrade Certificate. The ICA is not required.

IBM EDUCATION FULFILLMENT CENTER: The announced program is eligible to be ordered through the IBM Education Fulfillment Center. Please note that availability through the IBM Education Fulfillment Center may not coincide with the programming availability dates noted in other sections of this document.

The IBM Education Fulfillment Center is the order processing location for selected Personal Computers and related hardware and software for eligible education end users.

PROGRAM UPGRADE

The program package upgrade option allows currently licensed users of the IBM TCP/IP Version 1.2 or 1.2.1 for OS/2: Base Kit, NFS Kit, Programmer's Toolkit, Extended Networking Kit, X Window System Server Kit, or Total Kit to obtain the new function for a program upgrade charge. The program upgrade to the IBM TCP/IP Version 2.0 Base Kit, NFS Kit, Extended Networking Kit, X Window System Server Kit, Total Kit, or Programmer's Toolkit will be available from August 27, 1993. Orders will be accepted after August 27, 1993.

The program upgrade to IBM TCP/IP Version 2.0 for OS/2: Asia/Pacific Kit (upgrade from IBM TCP/IP Version 1.2 or 1.2.1 for OS/2) will be available on October 29, 1993. Orders will be accepted after October 29, 1993.

These upgrades will be available through IBM Authorized Personal Computer Dealers and Industry Remarketers -- Personal Computers certified to market IBM Authorized Advanced Products. The remarketer will require a Proof of License for each upgrade ordered. The original Proof of License is the colored front cover page (inside the hard binder) or the separate Proof of License page in the program

package as identified by IBM to the remarketer.

Customers may also order upgrades through the local IBM office using the IBM Personal Computer/System Program IBM US Upgrade and Certification Order Form included with this announcement.

TERMS AND CONDITIONS

LICENSING: The program in this announcement is licensed under the terms and conditions of the IBM Program License Agreement. A copy of the agreement is included in the program package.

ADDITIONAL LICENSE: A Proof of Additional License Certificate must be acquired.

LIMITED WARRANTY: Program -- Yes. Media -- Three months.

Additional licenses -- Yes. Media -- Not applicable.

PROGRAM SERVICES: Central service, including the IBM Support Center, will be available until December 31, 1994, or until discontinued by IBM upon six months' written notice, whichever is earlier. The statement of service included in the program package describes this service.

VOLUME DISCOUNT: Not applicable.

TESTING PERIOD: Two months for program packages. IBM Customer Agreement (ICA) must be in effect.

NATIONAL EDUCATION LICENSE FEE: A National Education License Fee (NELF) is available under the terms and conditions of the Education Allowance Attachment. The NELF, which represents a 30% discount off the single unit price, is not subject to any further discount or allowance.

CHARGES

IBM TCP/IP Version 2.0 for OS/2

| Program Name/ | Order Type | One-Time Charge |
|---------------|----------------------------|-----------------|
| 65G1220 | Base Kit | \$230 |
| 65G1224 | Extended Networking Kit | 195 |
| 65G1228 | X Window System Server Kit | 195 |
| 65G1232 | Total Kit | 722 |

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|----------------------------|--|------------------------|------------------------------|
| 65G1236 | Programmer's Tool Kit | 550 | |
| 65G1240 | NetBIOS Kit | 110 | |
| 65G1243 | X Window System Client Kit | 195 | |
| 65G1249 | MultiMail Kit | 99 | |
| 65G1252 | Asia/Pacific Kit | 265 | |
| 65G1255 | NFS Kit | 140 | |
| 70G3751 | DOS/Windows Access Kit | 85 | |
| 70G3884 | Applications Kit | 175 | |
| 76G8086 | Domain Name Server Kit | 495 | |
| 71G9486 | OSF/Motif Kit | 195 | |
| 65G1222 | Base Kit Proof of Additional License Certificate | 195 | |
| 65G1226 | Extended Networking Kit Proof of Additional License Certificate | 175 | |
| 65G1230 | X Window System Server Kit Proof of Additional License Certificate | 175 | |
| 65G1234 | Total Kit Proof of Additional License Certificate | 635 | |
| 65G1238 | Programmer's Tool Kit Proof of Additional License Certificate | 495 | |
| Program Name/ Number | Order Type | One- Time Charge | Program Upgrade Charge |
| 65G1242 | NetBIOS Kit Proof of Additional License Certificate | \$ 99 | |
| 65G1245 | X Window System Client Kit Proof of Additional License Certificate | 175 | |
| 65G1251 | MultiMail Kit Proof of Additional License Certificate | 89 | |

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|---------|---|-----|-------|
| 65G1254 | Asia/Pacific Kit Proof of Additional License Certificate | 238 | |
| 65G1257 | NFS Kit Proof of Additional License Certificate | 102 | |
| 70G3752 | DOS/Windows Access Kit Proof of Additional License Certificate | 77 | |
| 71G9487 | Domain Name Server Kit Proof of Additional License Certificate | 445 | |
| 71G9488 | OSF/Motif Kit Proof of Additional License Certificate | 175 | |
| 71G9490 | Applications Kit Proof of Additional License Certificate | 157 | |
| 65G1223 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Base Kit Upgrade | | \$ 69 |
| 65G1258 | Version 1.2 or Version 1.2.1 to Version 2.0 -- NFS Kit Upgrade | | 42 |
| 65G1227 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Extended Networking Kit Upgrade | | 59 |
| 65G1231 | Version 1.2 or Version 1.2.1 to Version 2.0 -- X Window System Server Kit Upgrade | | 59 |
| 65G1235 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Total Kit Upgrade | | 217 |
| 65G1239 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Programmer's Toolkit Upgrade | | 165 |
| 71G9489 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Asia/Pacific Kit Upgrade | | 79 |

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| 71G9305 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Base Kit Upgrade Proof of Additional License Certificate | 62 |
| 71G9315 | Version 1.2 or Version 1.2.1 to Version 2.0 -- NFS Kit Upgrade Proof of Additional License Certificate | 38 |
| 71G9307 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Extended Networking Kit Upgrade Proof of Additional License Certificate | 53 |
| 71G9309 | Version 1.2 or Version 1.2.1 to Version 2.0 -- X Window Server Kit Upgrade Proof of Additional License Certificate | 53 |
| 71G9311 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Total Kit Upgrade Proof of Additional License Certificate | 195 |
| 71G9313 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Programmer's Toolkit Upgrade Proof of Additional License Certificate | 149 |
| 71G9304 | Version 1.2 or Version 1.2.1 to Version 2.0 -- Asia/Pacific Kit Upgrade Proof of Additional License Certificate | 71 |

ADDITIONAL LICENSES CHARGE: Customers who pay a one-time charge for additional licenses may copy machine-readable program materials and printed documentation previously acquired from IBM in a program package. One copy may be made for each additional license ordered.

PROGRAM UPGRADE CHARGE: A program upgrade charge will apply for

upgrades from:

- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 Base Kit to IBM TCP/IP Version 2.0 for OS/2 Base Kit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 NFS Kit to IBM TCP/IP Version 2.0 for OS/2 NFS Kit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 Extended Networking Kit to IBM TCP/IP Version 2.0 for OS/2 Extended Networking Kit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 X Window System Server Kit to IBM TCP/IP Version 2.0 for OS/2 X Window System Server Kit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 Total Kit to IBM TCP/IP Version 2.0 for OS/2 Total Kit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 Programmer's Toolkit to IBM TCP/IP Version 2.0 for OS/2 Programmer's Toolkit
- o IBM TCP/IP Version 1.2 or Version 1.2.1 for OS/2 Base Kit to IBM TCP/IP Version 2.0 for OS/2 Asia Pacific Kit.

(CORRECTED ON OCTOBER 13, 1993) In the external under the Ordering Information section and the Charges section, Program Names have been clarified.
