

Finding your Way – The z/VM Website, Documentation and Other Hints for the New User

Version 3.1

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z/VM Development Client Focus and Care



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Information

- Where to start?
- What to believe?
- Is it current?
- Too much information?
- Who can I ask?



The z/VM Library

- z/VM 6.3 bookshelf contains 103 books!
 - ~60 Books for base z/VM Product
 - ~25 Books for priced features of z/VM
 - ~18 Books for related or z/OS topics

- Key Books for new people to z/VM:
 - z/VM General Information manual, GC24-6193
 - z/VM Getting Started with Linux on System z, SC24-6194
 - z/VM Installation Guide, GC24-6246
 - z/VM CP Planning and Administration, SC24-6178
 - z/VM Connectivity, SC24-6174
 - z/VM CMS Primer, SC24-6172

- Book suffix numbers increased when book updated, not release level
 - z/VM V6R3 CP Planning and Administration, SC24-6178-05
 - z/VM V6R3 CMS Primer, SC24-6172-00

z/VM General Information manual

- Often referred to as the “GIM”
- One of the first books updated and made available for a new release or enhancements in service stream
 - Example: SPE (Small Programming Enhancements) for High Performance FICON and HiperSockets Bridge in March 2012 resulted in an update version being created
- Key Content:
 - Overview of z/VM and Value (a little marketing)
 - What has changed in the most current release
 - Requirements
 - Appendices on Support Levels
 - IBM Servers supported by z/VM
 - IBM Operating systems supported as guests of z/VM
 - IBM Devices supported

- GC24-6193

z/VM Getting Started with Linux on System z

- Sometimes abbreviated “GSWL”
- More about z/VM than about Linux, but written with Linux as the primary workload for z/VM
 - Meant as a bridge between the simple installation process and the 100 books in the library with several pointers to other books in the library for more details
 - Significant updates for z/VM 6.2, SSI Clustering, and Live Guest Relocation
- Key Content:
 - Planning for Linux usage
 - Configuring DirMaint (Directory Maintenance Feature)
 - Configuring TCP/IP
 - Cloning of Linux guests
- SC24-6194

z/VM Installation Guide

- Often known simply as the “Install Guide”

- Key Content:
 - Step by Step details on installation of z/VM
 - Preinstalled licensed products and features
 - Performance Toolkit, DirMaint, etc.

- GC24-6246

z/VM CP Planning and Administration

- Also known as “CP P&A” or “Planning and Admin”
 - Note, there is also a CMS version of the book

- Key Content:
 - Details behind planning and configuring a z/VM system
 - Formulae for
 - Memory required
 - Disk page space
 - Dump space
 - Details behind User Directory (where virtual machines are defined)

- Not just a book for “first time install/configuration”
 - z/VM systems are dynamic and may grow – revisit for paging space and other considerations

- SC24-6178

z/VM Connectivity

- Connectivity book is good book and often overlooked

- Key content:
 - All about z/VM virtual networks
 - Virtual Switches
 - Guest LANs
 - Other communication protocols or functions in z/VM
 - Advanced Program-to-Program Communications (APPC)
 - Inter-System Facility for Communications (ISFC) – backbone of SSI clustering

- SC24-6174

z/VM CMS Primer

- Primer walks through getting started with CMS

- Key content:
 - Logging on and off of z/VM
 - CMS minidisk file system and SFS (Shared File System) background
 - Editing files using XEDIT
 - Managing files and several productivity aids included in CMS for this
 - Like other platforms, there is often more than one way to do things.

- Content you can probably skip when you read for first time:
 - Printing from CMS
 - NAMES files

- SC24-6172

z/VM Internet Library

- <http://www.ibm.com/vm/library>

- Includes:
 - z/VM Information Centers
 - Useful when unsure which book or for searching tasks
 - z/VM BookManager-format bookshelf for z/VM 6.2 and earlier
 - Useful when you know the book you need
 - z/VM PDF bookshelf
 - Useful for when you know the book you need and prefer PDFs
 - z/VM Program Directories
 - z/VM data areas and control blocks
 - z/VM monitor records
 - Select IBM Redbooks®
 - White papers and other documents

z/VM Internet library

IBM Systems > System z > z/VM >

- [z/VM](#)
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z/VM Internet Library terms and conditions

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z/VM product information

- [z/VM information center](#) | [V6.3](#) | [V6.2](#) | [V5.4](#) |
Note: The downloadable zip file for the z/VM V6.3 Information Center (SK5T-7098-03) has been delayed.
- [z/VM bookshelf](#) | [V6.3](#) | [V6.2](#) | [V6.1](#) | [V5.4](#) | [V5.3](#) | [V5.2](#) | [V5.1](#) | [V4.4](#) | [V3.1](#) |
- The z/VM V6.3 Collection (SK5T-7054-06) is available as a downloadable zip file from the [IBM Publications Center](#)
- [Additional and updated z/VM publications \(03-2013\)](#)
- [Program directories](#)
- [Data areas, control blocks, and monitor records](#)

Reader's comments

Send us your comments on the z/VM publications and the z/VM Internet Library. When commenting on a publication, please specify the complete form number (xxxx-xxxx-xx).

Linux on IBM System z documentation for 'Development stream'

[Device Drivers, Features, and Commands](#) and other documents

IBM Redbooks publications

[Redbooks publications for z/VM](#)
[Redbooks publications home page](#)

White papers, consultant reports, performance reports

[z/VM Performance Report](#)
[What's new in Performance Toolkit for VM in z/VM V5.1](#)

Other links

[IBM mainframe literature](#)

→ [IBM Publications Center](#) View, download, or order IBM publications.

→ Visit the [Adobe Acrobat](#) web site for information about downloading the free Adobe Acrobat Reader to read and print PDF files.

→ Looking for hardware pubs? Try [Resource Link](#)

→ [Glossaries of IBM Terminology](#)

Related links

- [Resource Link](#)
- [Resources for IBM Business Partners](#)
- [Resources for](#)

z/VM Information Center

- Provides the product documentation for a single z/VM release

- z/VM Information Center available:
 - On web
 - Downloadable zip
 - Or DVD for z/VM 6.2 and earlier

- Content is same as PDF formats

- Strategic IBM mechanism for delivering product documentation

- Advantages:
 - Up to date
 - Searching (Web based search engines often give too much)
 - Printing
 - More than just the publications (control blocks, monitor records, etc.)



Search: Go [Scope](#): All topics

Contents

- ⊕ [z/VM V6R2.0 Information Center \(April 2012\)](#)
- ⊕ [System Overview](#)
- ⊕ [Installation, Migration, and Service](#)
- ⊕ [Planning and Administration](#)
- ⊕ [Customization and Tuning](#)
- ⊕ [Operation and Use](#)
- ⊕ [Application Programming](#)
- ⊕ [Diagnosis](#)
- ⊕ [Data Facility Storage Management System for VM](#)
- ⊕ [Directory Maintenance Facility for z/VM](#)
- ⊕ [Performance Toolkit for VM](#)
- ⊕ [RACF Security Server for z/VM](#)
- ⊕ [RSCS Networking for z/VM](#)
- ⊕ [Device Support Facilities](#)
- ⊕ [Environmental Record Editing and Printing](#)
- ⊕ [Network Job Entry](#)
- ⊕ [Open Systems Adapter](#)
- ⊕ [IBM XL C/C++ for z/VM](#)
- ⊕ [z/VM data areas, control blocks, and monitor records](#)
- ⊕ [PDF and Softcopy \(BOOK\) files available with the z/VM V6R2.1 Information Ce](#)
- ⊕ [Notices, Accessibility, and Programming Interfaces](#)
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z/VM V6R2.0 Information Center (April 2012)

- [About this information center](#)
Here's what you can expect from this information center.
- [What's in this information center](#)
Want to know more about the contents of this information center?
- [PDF and Softcopy \(BOOK\) files available with the z/VM V6R2.0 information center](#)
Links to all the PDF and softcopy (BOOK) versions of the major topics available with this information center.
- [IBM softcopy](#)
Get the latest information about IBM technical documentation available on CD-ROM, DVD, and the Internet.
- [Help for the Information Center](#)
Get help using the information center.
- [Notices, accessibility, and programming interfaces](#)
Special notices about this information.
- [How to read syntax diagrams](#)
A description of the syntax of external interfaces used throughout the information center.
- [Where to get z/VM publications](#)
You can get z/VM publications from several sources.

Related resources
→ Resource Link
→ z/VM technical resources
→ Accessibility

Contents

- + z/VM V6R2.0 Information Center (April 2012)
- System Overview
 - + z/VM V6R2 General Information
 - + z/VM V6R2 Glossary
 - + **z/VM V6R2 License Information**
- + Installation, Migration, and Service
- + Planning and Administration
- + Customization and Tuning
- + Operation and Use
- + Application Programming
- + Diagnosis
- + Data Facility Storage Management System for VM
- + Directory Maintenance Facility for z/VM
- + Performance Toolkit for VM
- + RACF Security Server for z/VM
- + RSCS Networking for z/VM
- + Device Support Facilities
- + Environmental Record Editing and Printing
- + Network Job Entry
- + Open Systems Adapter
- + IBM XL C/C++ for z/VM
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[System Overview](#) >

System Overview

Description

The following provide an overview of the z/VM product.




Order number	Title	Links
GC24-6193-03	z/VM V6R2 General Information	Abstract TOC PDF BOOK
GC24-6195-02	z/VM V6R2 Glossary	Abstract TOC PDF BOOK
GC24-6200-04	z/VM V6R2 License Information	PDF

[Notices](#) | [Terms of use](#) | [Support](#) | [Contact z/VM](#)




URL: <http://publib.boulder.ibm.com/infocenter/zvm/v6r2/topic/com.ibm.zvm.v620.zvmover/zvmover.htm>

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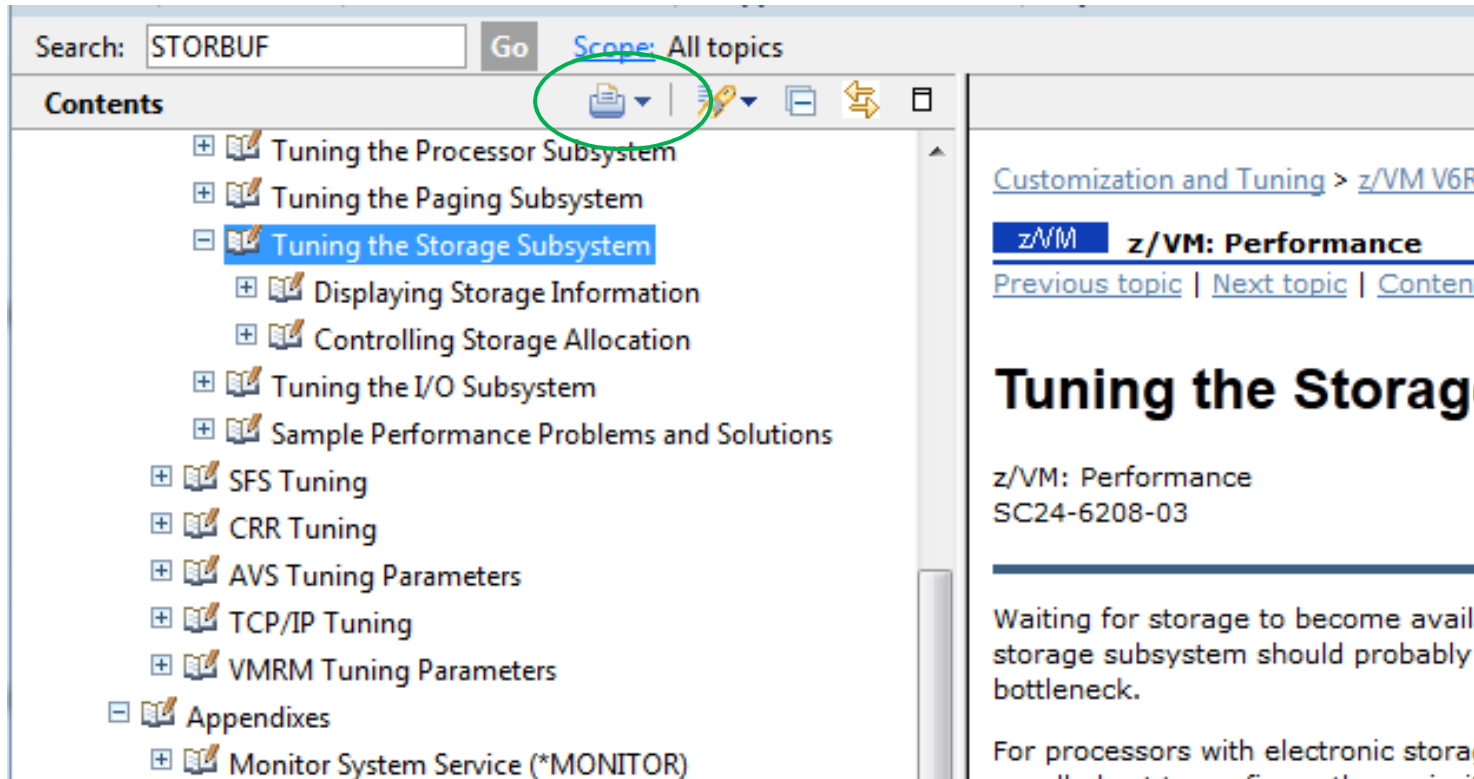
Search: [Scope:](#) All topics

Search Results   

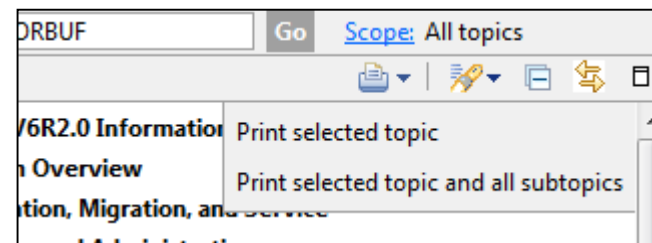
Total 30 result(s) found for **STORBUF**:

-  [STORBUF INITIAL Defaults Changed](#)
z/VM: CP Commands and Utilities Reference [Previous topic](#) | [Next topic](#) | [Contents](#) | [Index](#) | [Contact z/VM](#) | [Library](#) | [PDF](#) | [BOOK STORBUF INITIAL Defaults Changed z/VM: CP Com...](#)
-  [\[V6.2\] STORBUF Default Change](#)
z/VM: Migration Guide [Previous topic](#) | [Next topic](#) | [Contents](#) | [Index](#) | [Contact z/VM](#) | [Library](#) | [PDF](#) | [BOOK \[V6.2\] STORBUF Default Change z/VM: Migration Guide GC24-6201-03 ...](#)
-  [Poor Interactive Response Time \(with a Large Number of Interactive Users\)](#)
z/VM: Performance [Previous topic](#) | [Next topic](#) | [Contents](#) | [Index](#) | [Contact z/VM](#) | [Library](#) | [PDF](#) | [BOOK Poor Interactive Response Time \(with a Large Number of Interactive U...](#)

Information Center Printing



Print Icon provides two choices in pull down allows printing selected topic or selected topic and all subtopics.



Redbooks

- Redbooks – result of collaborative residency work with IBMers and others
- Redpieces – smaller documents
- Great source of information
 - Practical
 - Hands on
 - Combines different products
 - Usage based instead of reference based



- Use some caution
 - Not all Redbooks are updated as often as needed
 - Can show a possible solution, but might not be best case in all scenarios



A Few Redbooks and Pointers



- Redbooks home page: <http://www.redbooks.ibm.com/>
- List of z/VM related Redbooks: <http://www.vm.ibm.com/pubs/redbooks/>
- Bill's Favorites:
 - Linux on IBM System z: Performance Measurement and Tuning
<http://www.redbooks.ibm.com/abstracts/sg246926.html?Open>
 - z/VM and Linux on IBM System z: The Virtualization Cookbook for SLES 11 SP1
<http://www.redbooks.ibm.com/abstracts/sg247931.html?Open>
 - z/VM and Linux on IBM System z: The Virtualization Cookbook for Red Hat Enterprise Linux 6.0
<http://www.redbooks.ibm.com/abstracts/sg247932.html?Open>
 - Practical Migration to Linux on System z
<http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg247727.html?Open>
 - An Introduction to z/VM Single System Image and Live Guest Relocation
<http://www.redbooks.ibm.com/abstracts/sg248006.html?Open>
 - Using z/VM 6.2 Single System Image and Live Guest Relocation
<http://www.redbooks.ibm.com/abstracts/sg248039.html?Open>

z/VM Home Page

- www.vm.ibm.com = www.ibm.com/vm
- Running on z/VM!
- Moving to new IBM format and look

New Look

Old Look

z/VM Home Page – Navigation Bar

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IBM Systems > Mainframe servers >

Contact IBM +

Browse z/VM -

- About z/VM
- Buy / Install
- News
- z/VM Library
- Education
- Downloads
- Events Calendar
- Resources
- History and Heritage
- Support and services

IBM TechDocs +

IBM Redbooks for System z & Linux +

Contact IBM -

- Email IBM
- Contact z/VM development
- Find a Business Partner
- Call IBM: 1-866-883-8901
- Priority code: 101A513W

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IBM Redbooks for System z & Linux +

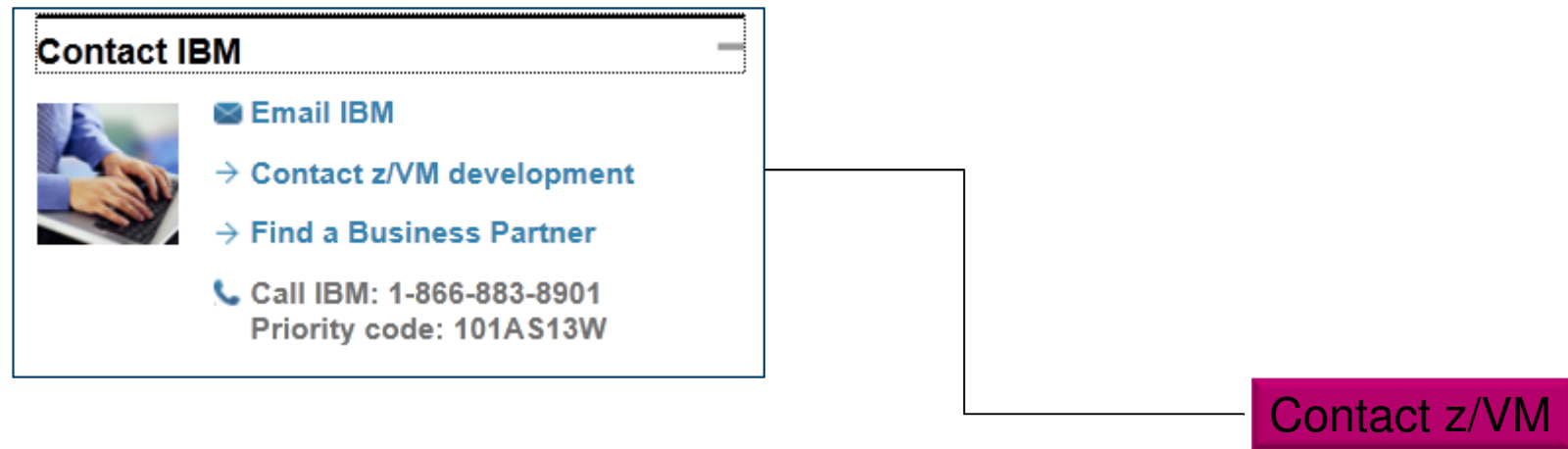
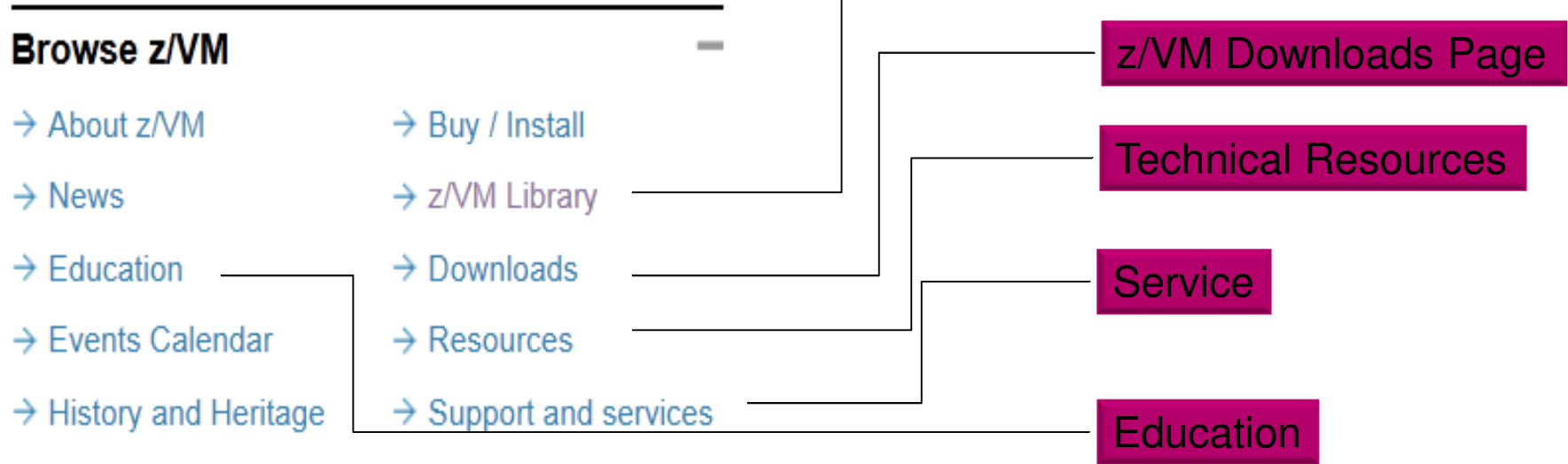
Expand Here

www.ibm.com/us/en/

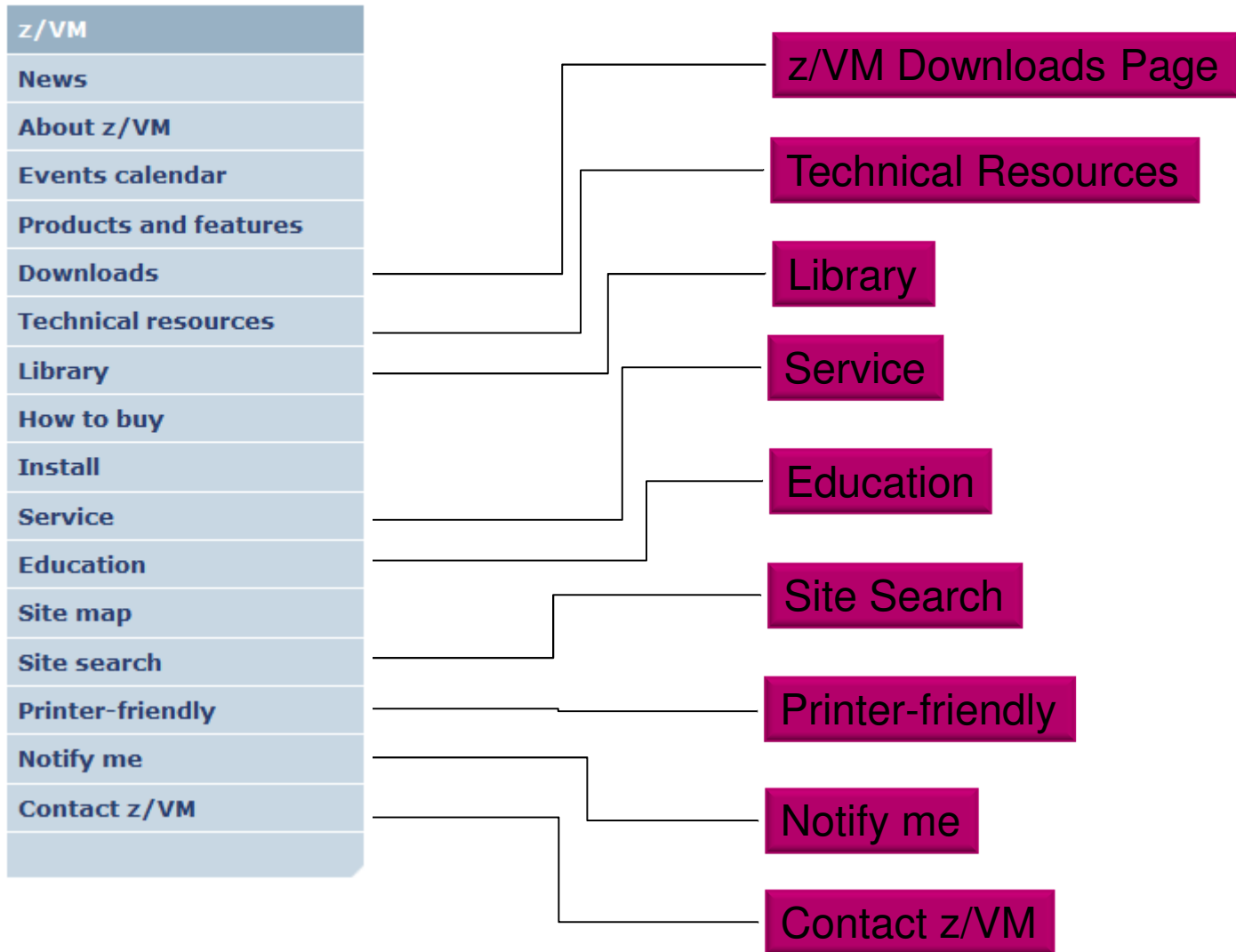
enhancements to z/VM 6.3, which included support for guest exploitation for compression acceleration using the zEDC

point-and-click graphical user interface to harness the power of z/VM on the IBM System z server. IBM Wave streamlines

Navigation Bar on Landing Page



Left Navigation Bar Highlights



z/VM Technical Resources Page

- Collection of links:
 - Information on each release of z/VM
 - Information on the VM Community
 - Order and upgrade information
 - Networking, Security, Performance, Systems Management, etc. subsystem pages
 - Guest Operating Systems
 - Application Development

z/VM Service Page

- Important Service news

- Links to program directories and other important information
 - “Program Directories” are documents intended for the system programmer responsible for program installation, covering such topics as: Support, Installation, and Service.

- Links to other IBM service related pages
 - PSP (Preventive Service Planning) Buckets: definitive source for what service you need to support devices, processors, z/VM
 - IBM Support Portal

- Link to Red Alert Page

z/VM Service Red Alert Page

- This page documents critical service information, examples:
 - APARs that are important though the abstract might not be obvious as to why you would need it.
 - Problems related to different factors (e.g. millicode change and unrelated z/VM feature)
 - Potential high-impact problems where APAR or PTF may not be available yet.

- Low number of red alerts, ~ 1 to 3 per year

- Highly recommend you subscribe for notification of changes to this page.

z/VM Education Page

- Live Virtual Classes
 - Timely Webcasts on key topics
 - Linux and z/VM
 - Replays available

- Pointers to formal IBM courses

- Some Online Tutorials



z/VM Home Page Site Search

- Located on left navigation bar is link for “Site Search”
- Special search for just the z/VM Home Page

IBM Systems > System z > z/VM >

VM Site Search

You saw it on our site, but where? Give us some words or word prefixes to find and click SEARCH.

Words:

How: All (AND) At least one (OR)

Confine to:

Need help with searching? Read [this](#).

Search powered by z/VM and the [Reusable Server Kernel](#).
To read about how we search, click [here](#).

z/VM

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Library

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Install

Service

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Site search

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Notify me

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z/VM Home Page Change Notification

- Allows you to get an email for an update to any page on the z/VM Home pages
- Privacy policy applies
- File: should be filled in if clicked on page you want, but you can over-ride it

The fields indicated with an asterisk (*) are required to complete this transaction; other fields are optional. If you do not want to provide us with the required information, please use the "Back" button on your browser to return to the previous page, or close the window or browser session that is displaying this page.

* Action: (choose one)	<input checked="" type="radio"/> Enroll <input type="radio"/> Unenroll <input type="radio"/> Query
* Your e-mail address: (for example, you@yourcompany.com)	<input type="text"/>
* File: (for example, /service /rsu/rsu_eso.html) (required for enroll and unenroll) (ignored for query)	<input type="text" value="/service/redalert/index.html"/>

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By clicking "Submit", you agree that IBM may process your data in the manner indicated above and as described in our Privacy policy.

Other Web Pages

- Linux on System z Portal
 - <http://www.ibm.com/systems/z/os/linux/>
- IBM System z You Tube Channel
 - <http://www.youtube.com/user/IBMSystemZ>
- ISV Products for Linux on z/VM
 - <http://www.ibm.com/systems/z/solutions/isv/linuxproduct.html>
- Melinda Varian's History of VM Community
 - <http://www.leeandmelindavarian.com/Melinda/index.html>
- Excellent White Paper on Virtualization by Solitaire International
 - <http://public.dhe.ibm.com/common/ssi/ecm/en/zsl03192usen/ZSL03192USEN.PDF>
- White Papers from IBM on Linux and z/VM
 - <http://www-03.ibm.com/support/techdocs/atmastr.nsf/Web/WP-ByProduct?OpenDocument&Start=1&Count=1000&Expand=11>

World Wide Events and Local User Groups

★ z/VM Events: <http://www.vm.ibm.com/events/>

★ Local User Groups around the world: <http://www.vm.ibm.com/events/usergrps.html>



Mailing Lists

- There are two very helpful mailing lists:
 - IBMVM
 - LINUX-390
- Experts available 24 x 365
- Can subscribe to get each message as an email or daily digest form
 - Average about 25 messages a day
- Recommend subscribing even if you do not have a question!
- People all over world available to help answer questions
- For information and instructions to subscribe, see <http://www.vm.ibm.com/techinfo/listserv.html>



z/VM Help

- CMS HELP command is part of the z/VM system

- Provides information on:
 - Common tasks
 - Commands from various components and features
 - Is usually the same information as the Command Reference Book
 - Glossary (Terminology)
 - Messages
 - Macros and Routines

- Updated with service

- Menu driven

HELP

```

A - Small VM7 - [40 x 80]
File Edit View Communication Actions Window Help
HELP TASKS Task Help Information Line 1 of 40
(c) Copyright IBM Corporation 1990, 2013

z/VM HELP, main panel

The help panels listed below provide information about various
z/VM functions, topics, and tasks.
To view a help panel, move the cursor to any character of the name
or description and press the ENTER key or the PF1 key.

HELP - z/VM HELP Facility topics
MENUS - z/VM help menus
TASKS - Basic z/VM tasks
AVS - AVS commands
CMS - CMS commands
CP - CP commands
DIRMAINT - DirMaint commands
DIRMAINT - DirMaint topics
DUMPS - Dump commands, subcommands, and utilities
DYNIO - Dynamic I/O tasks
GLOSSARY - Definitions of terms
LE - Language Environment commands
LIBRARY - z/VM bibliography
MACROS - CMS assembler macros (menu)
MACROS - Assembler macros and functions (types)
MESSAGES - Messages and codes
OPEN - OpenExtensions services and APIs
PERFKIT - Performance Toolkit topics
PIPE - CMS Pipelines stages and subcommands
PIPE - CMS Pipelines tasks
QUERYSET - QUERY and SET commands and subcommands
ROUTINES - CMS callable services (menu)
ROUTINES - CMS routines (types)
RSCS - RSCS Networking commands and link parameters
PF1= Help 2= Top 3= Quit 4= Return 5= Clocate 6= ?
PF7= Backward 8= Forward 9= PFkeys 10= 11= 12= Cursor

====> _
Macro-read 1 File
MA A 39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```

HELP

```

B - GDLMV7 - [43 x 80]
HELP TASKS Task Help Information line 1 of 40
(c) Copyright IBM Corporation 1990, 2013

z/VM HELP, main panel

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DYNIO     - Dynamic I/O tasks
GLOSSARY  - Definitions of terms
LE        - Language Environment commands
LIBRARY   - z/VM bibliography
MACROS    - CMS assembler macros (menu)
MACROS    - Assembler macros and functions (types)
MESSAGES  - Messages and codes
OPEN      - OpenExtensions services and APIs
PERFKIT   - Performance Toolkit topics
PIPE      - CMS Pipelines stages and subcommands
PIPE      - CMS Pipelines tasks
QUERYSET  - QUERY and SET commands and subcommands
ROUTINES  - CMS callable services (menu)
ROUTINES  - CMS routines (types)
RSCS     - RSCS Networking commands and link parameters
STATEMETS - REXX, EXEC 2, and EXEC statements
SUBCMDS   - Subcommand groups, such as XEDIT
TCPIP     - TCP/IP commands
PF1= Help   2= Top     3= Quit    4= Return   5= Clocate  6= ?
PF7= Backward 8= Forward 9= PFkeys 10=         11=         12= Cursor

====> _
Macro-read 1 File
MA B 42/007

```

HELP for a Command

- Following may be included:
 - Command syntax diagram (aka Railroad Tracks)
 - Authorization – e.g. privilege command required
 - Purpose – brief description
 - Operands – description of each operand on the command
 - Options – description of each option
 - Usage Notes
 - Examples
 - Responses
 - Messages

- Some commands may have so many operands or options that they are presented as part of a menu or with “related” information
 - Example: HELP CPSET
 - Example: HELP MONITOR MENU

HELP VMRELOCATE

```

A - Small VM7 - [40 x 80]
File Edit View Communication Actions Window Help
CP VMRELOCAT All Help Information Line 1 of 812
(c) Copyright IBM Corporation 1990, 2013

VMRELOCATE

>>--VMRELOCate----->
>-- -MOVE-- - - - - -userid- - - - -destination-- | MOVE (continued) | - - - - ->
|      | -USER- |      | -TO- |
| -MODIFY- | -USER- |      | B | - - - - -
|      | -USER- |      |      |
| -TEST-- | -USER- |      | -destination- - - - -
|      | -USER- |      | -TO- |
| -STATUS- +-----+
|      | -USER- |      | -DETAILS- |
| -INcoming- - - - -
| -OUTgoing- - - - -
| -CANCEL-- | -USER- |      | -userid- - - - -
|      | -USER- |      |      |

MOVE (continued):
| - - - - -SYNChronous-- - - - - - | A | - - - - -
| < -ARCHITECTURE- < | -ASYNChronous- | -IMMEDiate-- | B | -
| -FORCE-- | -DOMAIN-- - - - - -
| -STORAGE-- - - - - -

A:
| -MAXTotal--NOLIMIT-- - - - - - | -MAXQuiesce--10--SEC-- - - - - -
| -MAXTotal--nnn-- - - - - - | -MAXQuiesce-- -nnn-- - - - - -
| -SEC- | -SEC- |

PF1=          2= Top          3= Quit          4= Return          5= Clocate          6= ?
PF7= Backward 8= Forward    9= PFkeys    10=          11=          12= Cursor

====> _
Macro-read 2 Files
MA A 39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```

HELP VMRELOCATE

```

B - GDLMV7 - [43 x 80]
COMMANDS VMRELOCATE All Help Information line 1 of 812
(c) Copyright IBM Corporation 1990, 2013

VMRELOCATE

>>--VMRELOCate----->>
>--.MOVE--:--USER--:--userid--:--TO--:--destination--| MOVE (continued) |-----><
|          |          |          |          |          |
| -MODIFY--:--USER--:--userid--| B |-----|
|          |          |          |          |          |
| -TEST--:--USER--:--userid--:--TO--:--destination-----|
|          |          |          |          |          |
| -STATUS--|-----|
|          |          |          |          |          |
|          | -USER-:--userid-:--DEtails-:-----|
|          | -INcoming-----|
|          | -OUTgoing-----|
| -CANCEL--:--USER--:--userid-----|
|          |          |          |          |          |

MOVE (continued):
|-----|
|          |-----|
|          | -SYNChronous--:--IMMEDiate--| B |-----|
| -FORCE--<-----<| -ASYNChronous-:--IMMEDiate--| B |-----|
|          | -ARCHITECTURE-----|
|          | -DOMAIN-----|
|          | -STORAGE-----|

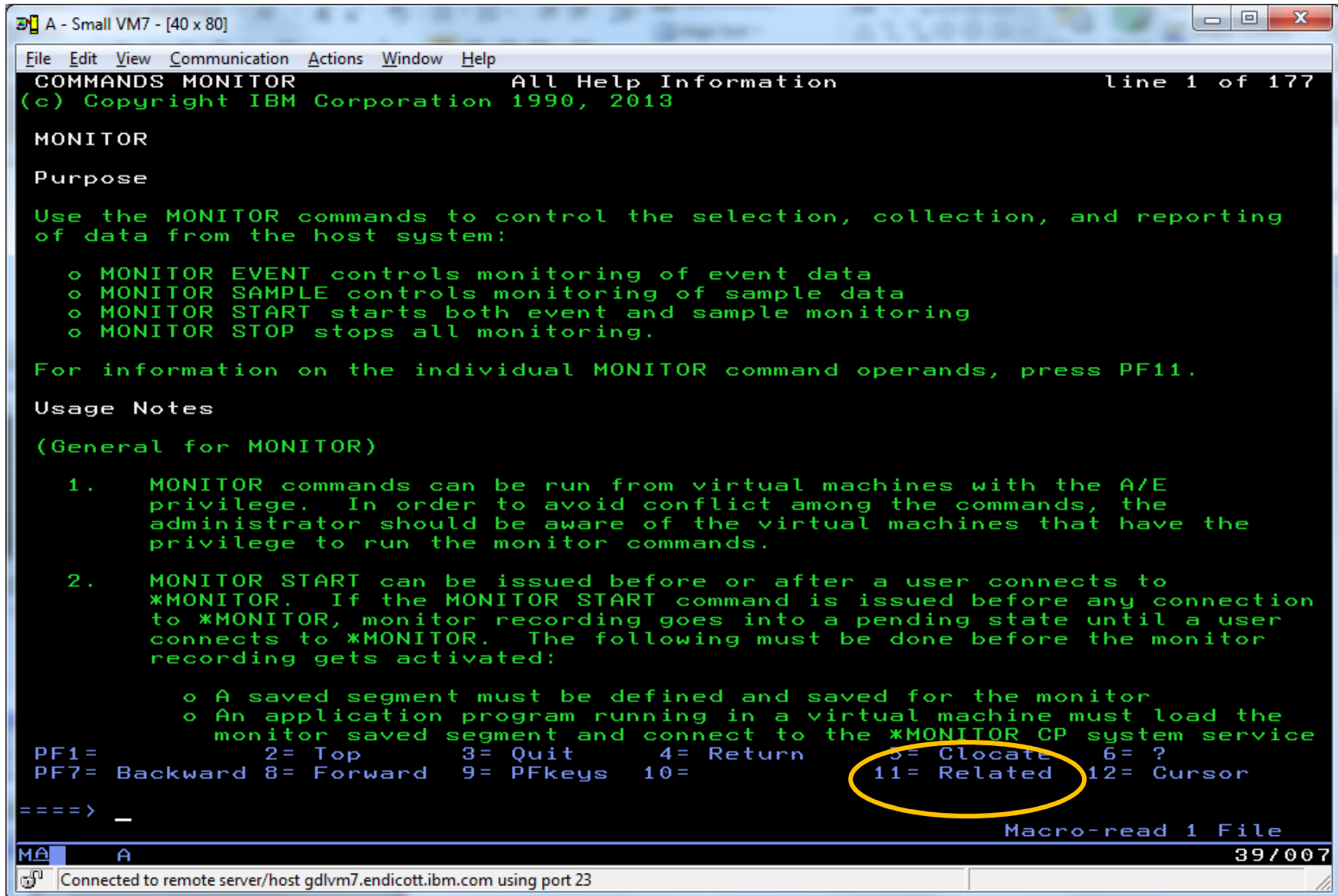
A:
|-----|
| -MAXTotal--NOLIMIT-----:--MAXQuiesce--10--SEC-----|
|-----|
| -MAXTotal--nnn--:--SEC-:--MAXQuiesce--nnn--:--SEC-:-----|
|          |          |          |          |          |
|          |          | -NOLIMIT-----|

B:
PF1= 2= Top 3= Quit 4= Return 5= Clocate 6= ?
PF7= Backward 8= Forward 9= PFkeys 10= 11= 12= Cursor

====> _ Macro-read 1 File

MA B 42/007
    
```

Example of related information: HELP MONITOR



```
A - Small VM7 - [40 x 80]
File Edit View Communication Actions Window Help
COMMANDS MONITOR          ALL Help Information          line 1 of 177
(c) Copyright IBM Corporation 1990, 2013

MONITOR

Purpose

Use the MONITOR commands to control the selection, collection, and reporting
of data from the host system:

  o MONITOR EVENT controls monitoring of event data
  o MONITOR SAMPLE controls monitoring of sample data
  o MONITOR START starts both event and sample monitoring
  o MONITOR STOP stops all monitoring.

For information on the individual MONITOR command operands, press PF11.

Usage Notes

(General for MONITOR)

1.  MONITOR commands can be run from virtual machines with the A/E
    privilege.  In order to avoid conflict among the commands, the
    administrator should be aware of the virtual machines that have the
    privilege to run the monitor commands.

2.  MONITOR START can be issued before or after a user connects to
    *MONITOR.  If the MONITOR START command is issued before any connection
    to *MONITOR, monitor recording goes into a pending state until a user
    connects to *MONITOR.  The following must be done before the monitor
    recording gets activated:

    o A saved segment must be defined and saved for the monitor
    o An application program running in a virtual machine must load the
      monitor saved segment and connect to the *MONITOR CP system service

PF1=          2= Top          3= Quit          4= Return          5= Clocate          6= ?
PF7= Backward 8= Forward    9= PFkeys      10=                11= Related         12= Cursor

====> _

Macro-read 1 File
MA A
39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23
```


Example of related information: HELP MONITOR

```
B - GDLMV7 - [43 x 80]
COMMANDS MONITOR All Help Information line 1 of 177
(c) Copyright IBM Corporation 1990, 2013

MONITOR

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   recording gets activated:

   o A saved segment must be defined and saved for the monitor
   o An application program running in a virtual machine must load the
     monitor saved segment and connect to the *MONITOR CP system service
   o A MONITOR START command must be issued.

3. Both the event and sample profiles can be changed after monitoring has
   started.

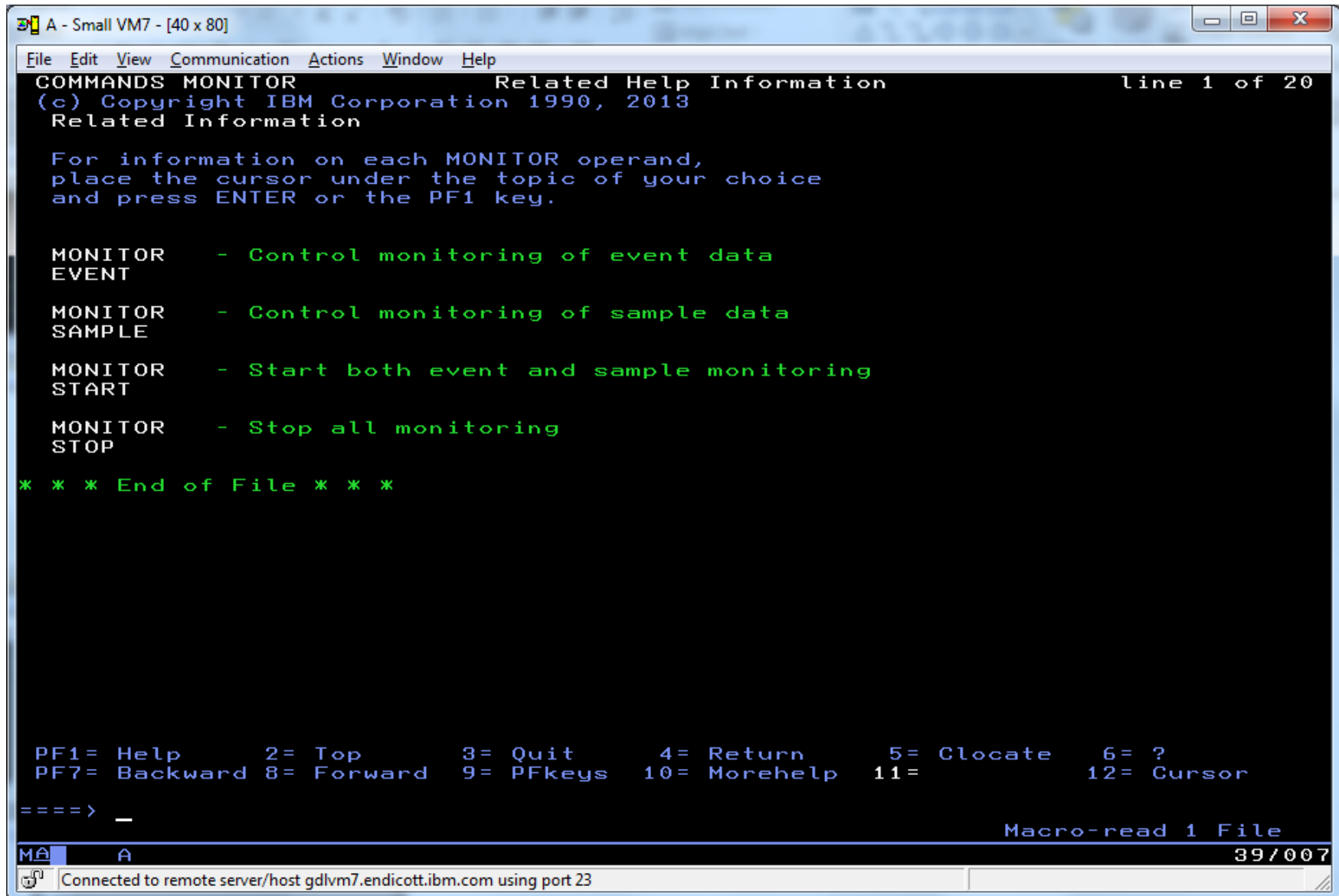
PF1=          2= Top          3= Quit          4= Return          5= Clocate          6= ?
PF7= Backward 8= Forward    9= PFkeys     10=                 11= Related         12= Cursor

====> _

Macro-read 1 File

MA B 42/007
```

Results from F11 on HELP MONITOR



A screenshot of a terminal window titled "A - Small VM7 - [40 x 80]". The window displays the output of the HELP MONITOR command. The text is as follows:

```
File Edit View Communication Actions Window Help
COMMANDS MONITOR          Related Help Information      line 1 of 20
(c) Copyright IBM Corporation 1990, 2013
Related Information

For information on each MONITOR operand,
place the cursor under the topic of your choice
and press ENTER or the PF1 key.

MONITOR   - Control monitoring of event data
EVENT

MONITOR   - Control monitoring of sample data
SAMPLE

MONITOR   - Start both event and sample monitoring
START

MONITOR   - Stop all monitoring
STOP

* * * End of File * * *

PF1= Help      2= Top      3= Quit      4= Return      5= Clocate      6= ?
PF7= Backward  8= Forward  9= PFkeys   10= Morehelp   11=             12= Cursor

====> _

Macro-read 1 File
MA A 39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23
```

Results from F11 on HELP MONITOR

```
B - GDVLM7 - [43 x 80]
COMMANDS MONITOR          Related Help Information          line 1 of 20
(c) Copyright IBM Corporation 1990, 2013
Related Information

For information on each MONITOR operand,
place the cursor under the topic of your choice
and press ENTER or the PF1 key.

MONITOR   - Control monitoring of event data
EVENT

MONITOR   - Control monitoring of sample data
SAMPLE

MONITOR   - Start both event and sample monitoring
START

MONITOR   - Stop all monitoring
STOP

* * * End of File * * *

PF1= Help      2= Top      3= Quit      4= Return      5= Clocate      6= ?
PF7= Backward  8= Forward  9= PFkeys   10= Morehelp   11=             12= Cursor

====> _

Macro-read 1 File
MA B 42/007
```

Other Uses of HELP

- HELP TASKS TASK
 - List of common tasks (e.g. “Create or change files”)

- HELP SYNTAX
 - Explains how to read syntax diagrams

- HELP GLOSSARY or HELP GLOSSARY *term*
 - Brings up glossary list and goes to term if available

- HELP *message*
 - Looks up message and provides information on it
 - Example: HELP HCP1810I

- HELP HCPnnnnW
 - Provides Help on CP wait state number nnnn

HELP HCP1810I

```

A - Small VM7 - [40 x 80]
File Edit View Communication Actions Window Help
MSG HCP1810I All Help Information line 1 of 27
(c) Copyright IBM Corporation 1990, 2013

HCP1810I The variations of this message are explained below.

-userid: Current storage use guest_footprint exceeds available
capacity on destination destination_resource by difference

-userid: Current storage use exceeds capacity on destination

Explanation: The current storage footprint of this virtual machine exceeds
the current available storage resources (central storage, expanded storage,
and auxiliary storage) on the destination system. Allowing such a virtual
machine to relocate could result in a system abend. The current storage
footprint includes the pageable and non-pageable CP storage required to
virtualize the guest, in addition to all storage currently used in its base
address space and for all of its virtual disks. If values are specified for
the current storage footprint of the virtual machine and the current available
resource of the destination system, please be aware that these values are
transient and should be considered subject to change.

System Action: The relocation is terminated with no further action. The
virtual machine continues to run on the source system.

User Response: Take steps on the destination system to reduce the system load
or increase paging capacity. Alternatively, you could relocate this virtual
machine to a different system with adequate capacity in the SSI cluster.

* * * End of File * * *

PF1= 2= Top 3= Quit 4= Return 5= Clocate 6= ?
PF7= Backward 8= Forward 9= PFkeys 10= 11= 12= Cursor

====> _
Macro-read 1 File
MA A 39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```

HELP HCP1810I

```

B - GDLM7 - [43 x 80]
MSG HCP1810I All Help Information line 1 of 27
(c) Copyright IBM Corporation 1990, 2013

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      -userid: Current storage use guest_footprint exceeds available
              capacity on destination destination_resource by difference

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resource of the destination system, please be aware that these values are
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virtual machine continues to run on the source system.

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or increase paging capacity. Alternatively, you could relocate this virtual
machine to a different system with adequate capacity in the SSI cluster.

* * * End of File * * *

PF1=          2= Top          3= Quit          4= Return          5= Clocate          6= ?
PF7= Backward  8= Forward    9= PFkeys    10=                11=                12= Cursor

====> _
Macro-read 1 File
MA B
42/007

```

Summary

- Lots of information is available

- Never be afraid to ask for help
 - IBMVM Mailing List
 - Your local IBM team
 - bitnerb@us.ibm.com

- Your assignment for after session:
 - Subscribe to Red Alert Page
 - Subscribe to IBMVM and Linux-390 Mailing Lists
 - Introduce yourself on the Mailing Lists
 - Bookmark www.vm.ibm.com
 - Bookmark the z/VM Information Center
 - Read first few chapters of the CMS Primer
 - Send Bill Bitner an email to tell him what topic you have trouble understanding and would like IBM to work on a small tutorial or video or other aid to learning

Bill's Cheat Sheet Version 1.1

Processor	Model
z900	2064
z800	2066
z990	2084
z890	2086
z9 EC	2094
z9 BC	2096
z10 EC	2097
z10 BC	2098
z196	2817
z114	2818
zEC12	2827
zBC12	2828
zPDT	1090

z/VM Release	Supported LCPUs	Supported Cstore	Supported Xstore
z/VM V6R3	32	1024GB	128GB
z/VM V6R2	32	256GB	128GB
z/VM V6R1	32	256GB	128GB
z/VM V5R4	32	256GB	128GB

Pseudo Name	Name	Cylinders	Space	Dev Type Value
3390-3	3390-3	3339	2.3GB	0A
3390-9	3390-9	10017	6.9GB	0C
3390-A	3390-A	>64K		0E

z/VM Release	CMS Level
z/VM V6R3	27
z/VM V6R2	26
z/VM V6R1	25
z/VM V5R4	24

Conversions

1 Page = 4KB = 4096 Bytes
1 MB = 256 pages
1 GB = 262144 pages
180 4 KB blocks per 3390 Cylinder
1 FullWord = 4 Bytes
1 KB Kilobyte = 1024 Bytes
1 GB Gigabyte = 1024 Megabyte
1 TB Terabyte = 1024 Gigabyte
1 EB Exabyte = 1024 Terabyte

Time

1 millisecond = 0.001 seconds (10^{-3})
1 microsecond = 0.000001 seconds (10^{-6})
1 nanosecond = 0.000000001 seconds (10^{-9})
1 microsecond = 4096 TOD clock units

64 Bit TOD clock --> bit 51 = 1 microsecond

To convert a TOD value in pipes (example TOD of 7FFFFFFFFFFFFFFF):
pipe strliteral 7FFFFFFFFFFFFFFF| dateconv todabs isodate timeout | cons