

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

Version 4.1

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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 6.4 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 V6R4 CP Planning and Administration, SC24-6178-13
  - z/VM V6R4 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 Knowledge Center
    - Useful when unsure which book or for searching tasks
  - 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 > z Systems > z/VM >

z/VM

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- Resource Link
- Resources for IBM Business Partners
- Resources for developers
- Shopz
- ISV software support

z/VM Internet Library

z/VM Internet Library terms and conditions

Please read and accept our terms and conditions before using the z/VM Internet Library.

z/VM product information

- Temporary information on new commands from VM65396
- IBM Knowledge Center | **V6.4 (December 2017)** |
- V6.4 PDF list (December 2017)
- V6.4 Adobe Indexed PDF Collection (December 2017)  
Download the Collection, extract the PDFs, and open the Open\_Me\_First file.
- z/VM Omnibus PKIT, SK5T-9509-01 (September 2017)  
Go to IBM Publications Center, navigate to "Search for publications" and enter the form number.
- z/VM Collection, SK5T-7054-12 (Final edition, December 2016)  
Go to IBM Publications Center, navigate to "Search for publications" and enter the form number.
- z/VM program directories
- z/VM data areas, control blocks, and monitor records
- z/VM softcopy bookshelves | **V6.2** | **V6.1** | **V5.4** | **V4.4** | **V3.1** |

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 z Systems documentation

IBM Knowledge Center  
developerWorks

IBM Redbooks publications

Redbooks publications for z/VM  
Redbooks publications home page

## IBM Knowledge Center

- Follow on from the IBM Information Center (many require you to “sign in”).
  - Additional social aspects:
    - Comments
    - “Likes”
    - Sharing
  - “My Collections” – able to create set of links to document sections that are helpful
  - Saving searches
- Other Advantages (carried forward from Information Center) compared to straight PDFs or traditional web searching
  - Up to date
  - Searching (Web based search engines often give too much)
  - Printing
- Different than Information Center
  - Does not include control blocks and monitor records
  - Printing subtopics

## z/VM V6R4 Library in IBM Knowledge Center (December 2017)

[Table of contents](#) [Change version](#)

Search in this product...



Welcome to the IBM® z/VM® Library for z/VM® V6R4 documentation, where you can find topics that you need to use z/VM V6R4. By using this information, you can install develop and run application programs, and administer and operate z/VM.

## Getting started



- [IBM z/VM® Homepage](#)
- [z/VM V6R4 Enhancements](#)
- [z/VM Library Guide](#)
- [Planning for z/VM](#)
- [z/VM Internet Library](#)
- [z/VM V6R4 Resources](#)
- [z/VM Migration Resources](#)

## Featured topics



- [IBM Wave for z/VM](#)
- [Linux Consolidation](#)
- [OpenStack Enablement for z/VM](#)
- [Cloud Management Suite](#)
- [Linux on z](#)

## Troubleshooting, support, and communities



- [z/VM Service Resources](#)
- [z/VM Installation Resources](#)
- [z/VM Technical Resources](#)
- [z/VM Events](#)
- [SHARE](#)
- [Resource Link](#)

## More information



- [z/VM and VM related products](#)
- [z/VM News](#)
- [z/VM Education](#)
- [System zRedbooks](#)
- [IBM Publications Center](#)
- [Shopz](#)
- [IBM Redbooks on z/VM topics](#)

## More topics

- [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](#)

[Feedback](#) [Topic](#)

Basic layout



[Home](#) > [z/VM 6.4.0](#) >

## Installation, Migration, and Service

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Books under  
a topic.

### Description

The following publications provide information to help you install and maintain a z/VM system.

Order Number	Title	Abstract Link	TOC Link	PDF Link	Updated
GC24-6246-04	z/VM: Installation Guide	<a href="#">Abstract</a>	<a href="#">TOC</a>	<a href="#">PDF</a>	August 2017
GC24-6201-13	z/VM: Migration Guide	<a href="#">Abstract</a>	<a href="#">TOC</a>	<a href="#">PDF</a>	December 2017
GC24-6247-02	z/VM: Service Guide	<a href="#">Abstract</a>	<a href="#">TOC</a>	<a href="#">PDF</a>	November 2016
GC24-6243-04	z/VM: VMSES/E Introduction and Reference	<a href="#">Abstract</a>	<a href="#">TOC</a>	<a href="#">PDF</a>	August 2017



Home &gt; z/VM 6.4.0 &gt;

Search

DSPSLICE



17 results

Change version ▾

[Documentation](#) [Videos](#) [More content](#)

### + [Setting the Minor Time Slice \(SET SRM DSPSLICE\)](#)

Setting the Minor Time Slice (SET SRM **DSPSLICE**) The SET SRM **DSPSLICE** command controls the value of the minor time slice of a virtual machine. (A minor time slice, also called simply a time slice, is the length of time that a virtual machine stays in the dispatch list before the scheduler

### + [Usage Notes](#)

also decrease throughput. Thus, if very few virtual machines are experiencing processor delays, **DSPSLICE** can be increased. When you make a change to the **DSPSLICE** setting, you should also consider changing the duration parameter of SET SRM IABIAS. For an example of using SET SRM **DSPSLICE** together

### + [Displaying the Size of the Current Minor Time Slice](#)

Displaying the Size of the Current Minor Time Slice To display the size of the minor time slice the scheduler assigns, enter: query srm **dpslice**

### + [Changing the Size of the Current Minor Time Slice](#)

Changing the Size of the Current Minor Time Slice To change the size of the minor time slice the scheduler assigns, enter: set srm **dpslice** minslice Where minslice is the new size, in milliseconds, of the time slice the scheduler assigns.

Waiting for static.hotjar.com...

[Feedback](#)

Searching for  
"dpslice"

## Displaying the Size of the Current Minor Time Slice

[≡ Table of contents](#)[Change version](#) ▾

To display the size of the minor time slice the scheduler assigns, enter:

```
query srm dspslice
```

[Copy](#)

Please note that DISQUS operates this forum. When you sign in to comment, IBM will provide your email, first name and last name to

**Clicking and bringing  
up actual text.**

# 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



- Also available – Redbook mobile app and e-book readers



- 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>
  - The Virtualization Cookbook for IBM Systems:
    - Volume 1: IBM z/VM 6.3  
<http://www.redbooks.ibm.com/abstracts/sg248147.html?Open>
    - Volume 2: RHEL 7.1 Servers  
<http://www.redbooks.ibm.com/abstracts/sg248303.html?Open>
    - Volume 3: SLES 12  
<http://www.redbooks.ibm.com/abstracts/sg248890.html?Open>
  - Practical Migration to Linux on System z  
<http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg247727.html?Open>

# z/VM Home Page

- [www.vm.ibm.com](http://www.vm.ibm.com) = [www.ibm.com/vm](http://www.ibm.com/vm)
- Running on z/VM!

IBM Systems > Mainframe servers >

## z/VM®

Virtualization with Efficiency at Scale

### Why z/VM

z/VM provides a highly secure and scalable enterprise cloud infrastructure and an environment for efficiently running multiple diverse critical applications on IBM z Systems and IBM LinuxONE with support for more virtual servers than any other platform in a single footprint. These z/VM virtual servers can run Linux, z/OS and more.

Linux on IBM z Systems and IBM LinuxONE offer a uniquely powerful, high-performance solution. Supreme efficiency for optimized workload deployment, innovative system management with IBM Wave for z/VM, and the legendary performance and scalability of z/VM come together to form a foundation for your Linux applications that is simple, cost-effective, efficient, and secure.

→ [Learn More](#)

### Contact IBM


[Email IBM](#)  
→ [Contact z/VM development](#)  
→ [Find a Business Partner](#)  
 Call IBM: 1-866-883-8901  
Priority code: 101AS13W

[Browse z/VM](#) +  
[IBM TechDocs](#) +  
[IBM Redbooks for System z & Linux](#) +

### Spotlight



**Meet the newest IBM Z Mainframe: z14**  
The core of trusted digital experiences.

→ Required service: Running z/VM on IBM z14

→ [z14 IBM Redbooks](#)



**IBM Wave for z/VM**  
An innovative point-and-click graphical user interface to harness the power of z/VM on IBM Z and IBM LinuxONE servers. IBM Wave streamlines system administration and management, highlighting z/VM as the platform of choice for consolidation and virtualization.



# z/VM Home Page – Navigation Bar

The screenshot shows the IBM z/VM Home Page navigation bar. The top navigation bar includes links for Industries & solutions, Services, Products, Support & downloads, and My IBM, along with a search bar. Below this, the main navigation bar features a stack of colorful cubes representing various z/VM components: CMS, TSF, CP, OPEN VM, VM SESE, HCN, WCD, AVS, GCS, PERF, and VM SSI. The left sidebar is expanded, showing the following sections:

- Contact IBM (+)
- Browse z/VM (-)
  - About z/VM
  - News
  - Education
  - Events Calendar
  - History and Heritage
  - Buy / Install
  - z/VM Library
  - Downloads
  - Resources
  - Support and services
- IBM TechDocs (+)
- IBM Redbooks for System z & Linux (+)

On the right side of the page, there is a 'Contact IBM' section with a plus icon. Below it, there is a 'Browse z/VM' section with a plus icon. An orange arrow points to the 'Expand Here' button next to the 'Browse z/VM' section.

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

## Browse z/VM

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

Library

z/VM Downloads Page

Technical Resources

Service

Education

## Contact IBM



✉ Email IBM

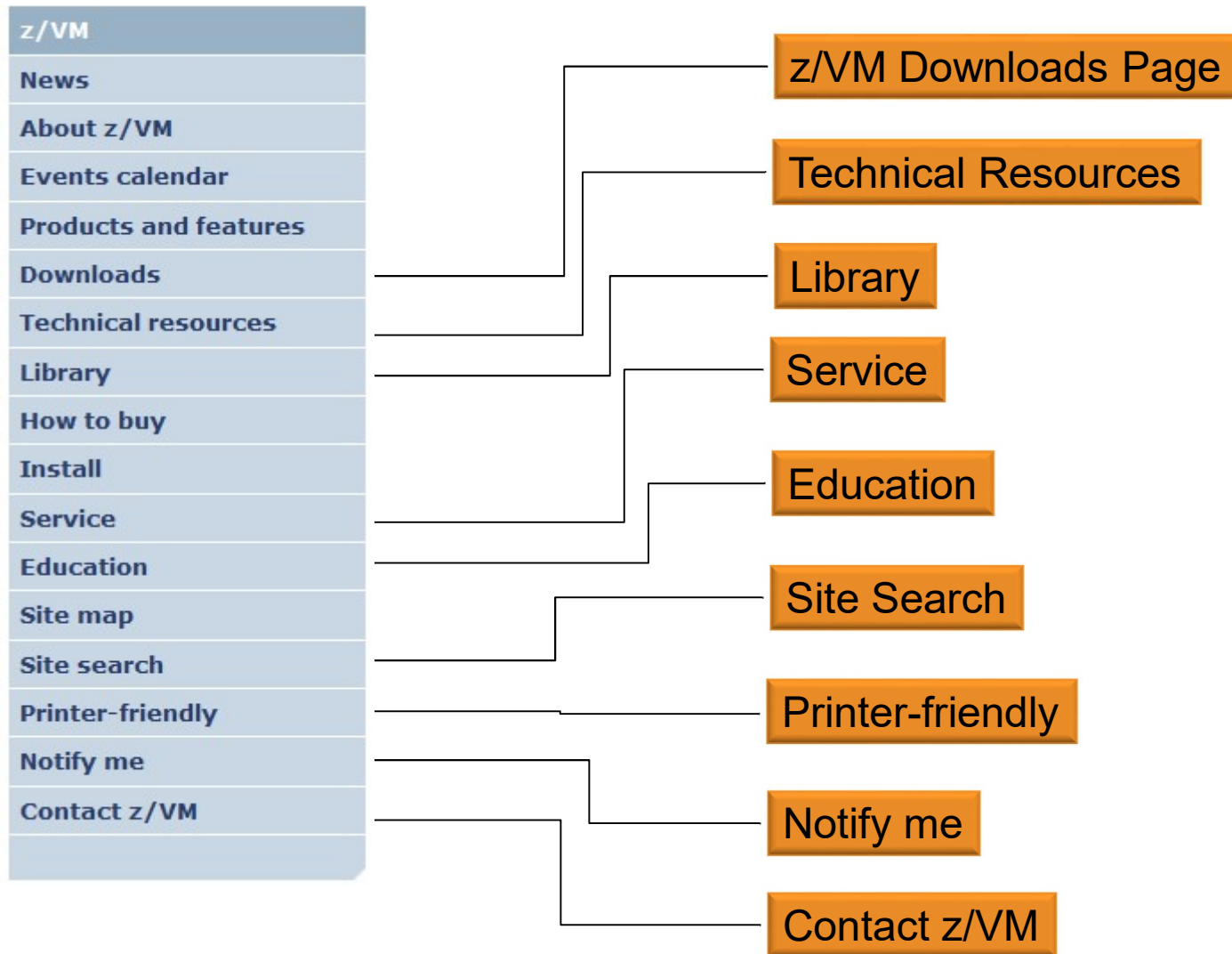
→ Contact z/VM development

→ Find a Business Partner

☎ Call IBM: 1-866-883-8901  
Priority code: 101AS13W

Contact z/VM

# 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 Continuous Delivery Page

- <http://www.vm.ibm.com/newfunction/>
- Provides information on new function that is being considered
  - Description
  - Status
  - Effect
  - Compatability
- Allows an early insight into future enhancements and for those where there is interest, a client can contact IBM to be involved with the item as a 'sponsor user'.
- Recommend you get on notify list for this page.

[z/VM](#)  
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IBM Systems > z Systems > z/VM >

## z/VM Continuous Delivery News

News on upcoming and available new function for z/VM

Last Updated: January 25, 2018

**Change Summary** - Minor markup, content, and grammatical updates.

### Introduction

Not all enhancements to z/VM are part of a new release or even a formal IBM announcement letter. This page is a resource to learn about enhancements going out through continuous delivery for z/VM. It's also different from formal announcements as it shows work in progress. Think of it as a living preview announcement for z/VM.

As significant changes take place, this page will be updated. So check back often or [subscribe](#). We'll go through each item here and describe a number of characteristics, as defined below. Included at the bottom of this page is a link for a [spreadsheet](#) of this information.

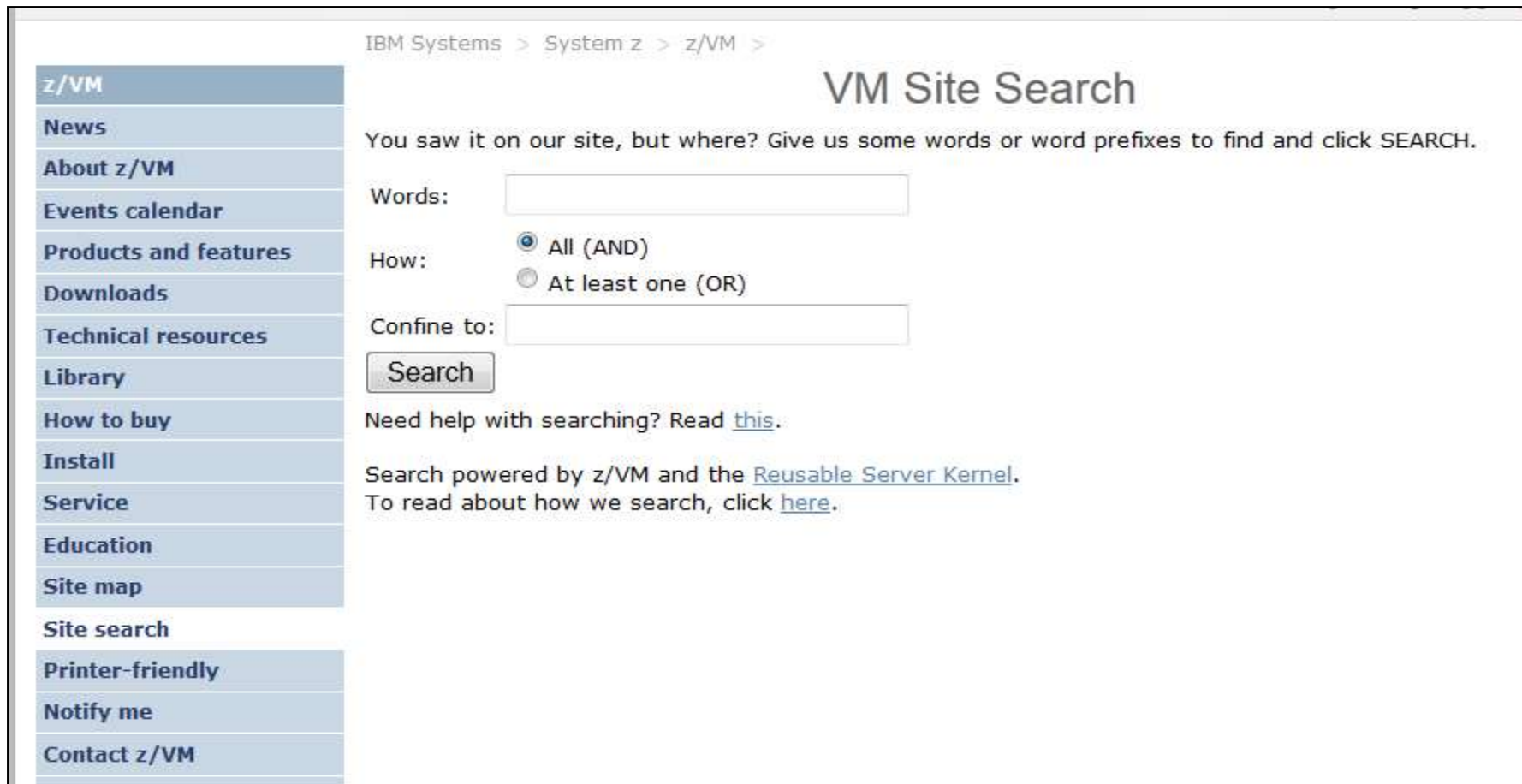
Small Product Enhancement (SPE) Information	
<b>Name</b>	The simple name of the project.
<b>Description</b>	A brief summary of what changes, who it effects, and why you would care.
<b>Status</b>	Along with the current status, this will give indication of key changes since the last iteration of this page.
<b>Target availability</b>	Depending on the project, where it is in the cycle, and other factors, this will list TBD, a quarter, a month, or, in cases where it has become available, a date. This is not a commitment and as more is learned about the work and priorities the target availability date will likely be adjusted.
<b>Compatibility</b>	This will describe how compatible an item is. In most cases, this will say 'No known incompatibilities'. It is not meant to list all details like a migration guide, but to give some indication of what to expect.
<b>Enablement</b>	This will briefly describe how enablement is managed for this Small Product Enhancement. Can it be enabled or disabled? What is the default? Can it be done dynamically? Is it on a virtual machine basis or system wide basis? It is not meant to describe all details of that process, but to give an idea of what's involved. Will also give indication of whether an IPL of the z/VM system is required, or just recycle of virtual machines or new CMS modules.
<b>Effect</b>	Describes what effect enabling the code may have beyond the compatibility statement above. Such as may slightly elongate logoff time or CCW translation code paths changed. These are basically meant to be hints as to how the system may respond or behave differently.
<b>ISV impact</b>	Indicates any impacts to ISV related products that are known, such as "If using a directory manager product, see vendor for required updates."

Related links

- Resource Link
- Resources for IBM Business Partners
- Resources for developers
- Shopz
- ISV software support
- IBM Training
- IBM Design Centers
- IBM System z Redbooks

## 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



The screenshot shows the IBM z/VM Home Page with a search interface. On the left is a navigation bar with links: z/VM, News, About z/VM, Events calendar, Products and features, Downloads, Technical resources, Library, How to buy, Install, Service, Education, Site map, Site search, Printer-friendly, Notify me, and Contact z/VM. The main content area is titled "VM Site Search" and includes a breadcrumb trail: IBM Systems > System z > z/VM >. Below the title is a search form with the following elements:

- A text input field labeled "Words:".
- A "How:" section with two radio buttons: "All (AND)" (selected) and "At least one (OR)".
- A text input field labeled "Confine to:".
- A "Search" button.

Below the search form, there is a link to "Need help with searching? Read [this](#)." and a note: "Search powered by z/VM and the [Reusable Server Kernel](#). To read about how we search, click [here](#)."

## 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.

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

IBM does not use the information you provide here to keep you informed through other ways. The information you provide here is used only for the purpose articulated on this form.

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

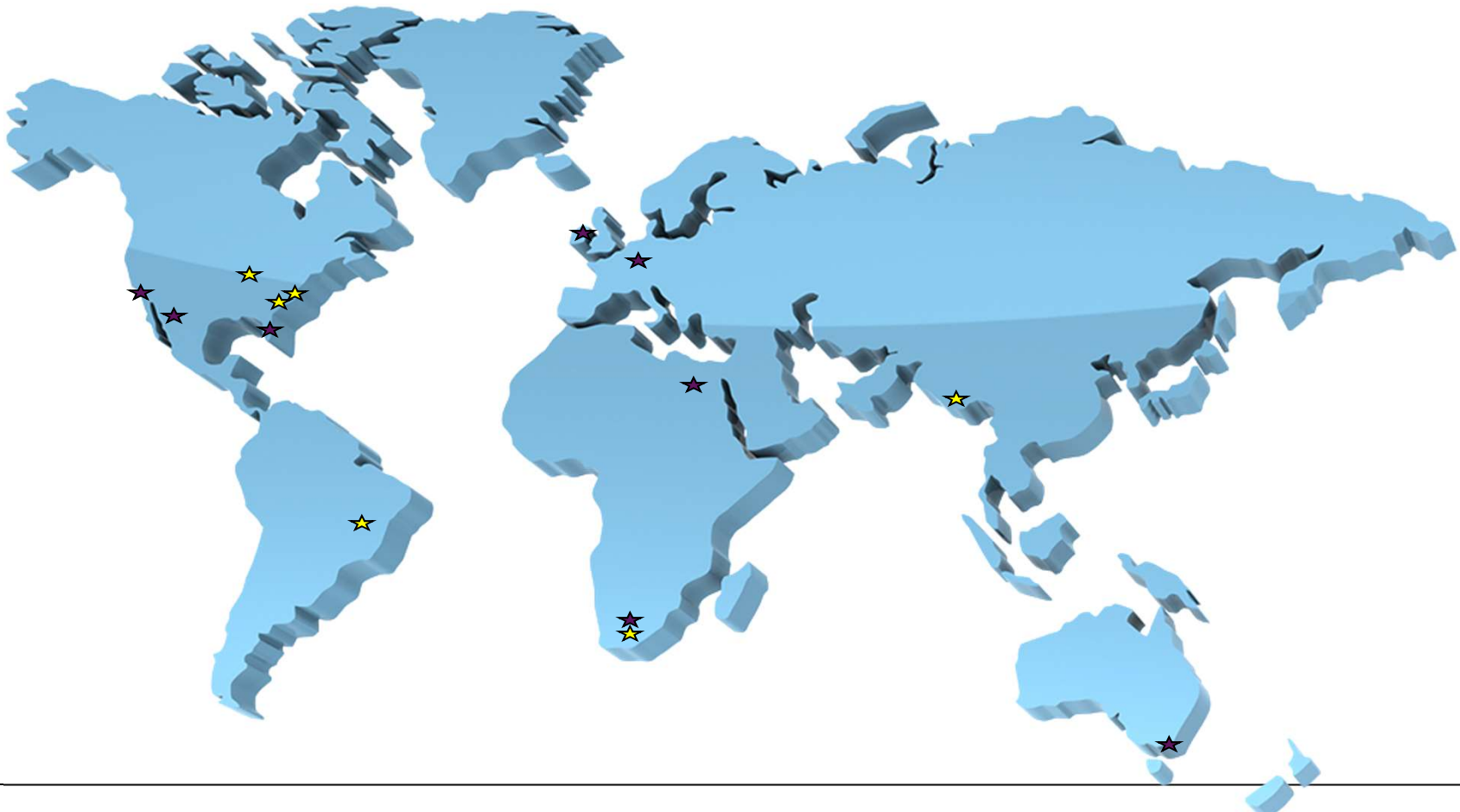
- Linux on System z Portal
  - <http://www.ibm.com/systems/z/os/linux/>
- IBM System z You Tube Channel
  - <http://www.youtube.com/user/IBMSystemZ>
- ISV Products for Linux on z/VM
  - <http://www.ibm.com/systems/z/solutions/isv/linuxproduct.html>
- Melinda Varian's History of VM Community
  - <http://www.leeandmelindavarian.com/Melinda/index.html>
- 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/atsmastr.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

```

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
39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```



```

B - GDLM7 - [43 x 80]
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
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MENUS     - z/VM help menus
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CMS       - CMS commands
CP        - CP commands
DIRMAINT  - DirMaint commands
DIRMAINT  - DirMaint topics
DUMPS     - Dump commands, subcommands, and utilities
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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
STATEMTS  - 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

```

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- | -userid- | B |
| -TEST- | -USER- | -userid- | -destination- |
|      | -ALL- |
| -STATUS- |
|      | -USER- | -userid- | -DETAILS- |
|      | -INcoming- |
|      | -OUTgoing- |
| -CANCEL- | -userid- |
|      | -USER- |

MOVE (continued):
| -SYNChronous- |
| -ASYNChronous- | A | IMMEDIATE- | B |
| -FORCE- | -ARCHITECTURE- |
|      | -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
39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```

```

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

VMRELOCATE

>>--VMREL0cate----->
>--.-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-----|
|         |-USER-.-userid-----|

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

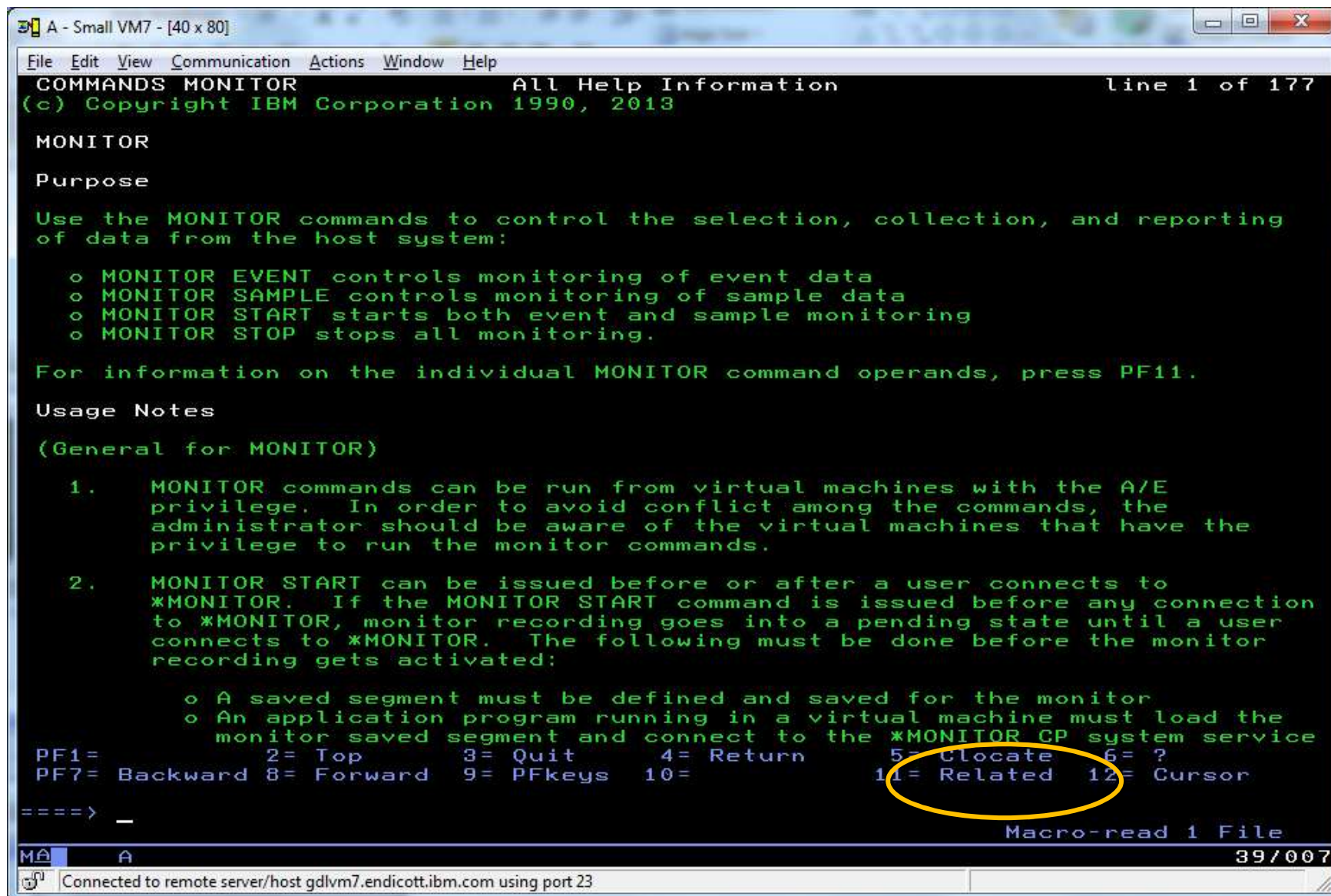
A:
|--.-MAXTotal--NOLIMIT-----.-MAXQuiesce--10--SEC-----|
|   |--.-MAXTotal--nnn--.-SEC-.-MAXQuiesce--nnn--.-SEC-.-NOLIMIT-----|

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
```





```
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
```

```
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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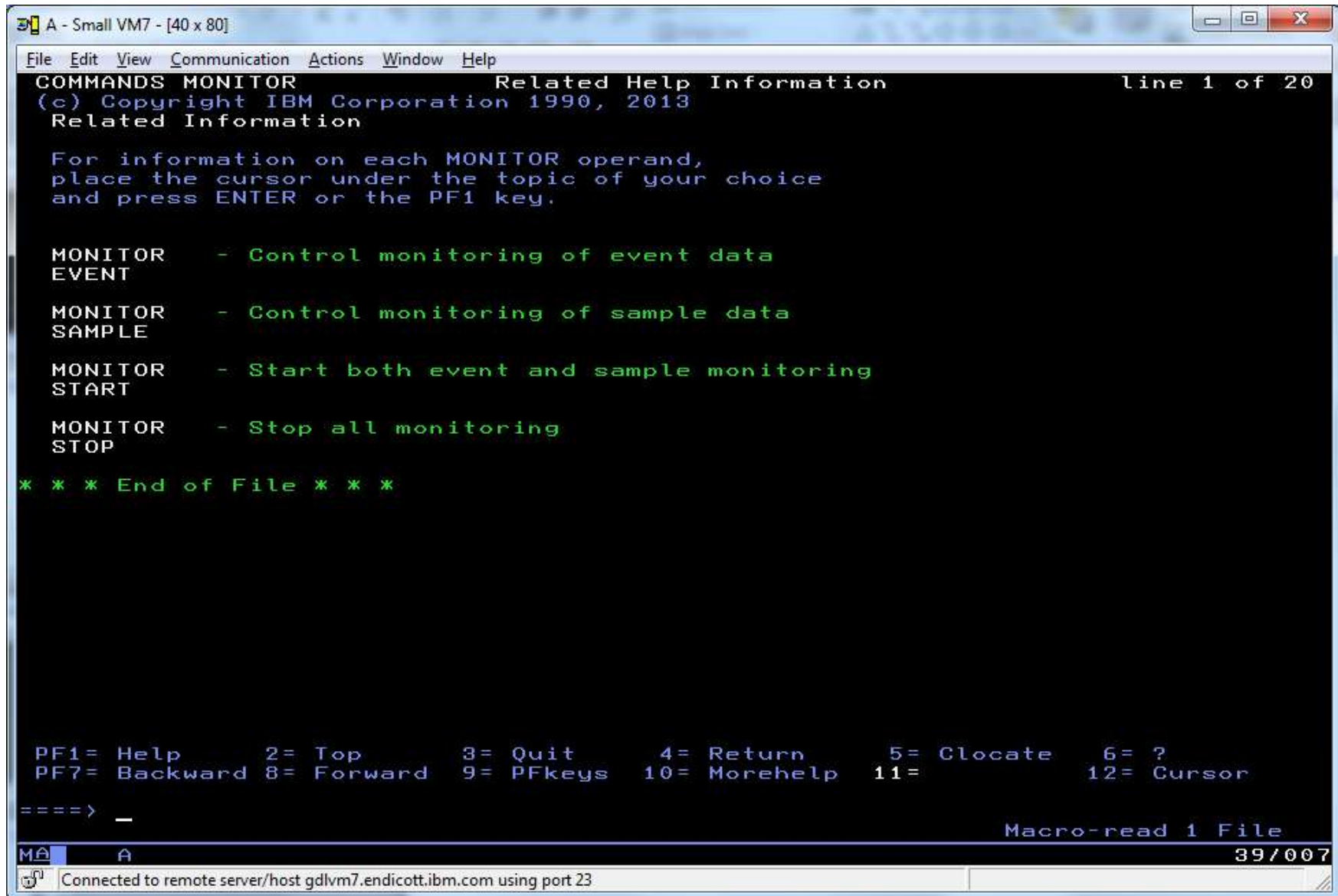
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   connects to *MONITOR. The following must be done before the monitor
   recording gets activated:

   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
   o A MONITOR START command must be issued.

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



A screenshot of a terminal window titled "A - Small VM7 - [40 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". The main display area shows the following text:

```
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 * * *
```

At the bottom of the terminal, there is a status bar with the following information:

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



```
B - GDLMV7 - [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

```

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
39/007
Connected to remote server/host gdlvm7.endicott.ibm.com using port 23

```



```
B - GDLMV7 - [43 x 80]
MSG HCP1810I All Help Information line 1 of 27
(c) Copyright IBM Corporation 1990, 2013

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* * * 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](mailto: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](http://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 2.1

Processor	Model
z10 EC	2097
z10 BC	2098
z196	2817
z114	2818
zEC12	2827
zBC12	2828
z13	2964
z13s	2965
z14	3906
zPDT	1090

z/VM Release	Supported LCPUs	Supported Cstore	Supported Xstore
z/VM V6R4	32 (64 on z13 and newer)	2048GB	0GB
z/VM V6R3	32 (64 on z13)	1024GB	128GB
z/VM V6R2	32	256GB	128GB
z/VM V6R1	32	256GB	128GB
z/VM V5R4	32	256GB	128GB

Psuedo 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

**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

z/VM Release	CMS Level
z/VM V6R4	28
z/VM V6R3	27
z/VM V6R2	26
z/VM V6R1	25
z/VM V5R4	24

**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 7FFFFFFFFFFFFFFFFF):  
pipe strliteral 7FFFFFFFFFFFFFFFFF| dateconv todabs isodate timeout | cons