

**VM/SYSTEM PRODUCT RELEASE 3
(VM/SP RELEASE 3)
5664-167**

Contents

[Announcement Letter Number 283-018 dated February 1, 1983](#)
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Brief Description of Announcement, Charges, and Availability

Customer Letter Section

VM/SYSTEM PRODUCT RELEASE 3
(VM/SP RELEASE 3)
5664-167

The VM/SP Release 3 licensed program is a new release of the VM/System Product (VM/SP) which contains all of the functions currently available in Release 2 plus the following new or enhanced capabilities:

- . SQL/DS support
- . Addition of the VM/System Product interpreter
- . Enhanced programmable operator functions
- . Enhanced serviceability
 - Symptom records
 - System/370 program event recording (PER) support
- . CP extensions for application programs
 - DASD block I/O system service
 - Inter-user communication vehicle (IUCV) enhancements
- . CMS extensions for application programs

- CMS file system extensions
- IUCV support
- CMS wait on ECB
- CMS ABEND exits
- RDTERM direct capability
- Enhanced immediate command support
- . VSE/VSAM Release 3 support
- . New and improved System Product editor functions
- . Publications enhancements
- . Missing Interrupt Handler support
- . Speed Matching Buffer support for the IBM 3375

Summary of the Release 3 enhancements

SQL/DS support: Structured Query Language/Data System (SQL/DS) is a relational data base licensed program (5748-XXJ). CP and CMS enhancements have been included to allow SQL/DS Release 2 to operate on VM/SP Release 3 without a guest VSE operating system and without VSE/VSAM. These extensions have been provided in a generalized fashion so that other applications may take advantage of them. The CP/CMS extensions for application programs sections below describe this support.

See the SQL/DS Programming Announcement dated February 1, 1983 for additional information.

System Product interpreter: The System Product interpreter is a new command and macro processor. It can be used for interpreted applications, for command processing and generation, for macros such as those used by the System Product editor, as a desk calculator or mathematical problem solver, or for any other purpose for which an interpreted simple-to-use language is suitable. Syntax is in a high-level form which is easy to learn.

Highlights of the System Product interpreter include:

- . Extended control structure
 - If-Then-Else
 - Select-When-Otherwise-End
 - Do-Iterative-End
 - Iterate and Leave
- . Full set of arithmetic, character, and logical operators
- . Selection of standard functions
- . Free format, mixed case
- . Interactive debug
- . Inline function and subroutine calls
- . Decimal and scientific arithmetic capability
- . Built-in string parsing instructions

The System Product interpreter will be the primary interpretive command and macro processor for VM/SP in the future. It is intended that all future enhancements will be applied to the System Product interpreter. EXEC and EXEC2 will remain supported and will coexist with the more powerful System Product interpreter.

Programmable operator enhancements: Several enhancements to the programmable operator facility have been added. Among them are:

Message routing with nicknames - Allows messages to be routed to other than the logical operator or to multiple operators via CMS 'TELL'. This enhances the ability to have SPOOL and/or TAPE operators at the remote site in addition to a system operator at the host.

Remote node availability - Provides ability for periodic signaling between a host and remote system and alerting the host operator of the inability to communicate with a remote system. Improved availability is also provided with the capability to recover from programmable operator facility ABENDS.

Enhanced text comparison - Allows multiple text comparison strings in a routing table entry with logical operations on the strings.

EXEC action routines - Provides ability for action routines to be written in all EXEC languages supported by CMS, including the new System Product interpreter.

LOG recording and error handling enhancements have also been added.

Enhanced serviceability: System records - A new record will be created that will assist in problem identification. Information from this record can be useful in communicating problems to the IBM support center. The VM Interactive Problem Control Program System Extension (VM IPCS/E, 5748-SA1) Release 2 at the then current service level is required to implement this enhancement.

System/370 program event recording (PER) support - This enhancement provides CP command support to facilitate debugging in a virtual machine. It uses the System/370 hardware program event recording (PER) feature to monitor successful branches, instructions fetched within an address range, alteration of storage within an address range, and alteration of a specific general purpose register. In addition, the support provides the ability to trace within multiple ranges, compare altered storage and registers to specific values, and execute CP commands on specific events.

CP extensions for application programs: Several extensions to CP have been made to support application programs:

A DASD block I/O system service - Allows a virtual machine fast, device-independent asynchronous access to fixed size blocks on CMS formatted virtual DASD I/O devices.

Inter-user communication vehicle (IUCV) extensions to provide:

- . Fast communications through data specification in the parameter list and related protocol extensions
- . Extended mask capability for individual IUCV control interrupts
- . Expanded trace capability
- . Support for the DASD block I/O system service

Diagnose zero support of time zone differential from Greenwich Mean Time.

CMS extensions for application programs: A number of enhancements to CMS have been included to support applications written to run on CMS:

CMS file system extensions - The CMS file system extensions include:

- . 512 byte length physical DASD blocks - A new block size of 512 bytes is supported and is available through a new option on the CMS FORMAT command.
- . DASD block I/O support - New and extended CMS commands and functions are provided to initialize CMS disks for use with the CP DASD block I/O system service.

CMS IUCV support - Support for IUCV communication has been introduced into CMS. This support will allow multiple programs within a virtual machine to use IUCV functions. Included is the ability to initialize a CMS machine for IUCV communication and to invoke IUCV functions via new CMS macros. These macros will also allow the user to specify path-specific exits for IUCV external interrupts. CMS IUCV support can be used to access a CP DASD block I/O system service.

CMS wait on ECB - The ability to wait on an ECB or a list of ECBs will be supported via a new CMS macro. This macro will provide the capability to wait on OS and VSE format ECBs.

CMS ABEND exit - A general CMS abnormal exit capability will be provided so that user programs may specify the address of a routine to get control before CMS ABEND recovery begins. An exit is established and cleared through a new CMS macro.

RDTERM direct - A new option on the RDTERM macro will allow a program to read an input line directly from the console. Lines already stacked in the program or console stack will not be read. This function will enable a program to prompt a terminal user for a

response without disturbing the contents of the program or console stack.

Immediate command extensions - The immediate command capability of CMS will be extended by allowing users to define their own immediate commands.

Enhanced VSAM support: VSE/VSAM Release 3 support - CMS will support VSE/VSAM Release 3 which includes significant enhancements designed to improve catalog reliability and integrity while providing additional serviceability and usability. VSE/VSAM

Release 2 is not supported.

New and improved System Product editor functions:

Enhancements to the System Product editor to provide new or improved support in the following areas:

- . Prefix macro support
- . Selective line editing
- . Screen control
- . Extended data stream (color)
- . Vertical screen split
- . Several new functions intended to provide additional data manipulating capabilities
- . Modifications to miscellaneous existing System Product editor functions to improve flexibility and/or consistency between related subcommands

The System Product editor provides all of the major capabilities available in EDIT. It is IBM's intent to provide all future VM/SP editing enhancements in the System Product editor. The System Product editor has attempted to provide the most useful capabilities available in various editors. A compatibility function for Display Editing System 5796-PJP (EDGAR) was provided in VM/System Product Release 1 to assist EDGAR users in the transition to the System Product editor. Its primary purpose was for migration only. These EDGAR compatibility/migration functions are no longer supported in VM/SP and have been removed beginning with this release.

Publications enhancements: New publications to be added to the library:

VM/SP Installation Guide - This manual provides procedural and reference information pertaining to the VM/SP install process.

VM/SP Release 3 Guide - Intended primarily for current users, this manual provides a summary of the Release 3 enhancements to VM/SP, including use-oriented examples and identification of

changed modules.

VM/SP System Product Interpreter User's Guide - A step-by-step guide to using the System Product interpreter for new users.

VM/SP System Product Interpreter Reference - A complete compilation of reference information for using the System Product interpreter.

VM/SP System Product Interpreter Reference Summary - This publication provides quick synoptic reference information about System Product interpreter statements and their use.

These publications will become available when the product becomes available.

Additionally, two previously announced functions will be available in VM/SP Release 3. They are:

- . The Missing Interrupt support announced July 6, 1982. This function will monitor system I/O activity for interrupts not completing within a certain time period and attempt to correct the condition. See the Programming Announcement for additional information.
- . Support for the Speed Matching Buffer for the IBM 3375 announced July 30, 1982. This support provides the capability to use the hardware when connected to a 1.5 megabyte channel. This includes paging, spooling, and/or mini disks.

Specified operating environment

Hardware requirements: The VM/System Product is designed to run on the IBM System/370 Models 135, 135-3, 138, 145, 145-3, 148, 155II, 158, 158-3, 158AP, 158MP, 165II, 168, 168-3, 168AP, and 168MP; on the IBM 3031, 3031AP, 3032, 3033, 3033N, 3033S, 3033AP, 3033AP-2, and 3033MP processor complexes; on the IBM 3081-D16 processor complex; and on the IBM 4300 processors.

Real storage requirement: VM/SP Release 3 requires a minimum user-accessible storage of 512K.

Software requirements: Support of the VM/SP High Performance Option licensed program (5664-173) for VM/SP Release 3 will be available in first quarter 1984.

VM/SP Release 3 support of AP/MP and the 3081-D16 processors will be available in first quarter 1984.

Compatibility: Application programs that currently execute under VM/Basic System Extensions, VM/System Extensions, and VM/SP Release 1 or 2 licensed programs and are not dependent on internal CP or CMS structure and/or control blocks should also run on VM/System Product Release 3.

Conversion: SPOOL file information has been changed in Release 3. A conversion aid will be available via the SPTAPE function to allow those users who currently have VM/SP Release 1 or Release 2 installed and do not want to perform a COLD start the ability to migrate their SPOOL files to VM/SP Release 3.

VM/SP Release 2 Programmable Operator Routing Tables must be converted to the VM/SP Release 3 routing table format. A utility will be provided to aid in this conversion.

Other than the optional compatibility macros announced in VM/SP Release 1 and the above items, no conversion aids are required to move from VM/Basic System Extensions Release 2, VM/System Extensions Release 2, or VM/SP Release 1 or 2 to Release 3 of VM/SP.

Serviceability: Improved serviceability of the VM/SP environment can be achieved upon installation of the VM/IPCS Extensions Release 2 licensed program (5748-SA1) and its corresponding service level containing the VM/SP Release 3 updates. With the IPCS component of the VM/370 SCP Release 6, certain control blocks and control block extensions will not be formatted because they have been modified for the VM/SP licensed program. The VM/SP Release 3 Guide contains a list of these control blocks and control block extensions.

Security, auditability, and control: Many of the Release 3 enhancements described earlier extend the VM/SP system in providing the user with facilities to control and monitor his system activities/operations. The customer is responsible for the selection, application, adequacy, and implementation of these features and for appropriate application and administrative controls.

Education: The VM/SP educational offerings will be updated to reflect the new facilities offered by VM/SP Release 3.

Availability: September 1983.

In addition to the general availability stated above, several customers will participate in an Early Support Program.

A VM/SP Release 3 service update, derived from the Early Support Program, will be available in first quarter 1984. This service update will contain maintenance derived from the early installed systems.

It is recommended that only those customers requiring VM/SP Release 3 functions should order Release 3 prior to the service update availability.

Monthly charge:

Basic license \$359

DSLO 269

Testing period: Two months.

Program services: Central service, including the IBM support center, will be available until discontinued by IBM upon twelve months' written notice. For DSLO licenses central service, will only be provided through the customer location designated for the basic license. Local licensed program support is available under the terms and conditions of the Agreement for Local Licensed Program Support for IBM Licensed Programs at the monthly licensed program support charge, monthly multiple licensed program support charge, or at the applicable IBM Hourly Service Rate. Local licensed program support will be provided by IBM Field Engineering.

Monthly licensed program support charge: \$55

Monthly multiple licensed program support charge: \$88

Warranted:

Basic license - Yes, in accordance with the Agreement for IBM Licensed Programs.

DSLO - Not applicable.

Installation license applies: No. A separate license is required for each machine on which the licensed program materials will be used.

Program currency: Program services previously announced for the following releases will be available until the noted dates:

VM/System Product Release 1 June 1984

VM/System Product Release 2 December 1985

Ordering information: Ordering information will be provided when VM/SP Release 3 is available.

VM/SP Release 3 feature codes: Release 3 will have a complete set of new feature codes for ordering. New feature codes for Release 3 provide the capability for customers to continue to order VM/SP Releases 1 and 2. Those customers desiring the VM/SP High Performance Option licensed program (5664-173) must comply with the appropriate ordering procedures for that product. VM/SP High Performance Option Releases 1 and 2 require VM/SP Release 1. VM/SP High Performance Option Release 3 requires VM/SP Release 2.

RSCS and IPCS

It is recommended that VM/SP users of RSCS and IPCS obtain the RSCS Networking licensed program (5748-XP1) and VM/IPCS Extension licensed program (5748-SA1). These licensed programs take advantage of the enhanced functions of VM/SP.

If the SCP versions of RSCS and IPCS are desired, they may be obtained from a VM/370 Release 6 system.

Users of VM/SP who intend to use the RSCS and IPCS components of VM/370 Release 6 should retain the Release 6 reference library and program logic documentation applicable to these components.

Users of VM/370 Release 6 who have installed VM/SP and who are receiving service via a merged service tape are reminded to cancel their Release 6 registration, unless the VM/370 Release 6 RSCS and IPCS components service is needed.