Fact Sheet

IBM PERSONAL SYSTEM/2™
OPERATING SYSTEMS

Introduction

The widely accepted IBM DOS has proved to be a solid base upon which over 20,000 applications have been developed. Two keys to its success are the high degree of compatibility and the open architecture that IBM has maintained over three versions and seven releases.

As the use of personal computers has grown, IBM has recognized a need to remove inherent DOS limitations, improve usability, and extend the operating environment for the advanced user, while maintaining compatibility with existing applications. To address these requirements, IBM is announcing a new generation of operating system -- IBM Operating System/2 (TM), designed to exploit the memory capacity and power of the advanced Intel 80286 and 80386 microprocessors, as well as future advanced microprocessors.

IBM is also announcing enhancements to DOS, the PC LAN Program and the 3270 Workstation Program.

A New Generation Of Operating System

IBM Operating System/2 is the growth path for DOS, exploits new hardware, provides significant new function, offers enhanced ease-of-use, and provides a platform for future application growth.

There are three types of application environments supported by Operating System/2: DOS environment, Family environment, and Operating System/2 environment. DOS environment allows many existing DOS applications to run unaltered. Family environment enables an application to begin to exploit the functional advantages of Operating System/2, while maintaining portability to DOS. Operating System/2 environment takes full advantage of the system facilities.

Operating Facilities

Operating System/2 environment allows the user to run multiple applications concurrently. Each application, individually or collectively, can take advantage of available memory up to 16MB.

The system is designed to present a consistent, user-friendly environment. A graphical interface with windowing is provided. Extensive built-in help facilities are tailored to the function being performed when assistance is requested.

Operating System/2 provides a functionally rich communications manager supporting multiple protocols over a variety of connectivities. Multiple communications sessions may be concurrently active. Additionally, the Advanced Program to Program Communications (APPC-LU6.2) and the IBM Enhanced Connectivity Facilities (ECF) programming interface is supported. An integrated set of network management functions and services is included.

To improve data access, a relational data base management subsystem is provided, making it easier to access data on the user's PC, as well as on other IBM systems connected to the same network. The data base manager is a relational data base management subsystem based on the Structured Query Language (SQL). It is consistent with the IBM family of relational products (DB2, SQL/DS, QMF).

As a participant in the recently announced IBM System Application Architecture (SAA), Operating System/2 provides a consistent user view and application portability across IBM systems.

A new service and warranty plan reflects IBM's recognition of the increased dependency that its customers are placing on the PC as an integral part of their business. Program defect support will be provided by the IBM National Service Division and delivered via Customer Service Coordinators or IBM Authorized Advanced Products Dealers.

Evolution Of User Environment

For many users, the personal computer has evolved from being used to run a single application to an environment where multiple applications need to operate concurrently. An increasing number of today's users are demanding applications that require increased processor performance and function, larger memory, and enhanced data management capabilities. Additionally, these advanced users need to run applications while communicating with other systems concurrently, and to share data and other resources (for example, large fixed disks or enhanced plotters/printers). At the same time, users want their applications to be easy and offer a consistent appearance despite increasing function.

Many of these needs are being addressed today with extensions to
DOS. These solutions, produced by different developers at
different times, often conflict with one another and only
partially answer the application need. To fully answer these
expanding requirements, a fundamental new approach is needed--an
comprehensive system solution combining commonly used system
components into one product and providing consistent applications
and user interfaces.

The Integrated Solution

By integrating an advanced data base, intersystem communications,
and a graphics-based consistent user interface with an operating
system base, Operating System/2 address multiple needs.

For the application developer, Operating System/2 provides a
consistent application-to-system interface and a richer set of
system-provided functions. It also provides a greater level of
device independence, particularly in the interconnected and data
base environments.

For the application user, Operating System/2 provides an
easy-to-use system environment that allows applications created
by different developers to have a consistent appearance, both
within the operating system and between IBM systems participating
in the IBM Systems Application Architecture. Additionally, users
can share data stored on different IBM systems via an SQL-based
system-provided facility.

Enhanced Capabilities Of Operating System/2

Operating System/2 provides new levels of function, usability,
and support for the IBM Personal System/2 (TM) and existing PC XT
Model 286 and Personal Computer AT (R) systems. Some highlights:

   -- New system function supports large applications exceeding
      640KB of memory (up to 16MB), the ability to run multiple
      applications concurrently, and to share and pass data
      among and within applications.

   -- Enhanced communications function provides concurrent
      communications and support for a wide range of
      connectivities, protocols and terminal emulation
      (including file transfer). Connectivities include 3270
      DFT, SDLC, IBM Token Ring and PC Network LAN, and
      asynchronous protocols. Terminal emulations supported
      include 3270, 3103 and DEC VT100 (TM). Communications
      and system management support includes alerts, error
      logging and statistics. IBM's Enhanced Connectivity
      Facilities (ECF) supports PC-to-host communications
      provided via the Server-Requester Programming Interface
      (SRPI) over LU2. Other programming interfaces include
      APPC, IBM Netbios, and IEEE 802.2 LAN support.

-- New data base management function provides a relational data base system consistent with IBM DB2 and IBM Structured Query Language (SQL) Data System. Extensive support includes interactive query and report writing consistent with the QMF, and application creation tools. Data base management provides support for multiple-user and remote data access, as well as local/remote transparency of data.

-- A consistent user interface is present throughout the communications, systems, and data base services. This interface provides a consistent use of the keyboard screen layouts, and terminology. A new window manager, supported by enhanced graphics services, provides a built-in capability to simplify user operations when multiple applications are running concurrently. Pop up menus allow the user to select program options while viewing the application screen. Comprehensive context-sensitive help screens and tutorials make it easier for the user to become quickly productive.

IBM OPERATING SYSTEM/2 PRODUCT CONTENT SUMMARY

Standard Edition Version 1.0

Operating System/2 Standard Edition Version 1.0 complements Personal System/2, provides significant new functions, offers enhanced ease-of-use, and provides a platform for future application growth. It supports large memory, multiple applications, and an IBM DOS operating environment. It will be available in the first quarter of 1988.

Standard Edition Version 1.1

Operating System/2, Standard Edition, Version 1.1, includes all of the functions of Version 1.0, plus a graphics-based Presentation Manager (TM) and windowing capabilities. Additional functional detail and availability will be announced in the fourth quarter of this year.

Extended Edition

Extended Edition combines the enhanced base operating system functions of Standard Edition Version 1.1 with IBM communications support and data base management. Availability will be announced in the fourth quarter of this year.

Planned Enhancements To IBM Operating System/2

Planned Enhancements to IBM Operating System/2 include enhanced support for fixed disks, application development facilities for Dialog Manager, remote LAN data services, SNA Local Area Network Gateway Support, Enhanced Connectivity Facilities, and a 5250 workstation feature. Availability of these enhancements will be announced at a later date.

IBM DOS System Enhancements

IBM DOS will continue to be widely used and many requirements will be satisfied with it and its system extensions currently available. IBM believes that the DOS user population will continue to be well served by this highly successful operating system, both today and in the future. Those users planning to move to the Operating System/2 will want to use DOS 3.3, along with other enhanced IBM software, to take advantage of the price/performance/function enhancements of the Personal System/2.

IBM DOS Version 3.3 is enhanced to support the entire line of IBM personal computing systems and is available immediately. DOS 3.3 supersedes all prior versions of DOS except DOS Version 2.1, as well as supporting today's newly-announced systems, features and devices. Many DOS application programs have been enhanced to support the new hardware and provide new function.

Enhanced Capabilities of DOS

DOS 3.3 includes many enhanced functions and performance improvements: Some highlights:

-- FASTOPEN is a new Terminate and Stay Resident Command used to install filename cache support. This command allows files that have been accessed recently to be reopened rapidly and provides fast access to deeply nested files that are opened and closed frequently, such as files shared across multiple PC networks;

-- CALL is a new command that allows nested batch files. A batch file can call another batch file that can return control to the calling batch file. This command enhances support for iterative processing.

-- Batch file facility has been enhanced to allow access to environment values. This enhancement results in increased flexibility of batch files by allowing appropriate actions to occur based on the content of the environmental area.

-- APPEND is a new command that allows use of application
   and data files not contained in the currently active
   directory. It allows the user to be in one subdirectory
   and find files in another subdirectory to eliminate
   duplication of files or file profiles in each directory.

-- BACKUP and RESTORE commands have been enhanced to provide
   greater performance and usability. A diskette not
   previously formatted will be formatted using a new /F
   parameter. The backup mode more efficiently uses the
   backup media capacity and correctly handles file sharing
   and record locking. The BACKUP command produces a log
   file that records each file processed and identifies the
   diskette the file resides on. The RESTORE command
   has been enhanced to prevent restoration of unbootable
   system files.

-- ATTRIB command has been enhanced to provide the ability
   to modify most file attributes for a single file, for
   selected files in a directory, or for all files at or
   below a directory level. This command allows the user
   greater control over file access and usage.

-- MODE command has been enhanced to provide support for up
   to four asynchronous communications ports to exploit new
   hardware capability. This also allows the user to set
   the asynchronous adapter to 19.2KB transmission rates.

3270 Emulation with DOS

For the 3270 emulation user stressing today's system
capabilities, functions previously available only to the 3270 PC
user are now extended to all PC users via the IBM 3270
Workstation Program.

The 3270 Workstation Program Version 1.0 will support selected
models of the IBM PC XT, Personal Computer AT, 3270 PC, and all
Personal System/2 models. This program provides up to four
concurrent host sessions, up to six concurrent DOS sessions, and
up to two notepad sessions. Users can combine DOS 3.3, the 3270
Workstation Program, and the new IBM Expanded Memory Adapter
(XMA) to provide 640KB memory relief. It will be available in
June of this year for Personal System/2 Models 30, 50 and 60-041
and in September for Model 60-071, Model 80-041, and
Model 80-071.

The 3270 Workstation Program Version 1.1 is designed to run on
the Personal System/2 Model 80 and provides the functions of the
XMA without requiring the adapter. In addition, when used with
the IBM Token Ring LAN gateway, users are provided full 3270
emulation without the need for the 3278/79 adapter card. Version
1.1 will be available in the first quarter of 1988.

The new IBM PC LAN Program Version 1.2 provides significant performance improvements as well as functional enhancements to IBM Token Ring Network and IBM PC Network users. This program is available now and supports the IBM Personal Computer, PC XT, PC AT, and all models of Personal System/2.

PRODUCT CONTENT SUMMARY

IBM DOS 3.3

DOS 3.3 is the operating system for Personal System/2 Model 30, PCjr, PC, Portable PC, PC XT, and PC Convertible. It also provides a single-tasking operating environment for Personal System/2, PC XT/Model 286 and all models of the Personal Computer AT. For customers intending to move to Operating System/2, IBM DOS 3.3 provides an interim solution until Operating System/2 is available. IBM DOS 3.3 is available immediately.

IBM 3270 Workstation Program Version 1.0

The 3270 Workstation Program, Version 1.0 extends the IBM DOS 3.3 function to provide up to four host sessions, up to six DOS applications, and up to two notepad sessions. Support for applications previously written to IBM 3270 PC interfaces is also provided. Version 1.0 supports selected models of the IBM PC XT, PC AT, 3270 PC, 3270 PC AT, and all models of Personal System/2. To provide 640KB memory relief, the IBM Expanded Memory Adapter (XMA) is required. Version 1.0 will be available in June of this year for Personal System/2 Models 30, 50 and 60-041 and in September for Model 60-071, Model 80-041, and Model 80-071.

IBM 3270 Workstation Program, Version 1.1

The 3270 Workstation Program Version 1.1 extends the IBM 3270 Workstation Program Version 1.0 with two major enhancements. It supports the Personal System/2 Model 80 and it provides the functions of the XMA card without requiring the card. Additional support has been added to allow use with a Token Ring LAN gateway to provide full 3270 emulation without the need for a 3278/79 adapter card. Version 1.1 will be available in the first quarter of 1988.

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