VM/ESA Design Approach for Year 2000 Support - Update Supplement

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Introduction

Several items have changed since we published our initial design approach for VM/ESA′s Year 2000 Support. Many of these changes are the direct result of customer feedback to our initial design intentions.

The following are highlights of changes that have been made to the design as currently documented. This information supersedes related information in the original design documentation (file Y2KVMDSN). The design documentation will be updated with more current information, including the changes highlighted here, in the near future.

Releases Supported

IBM intends to provide Year 2000 support only on VM/ESA Version 2. Support will be included in the latest release of Version 2 as of the end of 1996. Once available, Year 2000 support will be included in any future releases of VM/ESA.

IBM does not intend to provide Year 2000 support for the VM/ESA 370 Feature (Version 1 Release 1.5).

IPLing a VM/ESA System in the Year 2000

Currently available VM/ESA systems may be IPL′d with a system date in the Year 2000 or later. Details on how to do this are included in the current design approach documentation. At present, it is also recommended that following an IPL with a system date/time change, an immediate SHUTDOWN REIPL be issued to reset CP functions with sensitivities to the system time of day clock.

The current design approach describes enhancements to be included with VM/ESA Year 2000 support to remove the re-IPL requirement when the system date/time is changed. This enhancement will no longer be required as the re-IPL requirement will be removed by APAR VM60324 for VM/ESA Version 1 Release 2.2 and Version 2.

Year 2000 Enabled?

CP, CMS, and GCS will indicate whether Year 2000 support is present.

In CP, the next sequential bit in the bitmap output by Diagnose x′00′ will indicate the presence of Year 2000 support. The bitmap will be as follows:

- Version 2 Release 1 (current)
  - x′7FF8′
- Year 2000 Support
  - x′7FFC′
- Next Function/Release, including Year 2000 Support
  - x′7FFE′

In CMS, presence of Year 2000 support may be determined through the DMSERP programming interface or the REXX CMSFLAG function. Information name YEAR2000_SUPPORT will be added to the

General System Set in NUCON. This flag will be set to ′1′ if Year 2000 support is present. Year 2000 support in CMS will only be considered enabled if CP′s Year 2000 support is also present.

In GCS, bit FLS2000 will be added to FLSFLG, and the FLS macro can be used to determine the presence of Year 2000 support. As with CMS, Year 2000 support in GCS will only be enabled if CP′s Year 2000 support is also present.

CSL Date Formats

CMS Callable Services Library Routines which accept date input and/or provide date output will support the following date formats:

- SHORTDATE (yy/mm/dd - same as currently accepted/provided)
- FULLDATE (yyyy/mm/dd)
- ISODATE (yyyy-mm-dd)

OS Simulation TIME Macro

The century indicator in the output for the simulated MVS TIME macro will be changed to be consistent with the MVS implementation of this macro:

Table 1. Century values for output from TIME macro

Hexadecimal value of C in 0CYYDDDF returned by TIME macro	Time frame
X′0′	01/01/1900-12/31/1999
X′1′	01/01/2000-12/31/2099
X′2′	01/01/2100-12/31/2199

NOTE: This corresponds to the MVS implementation of the TIME macro where the ′C′ century digit corresponds to an encoded representation of the two digit century part of the year. Under this scheme, the year 2000, which is technically part of the 20th century, will return a C digit of X′1′ representing the ′20′ in the years of the 21st century.

CMS Pipelines Changes

The STATE, STATEW, and FMTFST CMS Pipelines stages will be updated to recognize the new date formats supported by VM/ESA.

SET/QUERY DATEFORMAT Commands

The QUERY DATEFORMAT command will be Class G for both USER and SYSTEM. SET DATEFORMAT SYSTEM will remain a Class B command.

REXX Date() Function

Date format conversion capability will be added to the REXX Date() function.

File Status Table (FST)

The name of the bit in the FST to indicate the century portion of the year has been changed from FSTCENTW to FSTCNTRY. The location and use of this bit remains as described in the original design documentation.

DMSPLU

DMSPLU will be updated to accept dates with 4-digit years in the form mm/dd/yyyy. DMSPLU will continue to accept dates with 2-digit years (mm/dd/yy) as well. When a 2-digit year is specified, a sliding window with a range -50 to +49 from the current year will be used to determine the century portion of the year.

Currently, DMSPLU only accepts years in the range (19)80 through (19)99. This restriction will be removed so DMSPLU will accept dates beyond 1999 (and before 1980). Although there are no restrictions on the 4-digit years accepted by DMSPLU, since the CMS file system will support files with dates from 1900-2099, specification of a date outside this range to DMSPLU will yield unpredictable results.

DMSPLU will remain an unsupported utility. It is being updated primarily for continued use by VMSES/E. External support of DMSPLU as a utility will be considered as a future VM/ESA enhancement.

CMS Graphical User Interface (GUI)

The FILELIST and RDRLIST functions of the CMS Desktop will be enhanced to display 4-digit years. However, options for the new date formats supported by VM/ESA will not be supported. Support of these options will be considered as a future enhancement to the CMS Desktop.

Dump Viewing Facility

The Dump Viewing Facility (DVF) will be changed to properly handle dates greater than 1999.

When run on a CP system which contains Year 2000 support, the TRACERED and VIEWSYM commands (and specifically the VDATE EXEC which is called by the VIEWSYM command) will interpret 2-digit years within a ″sliding window″ of 100 years which is centered on the current year.

If the new level of the Dump Viewing Facility (containing this support) is run on a CP system without Year 2000 support, dates will be interpreted as they were before the addition of this support.