

# VM/SYSTEM PRODUCT HIGH PERFORMANCE OPTION (VM/SP HPO) RELEASE 5

## Contents

[Announcement Letter Number 287-005 dated January 26, 1987](#)

[US - Last Revised on January 26, 1987](#)

### **Brief Description of Announcement, Charges, and Availability**

### **Customer Letter Section**

#### HIGHLIGHTS

- o Relief of a SPOOL file limit constraint
- o Improved storage management and simplified tuning
- o Scheduler algorithm enhancements resulting in more consistent system performance
- o Improved paging allocation order

#### DESCRIPTION

##### RELIEF OF A SPOOL FILE LIMIT CONSTRAINT

An installation may now support a maximum of 9,900 SPOOL files per user, subject to limitations of checkpoint and storage space. Prior to this support, installations were limited to 9,900 SPOOL files per system. This led to many instances of constraints being placed on the user community and special rules for limiting the number of SPOOL files generated and the length of time files were kept. Performance enhancements are added to prevent degradation of checkpoint start or force start because of additional SPOOL files. The processing time for this recovery is shortened by overlapping processing and input/output (I/O) activity.

## IMPROVED STORAGE MANAGEMENT AND SIMPLIFIED TUNING

This support provides performance enhancements to users in constrained storage environments. The objectives of this support are:

- o Enhance management of the dynamic paging area to improve performance when storage is constrained below 16Mb.
- o Improve storage management of extremely large working sets, shared pages and queue drop OFF users.
- o Change the balance between swapping and paging so that swapping will predominate.
- o Preserve interactive response time in CMS intensive environments.
- o Reduce overhead at queue drop and queue add.
- o Simplify tuning.

## SCHEDULER ALGORITHM ENHANCEMENTS

More consistent system performance is achieved:

- o Changes are made to the scheduler working set algorithm to provide more uniform real storage management control.
- o A scheduling mechanism is provided to improve management of resources in a processing unit constrained environment.

## IMPROVED PAGING ALLOCATION ORDER

A default parameter is added to the SYSPAG macro to automatically distribute the I/O activity over available channels and control units. This reduces I/O contention and simplifies tuning of the paging and swapping subsystem.

## DEVICE SUPPORT

VM/SP HPO no longer supports IBM 2311, 2314, and 2319 DASD effective with availability. This withdrawal includes software support provided by central service and the IBM Support Center. These devices were withdrawn from marketing on January 5, 1979. (See IBM Programming Announcement dated October 5, 1979.) Maintenance Agreements have been withdrawn and lease/rentals were discontinued in September 1986.

## PUBLICATIONS

The following new brochures will be available on February 3, 1987. To order, contact your IBM marketing representative.

- o Announcing VM/SP High Performance Option Release 5 (GC19-6221) - This brochure provides an overview of the release for data processing managers and directs the reader to appropriate sources for additional information on VM/SP HPO Release 5.
- o What's In VM/SP High Performance Option Release 5: A System Programmer's Perspective (GC23-0384) - This brochure provides

initial release planning information for system programmers, installation managers, and IBM service personnel. Details on the new functions in VM/SP HPO Release 5 and some migration information are also provided.

The first copy of the following publications is shipped with the program:

- o VM/SP HPO Licensed Program Specifications (GC20-1844)
- o VM/SP HPO Planning Guide and Reference (SC19-6223)
- o VM/SP HPO Installation Guide (SC38-0107)

Additional copies of the above publications will be available at program availability. Prices for the additional copies will be available at general availability.

The first copy of the following licensed publications is available through IBM Software Distribution to licensees who specify the correct feature numbers. These publications are not eligible for a customer system library subscription service (SLSS).

- o VM/SP HPO Data Areas and Control Block Logic - CP (LY20-0896)
- o VM/SP HPO System Logic and Problem Determination Guide (LY20-0897)
- o VM/SP HPO Service Routines Logic (LY20-0898)
- o VM/SP HPO Problem Determination Reference Information (LX23-0347)

Additional copies of licensed publications will be available from IBM Software Distribution immediately after program availability. Prices for the additional copies will be available at general availability. All licensed publications are designated RESTRICTED MATERIALS OF IBM.

The following publications will be available after program availability. To order, contact your IBM marketing representative.

- o VM/SP HPO Licensed Program Specifications (GC20-1844)
- o VM/SP HPO Library Guide, Glossary, and Master Index (GC23-0187)
- o VM/SP HPO Planning Guide and Reference (SC19-6223)
- o VM/SP HPO CP for System Programming (SC19-6224)
- o VM/SP HPO Operator's Guide (SC19-6225)
- o VM/SP HPO System Messages and Codes (SC19-6226)
- o VM/SP HPO CP Command Reference (SC19-6227)
- o VM/SP HPO Release 5 Guide (SC23-0189)
- o VM/SP HPO System Messages Cross-Reference (SC23-0190)
- o VM/SP HPO Installation Guide (SC38-0107)
- o VM/SP HPO Quick Reference (SX22-0005)

The following publications may be ordered by using one bill of forms (BOF) number, SBOF-0003.

- o VM/SP HPO Planning Guide and Reference (SC19-6223)

- o VM/SP HPO Library Guide, Glossary, and Master Index (GC23-0187)
- o VM/SP HPO Release 5 Guide (SC23-0189)
- o Virtual Machine Running Guest Operating Systems (GC19-6212)\*
- o VM/SP HPO CP Command Reference (SC19-6227)
- o VM/SP HPO Quick Reference (SX22-0005)
- o VM/SP HPO Operator's Guide (SC19-6225)
- o VM/SP HPO CP for System Programming (SC19-6224)
- o VM/SP HPO System Messages and Codes (SC19-6226)
- o VM/SP HPO System Messages Cross-Reference (SC23-0190)
- o VM/SP HPO Installation Guide (SC23-0107)

\* Available fourth quarter, 1987.

SLSS is available by order number or by product number and subject code(s). Customers currently subscribing to SLSS will receive publication updates automatically.

In addition, the publications in SBOF-0003 can be ordered with related VM/SP publications using BOF number SBOF-0002. Consult the VM/SP HPO Release 5 Guide for details.

To order earlier versions of publications, consult the VM/SP HPO Release 5 Guide.

#### EDUCATION SUPPORT

The VM educational offerings will be updated to reflect the new facilities offered by VM/SP HPO Release 5. For curriculum road maps and course descriptions, see the Catalog of IBM Education (G320-1244) or call IBM Direct - Education, toll-free, at (800) IBM-2468.

#### SCHEDULE

General availability is planned for third quarter 1987.

#### TECHNICAL INFORMATION

##### SPECIFIED OPERATING ENVIRONMENT

**MACHINE REQUIREMENTS:** VM/SP HPO Release 5 is supported on the IBM 4341 and IBM 303X series of processors and in System/370 Architecture mode on the IBM 4381 (Model Groups 1, 2, 3, 11, 12, 13, 14), the IBM 308X (3084 in partitioned mode) family of processor complexes, and the IBM 3090 Processor Complex family (except for Models 300E and 600E) including the Vector Facility. The IBM 3090 Models 400 and 400E are supported in partitioned mode.

**REAL STORAGE REQUIREMENTS:** VM/SP HPO Release 5 requires a minimum of 2Mb of real storage. (Note: VM/SP HPO does not support the small CP option for VM/System Product.)

**PROGRAMMING REQUIREMENTS:** VM/SP Release 5 at the appropriate service level is a prerequisite for VM/SP HPO Release 5. VM/SP Release 5 and VM/SP HPO Release 5 must be installed at the same PUT level. The

required PUT level and associated service level update will be provided at availability.

COMPATIBILITY: Programs that operate on SPOOL files owned by another user must now refer to SPOOL files by userid and spoolid. CP spooling commands are enhanced for this support.

Application programs that currently execute under the VM/SP Releases 3 and 4, that do not operate on SPOOL files on a system wide basis, and are not dependent on internal CP or CMS structure and/or control blocks should continue to run on VM/SP Release 5 with VM/SP HPO Release 5.

Programs using the Diagnose X'58' interface to display 3270 full-screen information may not provide the same display results when used with the full-screen CMS support provided in CMS Release 5. Additional information may be found in VM/SP Using Release 5 Enhancements (SC24-5330). Programs using Diagnose X'04' to examine closed reader SPOOL file blocks should substitute Diagnose X'D8' for Diagnose X'04'.

See IBM Programming Announcement 286-420, dated October 7, 1986, for a description of VM/SP Release 5 compatibility requirements.

PERFORMANCE CONSIDERATIONS: Performance data is planned to be available at general availability.

#### PLANNING INFORMATION

INSTALLABILITY: The VM/SP HPO Release 5 new SPOOL file structure will require a cold start. An Optional Migration Modification will be available to change the SPOOL file structure of the current VM system to be compatible with the VM/SP HPO Release 5 SPOOL file system. A cold start of the current system is required after the Optional Migration Modification has been installed. The Optional Migration Modification will be provided on the VM/SP HPO Release 5 Product Tape for the following VM levels: VM/SP HPO Release 3.6, VM/SP HPO Release 4.0, and VM/SP HPO Release 4.2. Refer to What's in VM/SP High Performance Option Release 5: A System Programmer's Perspective (GC23-0384) for migration scenarios. Additional migration information will be provided at general availability.

PACKAGING: Packaging information will be provided at general availability.

#### SYSTEM INTEGRITY

IBM will accept APARs where installation of this program introduces an exposure to the system integrity of VM. Refer to the IBM Programming Announcement statement of system integrity for VM/SP

and VM/SP HPO, dated June 21, 1983, for information on VM system integrity.

In addition, IBM Programming Announcement 286-420, dated October 7, 1986 extended IBM's previous statements on system integrity to include the VM/SP Group Control System environment.  
SECURITY, AUDITABILITY, AND CONTROL

Facilities designed to control access to data are provided by the VM/System Product (5664-167). 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

Ordering information and feature numbers will be provided at general availability.

Orders will be scheduled to be shipped by the Friday of the week following the planned availability date unless a later date is specified.

Current licensees of VM/SP HPO must order this release via MES. Ordering instructions are scheduled to be mailed from IBM Software Distribution to all current licensees within two weeks after availability.

VM/SP HPO Release 5 Product Tapes and Starter Systems for IBM 3350, 3375, and 3380 DASD will be available on 9/6250 bpi magnetic tape and on IBM 3480 tape drive cartridges. Feature numbers will be provided at general availability.

#### TERMS AND CONDITIONS

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LICENSING: This program is licensed under the terms and conditions of the Agreement for IBM Licensed Programs.

GRADUATED CHARGES AMENDMENT APPLIES: Yes, for licenses acquired for a one-time charge.

INSTALLATION LICENSE OR LOCATION LICENSE APPLIES: No. A separate license is required for each designated machine on which the licensed program materials will be used except as otherwise provided by IBM.

USAGE LICENSE APPLIES: No.

EDUCATIONAL ALLOWANCE: A 15% educational allowance toward eligible license charges is available to qualifying institutions in accordance with the Educational Allowance Amendment. The educational allowance may not be added to any other discount or allowance.

VOLUME DISCOUNT: Not applicable.

WARRANTED:

Basic License - Yes

DSLO - Not applicable

LICENSED PROGRAM MATERIALS AVAILABILITY: Restricted Materials - Yes.

This licensed program will be available with source licensed materials for some modules designated as RESTRICTED MATERIALS OF IBM. In addition, some modules will be available without source licensed program materials. These modules will be available in object code.

TESTING PERIOD:

Basic License - Two months.

DSLO - Not applicable.

PROGRAM SERVICES: Central service, including the IBM Support Center, for the basic license will be available until discontinued by IBM upon twelve months' written notice under the terms and conditions of the Agreement for IBM Licensed Programs. Central service, including the IBM Support Center, for DSLO licenses will be provided only 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, or monthly multiple licensed program support charge, or will be provided at the applicable IBM hourly service rate.

The Agreement for Local Licensed Program Support for IBM Licensed Programs has been withdrawn but licensed program support under this Agreement remains available until December 31, 1987, for Agreements in effect prior to December 16, 1986. Contact your IBM marketing representative for additional information.

PROGRAM CURRENCY: Program services previously announced for VM/SP HPO Release 4.2 will be available until August 31, 1988.

Program services previously announced for VM/SP HPO Release 3.6 will be available until June 30, 1987 (as was stated in IBM Programming Announcement 285-505, dated December 17, 1985).

CHARGES

INITIAL LICENSE CHARGE:

Basic License \$5,325

DSLO 3,993

MONTHLY CHARGE:

Basic License \$1,775

DSLO 1,331

GRADUATED ONE-TIME CHARGES:

	Basic	DSLO
Processor Group	One-Time Charge	One-Time Charge
30	\$57,665	\$43,255

40      92,265      69,210

The charge for processor group upgrades will be the difference in the current charges between the two groups. There will be no adjustment or refund for processor group downgrades. Licenses for which a customer has paid a one-time charge may be redesignated to a processor in that group or any lower group.

Customers who pay a one-time charge for a licensed program receive enhancements and future releases, if any, at no additional charge. Significant new function may be offered as an optional feature and charged for separately. If a new version is announced and the customer elects to license the new version for a one-time charge and replace the prior version, an upgrade charge may apply.

MONTHLY LICENSED PROGRAM SUPPORT CHARGE: \$136

MONTHLY MULTIPLE LICENSED PROGRAM SUPPORT CHARGE: \$218

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