z/VM Platform Update: Expanding the Horizon

Version 2.3 – see http://www.vm.ibm.com/library/presentations/index.htm for latest version.

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Abstract

Version 7 of z/VM started the era of a two-year release cadence. z/VM 7.2 is the second release in this era. This session starts with information on the newest release, z/VM 7.2; then reviews the current releases in service; and then begins a tour of five value areas and the recent enhancements in each of those areas. This presentation focuses on the business value of z/VM and its enhancements and other planning information. There is a companion presentation called "Leveraging the Newest Capability in z/VM" which goes into implementation details for the enhancements discussed here.

Agenda

- Overview of z/VM Version 7 Release 2

- Summary of current releases and cadence

- Survey of enhancements in various areas
  - Scaling and TCO
  - Managing diverse workloads
  - Security
  - Resiliency and RAS
  - System Management improvements

- Other Highlights and News
  - Statements of Direction

z/VM Version 7 Release 2 Overview

z/VM 7.2

- GA announce TBD
  - Preview announce April 14, 2020
  - GA Third Quarter 2020

- New Architecture Level Set of z13 and LinuxONE or newer processor families

- Includes SPEs shipped for z/VM 7.1 including:
  - 80 Logical Processor support, Dynamic Crypto, VSwitch Priority Queuing, etc

- Additionally, includes:
  - Centralize Service Management
  - Multiple Subchannel Set Multi-Target Peer-To-Peer Remote Copy support for the GDPS environment
  - Adjunct virtual machine support
  - Foundational support for future new function APARs

z/VM 7.2 – System Default Changes

- TDISK clearing
  – The default has changed to Enabled.

- z/VM Directory Maintenance (DirMaint) NEEDPASS
  – The default value has changed to No

- The SRM unparking model
  – The default unparking model has changed from HIGH to MEDIUM.

- System Recovery Boost
  – SRB has been enabled by default
  – Still requires z15 or newer and appropriate configuration.

z/VM 7.2 – Other Changes

- The PAGING63 IPL parameter and associated external interfaces have been removed.
  - Previously available as a chicken-switch.

- The Environmental Record Editing and Printing Program (EREP) functional executables will be preinstalled and delivered as part of the z/VM V7.2 product and serviced via the CP component, simplifying the process for applying EREP service.
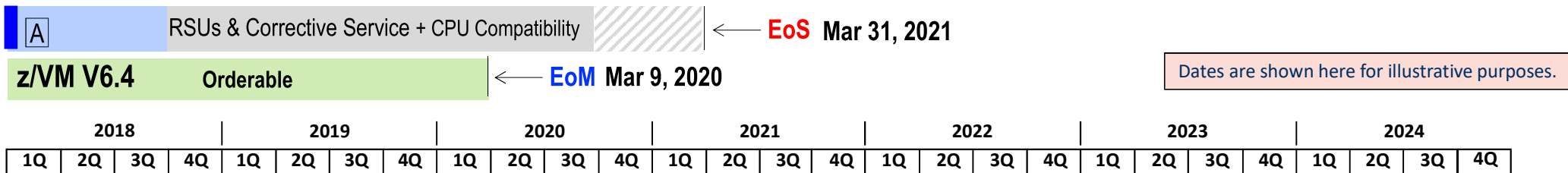
z/VM Releases and Cadence

z/VM Release Cycle Cadence

- z/VM Release GAs: Every two years in 3rd Quarter of even years
- Releases remain orderable 18 months after GA of next release
- Last 6 months of release life cycle overlaps next two releases
- In service, roughly 4.5 years.
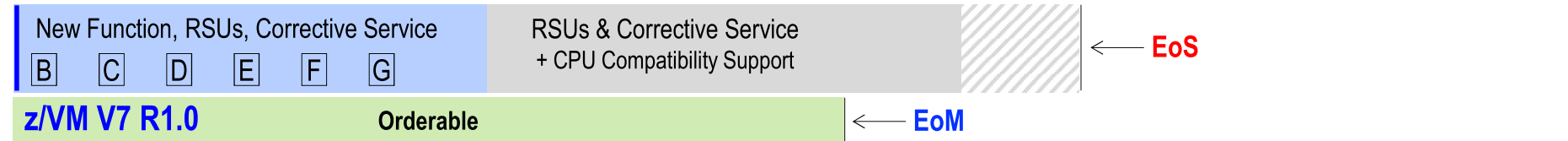
Announce **EoM** ↓   ↓ Announce **EoS**

| A | RSUs & Corrective Service + CPU Compatibility | | ← **EoS** Mar 31, 2021 |

z/VM V6.4 — Orderable ← **EoM** Mar 9, 2020

Dates are shown here for illustrative purposes.

2018				2019				2020				2021				2022				2023				2024			
1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q

↓GA Sept 21, 2018   Announce **EoM** ↓   ↓Announce **EoS**

New Function, RSUs, Corrective Service   RSUs & Corrective Service + CPU Compatibility Support   ← **EoS**

B C D E F G

z/VM V7 R1.0 — Orderable ← **EoM**

↓GA

= New function in release base

X = Potential New Function bundle delivered in service stream

New Function, RSUs, Corrective Service   RSUs & Corrective Service + CPU Compatibility Support

H I J K L M

z/VM V7 R2.0 — Orderable

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

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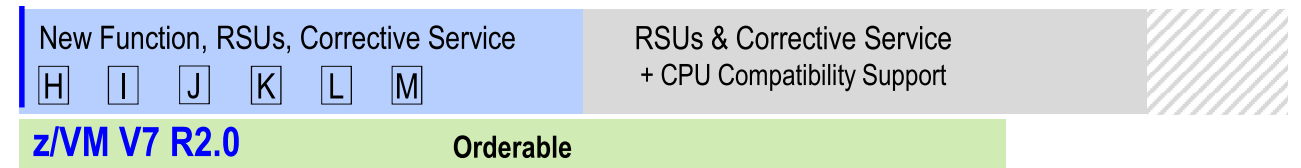
z/VM Releases

Release	ProdId	GA	EOM	EOS	Notes
z/VM 7.2	5741-A09	3Q 2020			
z/VM 7.1	5741-A09	Sept 9, 2018	TBD	TBD	Start of 2 Year Cadence[1]
z/VM 6.4	5741-A07	Nov 11, 2016	Mar 9, 2020	Mar 31, 2021	
z/VM 6.3	5741-A07	July 26, 2013	Nov 11, 2016	Dec 31, 2017	

Release[3]	z15 & LinuxONE III	z14 & LinuxONE II	z13 & LinuxONE Emperor	z13s & LinuxONE Rockhopper	zEC12	zBC12	z196	z114	z10 EC	z10 BC
z/VM 7.2	Yes	Yes	Yes	Yes						
z/VM 7.1	Yes	Yes	Yes	Yes	Yes	Yes				
z/VM 6.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
z/VM 6.3[2]		Some[4]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1. z/VM GA every 2 years with in service for ~4.5 years.
2. z/VM 6.3 no longer supported but referenced what machines were supported when it was.
3. Service may be required for support of various servers.
4. There was support for the enterprise class z14 and Emperor, but not for ZR1 and LR1 (Rockhopper).

z/VM Continuous Delivery Page

- Gives an overview of new function that is under consideration. Allows clients to:
  - Express interest in being a sponsor user for an item.
  - Plan for new support coming out in the future.
  - Understand the value, benefit, and impact of new enhancements.

- http://www.vm.ibm.com/newfunction/

- Subscribe for updates via "Notify me" link on left navigation bar.

z/VM Continuous Delivery Page

- Each item has information as seen in this example.

- The "Target availability" may also be listed as TBD or less granular such as a quarter or month.

- Since this is work in progress, the target availability dates can move multiple times and in different directions.

Encrypted Paging	
Name	Encrypted Paging
Description	Encrypted Paging will improve system security for z/VM 6.4 by exploiting z14 hardware to encrypt guest page data. Ciphering will occur as data moves from active memory onto a paging volume owned by CP (ECKD, SCSI, or native FBA). This will make customer data defensible from attack or breach of volumes, even in cases where a system administrator has unintended access to those volumes.
Status	Available December 11, 2017
Target availability	December 15, 2017
Compatibility	No known incompatibilities.
Enablement	Apply PTFs, re-IPL z/VM, SET ENCRYPT command within CP.
Effect	For the workloads studied, total CPU/tx did not increase more than 5% when compared back to an EP disabled configuration. Compared to a z13, the z14 with EP enabled performed better. As paging rate increases, the total amount of CPU used on EP will increase. Detailed performance report
ISV impact	Some monitor changes are needed. If you have a performance product, please see your vendor.
Linux or hardware interaction	z14 required
Release(s)	z/VM 6.4
Service details	See below for the IBM service information.
APAR	VM65993
PTF	UM35257
RSU	TBD

Navigating Continuous Delivery Page

- Near top of page are two tables with hyperlinks and some summary information
  - New function in progress
  - Available new function

- A floating navigation triangle will take you back to the top of the page from any where.
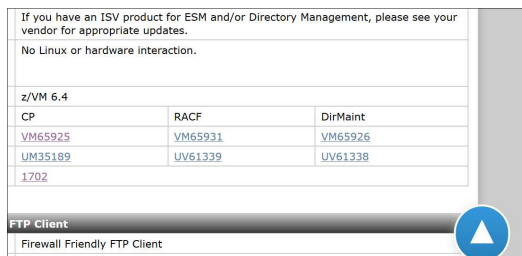
New function in progress	Target date	Last updated
4TB Main Memory Support *	TBD	May 29, 2018
80 Logical Processor Support	July 2019	June 5, 2019
Active Drain for PAGE Volumes *	TBD	April 23, 2019
Automatic STANDBY Memory for Guests *	4Q 2019	April 23, 2019
Centralized Service Management	3Q 2020	February 20, 2019
CPU Measurement Facility Host Sampler Exploitation	TBD	May 13, 2019
Dynamic Crypto	3Q 2019	May 13, 2019
Dynamic Memory Downgrade	TBD	December 11, 2018
EAV Paging	July 2019	June 5, 2019
Fast Minidisk Erase *	3Q 2019	June 5, 2019
Group Memory Limiting *	TBD	July 23, 2018
MSS Multi-Target PPRC Exploitation *	3Q 2020	July 23, 2018
Multifactor Authentication for z/VM *	TBD	April 9, 2018
SSI Eight Member Clusters	TBD	June 21, 2018
TLS / SSL Client Certificate Verification *	4Q 2019	December 11, 2018
ZHPM Application *	TBD	March 8, 2018

* Denotes the z/VM team is seeking Sponsor Users. See New Function APAR for more information.

If you have an ISV product for ESM and/or Directory Management, please see your vendor for appropriate updates.
No Linux or hardware interaction.

z/VM 6.4

CP	RACF	DirMaint
VM65925	VM65931	VM65926
UM35189	UV61339	UV61338
1702		

FTP Client
Firewall Friendly FTP Client

Focused Value Areas of Enhancements

Focused Value Areas

- Improved Scaling and TCO
  - More virtual machines in a single z/VM system
  - Lower costs of running a system

- Improved resource management for large diverse workloads
  - Fair and accurate resource control
  - Guest exploitation of z Systems and LinuxONE hardware

- Enhanced Security
  - Protecting data
  - Policy management

- Improved Resiliency and RAS
  - Scripting and automation frameworks
  - Problem determination

- Improved System Management
  - Including things that make a system programmer happy

Improved Scaling and TCO

IBM z15 Models T01 & T02 and LinuxONE III Models LT1 & LT2

- Support availability September 23, 2019 with z/VM 6.4 and z/VM 7.1
  - See https://www.vm.ibm.com/service/vmreqz15.html for details

- z/VM 6.4 and 7.1 PTFs include support for:
  - Synchronous execution support for on-chip data compression
  - Enhanced Vector and Vector packed decimal
  - Crypto Express7S adapter and cryptographic enhancements
  - OSA-Express7S
  - FICON Express16SA adapter

- z/VM 7.1 PTF support for System Recovery Boost
  - General purpose processors running at subcapacity can be boosted to full capacity for a limited time during z/VM system initialization, system shutdown processing, and system abend processing.
  - Primarily benefits z/VSE and z/TPF guest environments

80 Logical Processor Support

- Increases the number of logical processors that z/VM will support to from 64 to 80 logical processors

- Benefits:
  - Allows for greater scalability
  - Increases number of cores that SMT-1 can have from 32 to 40

- Requirements
  - z13 and newer processor families for greater than 32 logical processors
  - z14 and newer processor families for greater than 64 logical processors

Component	APAR	PTF	RSU
CP	VM66265	z/VM 7.1 UM35474	TBD
Stand Alone Dump	VM66296	z/VM 7.1 UM35499	TBD
Performance Toolkit	VM66292	z/VM 7.1 UM35501	TBD

EAV Paging Support

- Support for Extended Address Volumes (EAV) for z/VM paging space.

- Allows use of ECKD (3390) paging volumes to be up to ~812GB with EAV
  – Previous limit was ~45 GB

- Benefits:
  – Can use fewer volumes to meet the page space requirements
  – Increases the total page space possible when using ECKD paging space
  – Will be helpful when increasing the amount of virtual memory used in conjunction with future increases in real memory supported

Component	APAR	PTF	RSU
CP	VM66263	z/VM 7.1 UM35475	1902
CMS (CPFMTXA)	VM66297	z/VM 7.1 UM35483	1902
Performance Toolkit	VM66293	z/VM 7.1 UM35484	1902

Fast Erase for 3390 Disks

- Faster erase utility that can be used by solutions such as DirMaint

- Enhancement to CPFMTXA utility
  - Not considered secure erase

- Performance results showed response time improvement:
  - 10 times over CMS FORMAT
  - 4 times over CPFMTXA FORMAT

Component	APAR	PTF	RSU
CP	VM66288	z/VM 7.1 UM35563	2001
DirMaint	VM65784	z/VM 7.1 UV99356	2001
ICKDSF	PH14249	z/VM 7.1 UI64239	

4TB Main Memory Support

TBD

- Support the definition and use of real memory up to the 4TB line for first level z/VM systems.

- Continue to support over-commitment of total virtual memory.

- Per guest limit of 1 TB of virtual memory would remain unchanged.

Component	APAR	PTF	RSU
CP	TBD	z/VM 7.2 TBD	TBD

Improved Resource Management of Diverse Workloads

Virtual Switch Priority Queuing

May 2019

- Introduces multiple priority levels for transmissions on a Virtual Switch

- Allows virtual switch management communication (IVL) to operate at highest priority to ensure better management

- Three optional user priority levels allow:
  - Different SLAs for different groups of guests
  - Combining different priority workloads onto fewer, or a single, VSwitch
  - Eliminating need for separate heartbeat network in some clustering solutions

Component	APAR	PTF	RSU
CP	VM66219	z/VM 7.1 UM35465	1902
TCP/IP	PH04703	z/VM 7.1 UI62768	1902
DirMaint	VM66223	z/VM 7.1 UV99352	1902

Dynamic Memory Downgrade

Target TBD

- Allows for real memory to be removed from a running z/VM system

- Complements the existing ability to add memory to a system

- Benefits:
  - Add and remove memory for workload shifts and other load balancing
  - Assist in DR scenarios

- Requires z14, LinuxONE Emperor II, LinuxONE Rockhopper II, or newer

Component	APAR	PTF	RSU
CP	VM66173	z/VM 7.2 TBD	TBD

Enhanced Security

RACF for z/VM 7.1 FixPack 1 – Usability Enhancements | June 2019

#	Description of the functional enhancement
1	**Query RACF Database Template Level** So sysprog or security admin can determine if a forthcoming APAR will require a database update or RACFCONV.
2	**Halt RACFVM initialization when server detects a down-level database** More immediate presentation of problem details, to enable sysprog to fix with minimum fuss
3	**Remove contradictory information from RACFPERM** Correction to bring help text in line with functional behavior.
4	**Improve error messages when A-disk can't be written by RAC EXEC** Check A-disk accessibility before executing RACF commands, so an environment error isn't mistaken for a security problem.
5	**Improve consistency of SETROPTS error messages** Addition of warning messages around invalid parameter use.
6	**Enable RACFVM to accept SMSG from the current system operator** Eliminate assumptions that OPERATOR is always the current OPERATOR
7	**Message fixes for ROAUDIT** Correction to bring certain RACF messages in-line with functional behavior.

Component	APAR	PTF	RSU
RACF	VM66278	z/VM 7.1 UV99353	1901

Multifactor Authentication for z/VM

<div style="float:right">May 2020</div>

Multifactor Authentication support enables a system administrator to logon to the hypervisor with one or several authentication credentials without requiring a traditional password or password phrase

Combination of:

- A newer product (IBM Z Multifactor Authentication) running in a Linux on Z guest
- z/VM with an External Security Manager updates
- TCP/IP communication from ESM to MFA (may require TLS server configuration)
- CP updates (apply the PTF for APAR VM66324)

- https://www.vm.ibm.com/newfunction/#mfa

Component	APAR	PTF	RSU
RACF	VM66338	z/VM 7.1 UV99363	TBD

z/VM TLS/SSL Certificate Verification

- **Client Certificate Authentication -** Allows a server to verify a client by ensuring that the client certificate
  - has been signed by a certificate authority that the server trusts
  - has not expired

- **Host Name Validation -** Allows a client to verify the identity of a server using either
  - Host Name
  - Domain Name
  - Host IP Address

- **New APIs** to allow fields to be extracted from a client or server certificate

Component	APAR	PTF	RSU
TCP/IP	PH18435	z/VM 7.1 UI69975	TBD
CMS	VM66348	z/VM 7.1 UM35651	TBD
LE	VM66349	z/VM 7.1 UM35650	TBD

CMS Pipelines – SSL Support

June 2020

- Enhance existing CMS applications to use secure TCP/IP connections
  - Using z/VM System SSL to inherit the settings defined
  - Continue to use existing applications and comply with company security policy

- Integrate CMS applications and CMS-based data with cloud-based services
  - Interface with enterprise applications when replaced by web services
  - Exploit new web services for use in CMS applications

- Implicit SSL – application transparent secure "tunnel"
  - Suitable for HTTPS client (including RESTful services)
  - Trivial change to make a pipeline-based client application use SSL

- Explicit SSL – application protocol determined SSL (aka STARTTLS) *
  - Suitable for FTP and LDAP with secure connections

- New built-in stage to exchange data through FTP with secure connection *
  - Read file from FTP server into the pipeline for further processing
  - Write the data from the pipeline into a file on an FTP server

* Extra deliverables because of sponsor user feedback

CMS Pipelines – SSL Support

- Upward compatible enhancements to
  - `tcpclient` stage
  - `tcpdata` stage

- Possible Use Cases
  - store CMS data in cloud databases
  - post messages in a Slack channel
  - manage CMS files with GitHub
  - get data from Internet to use in CMS

Component	APAR	PTF	RSU
CMS	VM66365	z/VM 7.1 UM35658	TBD

Improved Resiliency and RAS

Dynamic Crypto

- Enables dynamic changes to AP Cryptographic environments
  - Addition and removal of crypto hardware
  - Maintenance and repair when needed
  - Less disruption to the z/VM guests

- Additional information via QUERY commands

- New chapter in CP Planning and Administration book

Component	APAR	PTF	RSU
CP	VM66266	z/VM 7.1 UM35531	TBD
CP[1]	VM66206	z/VM 6.4 UM35448 z/VM 7.1 UM35449	TBD

[1] – This PTF needs to be on all members in an SSI cluster regardless of whether the dynamic crypto PTF is on that member.

MSS MT PPRC Support for GDPS Environment

z/VM 7.2 Base

- Multiple Subchannel Set (MSS) Multi-Target Peer-To-Peer Remote Copy (MT PPRC) support for the GDPS environment
  - Disk device can be the primary for up to three secondary devices in each of three alternate subchannel sets.
  - ACTIVE Configuration – devices currently in use by z/VM
  - STANDBY Configuration – devices not in the ACTIVE configuration

Improved System Management

Automatic Standby Memory for Guests

TBD

- Allow for easier management of virtual machine memory
  - When the maximum memory of a virtual machine is increased, no longer need to issue a new DEFINE STORAGE command in order to increase "Standby" memory

- Does require new option on the original DEFINE STORAGE command

Component	APAR	PTF	RSU
CP	VM66173	z/VM 7.2 TBD	TBD

Centralized Service Management

z/VM 7.2 Base

- Deploy service to multiple z/VM systems
  - A centralized primary location
    - Manages distinct levels of service
    - The "Principal" system
  - Remote traditional z/VM systems
    - Transfer data over TCP/IP
    - Different remote systems can have different levels

- For non-SSI environments
  - SSI already provides centralized management within the SSI cluster

IBM Wave for z/VM

- Current level is IBM Wave V 1.2
  - Continuous Delivery via Fix Pack process
  - New announcement letter ENUS219-413

- Fix Pack 14 available December 2019
  - Linux repository certificate support
  - Support for RACF passphrases
  - Additional Security updates - see z Security Portal

- Fix Pack 15 available April 17, 2020
  - Support for RHEL 8 as a managed guest
  - Support for z15 T02 and LinuxONE III LT2
  - Resolution of an incompatibility with newer levels of MariaDB (Used for the Wave database)
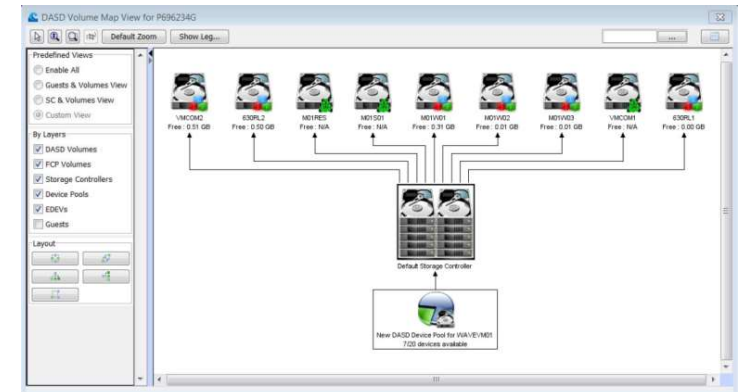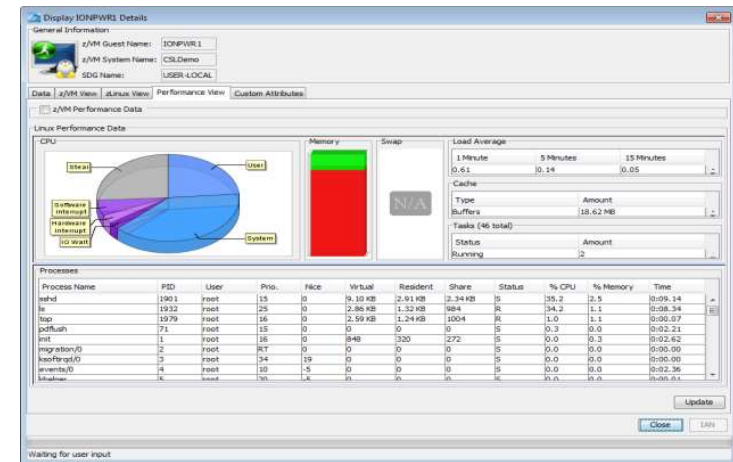
Extend the Reach of Skills with IBM Wave for z/VM

Intelligent Visualization

- Shorten the learning curve needed to manage complex environments
- Organize and simplify management of z/VM and virtual Linux servers
- View servers and storage utilization graphically; understand the status of system resources with Intelligent icons
- Reduce unnecessary steps using highly customizable views
- Graphical or tabular displays with layered drill down

Simplified Monitoring
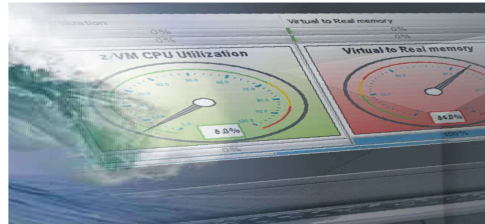
- Monitor the status of z/VM systems through an innovative interface
- Monitor performance of CPU, paging devices, spool disks and more;
- Use agentless discovery to detect an accurate view of your environment
- Use advanced filters, tagging, layout and layer selection to make monitoring and management more meaningful
- Complements IBM OMEGAMON® XE used for in-depth performance monitoring

Unified Management

- Manage your system from a single point of control
- Assign and delegate administrative access with role based assignments
- Provision, clone, and activate virtual resources . Define and control virtual network and storage devices
- Perform management tasks such as live guest relocation
- Annotate resources for additional policy based management
- Execute complex scripts with a single mouse click

IBM Wave Test Drive
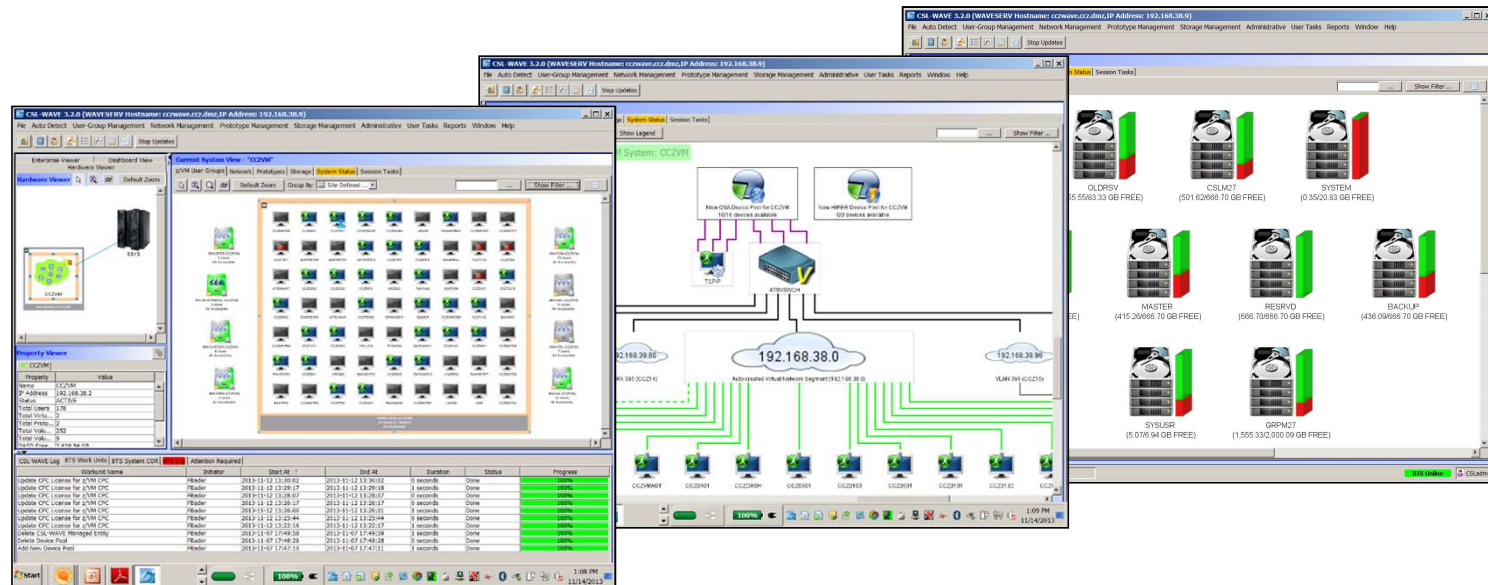
Hands on IBM Wave Environment
- Hands-on experience using IBM Wave through a set of structured use scenarios
- RHEL and SLES Linux on System z server images used to illustrate server deployment functions
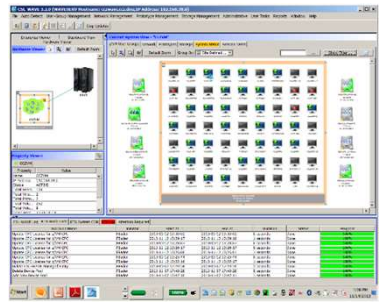
Duration and Access
- Secure, remote access over the Internet to IBM systems in Gaithersburg, MD from client site
- Guided exercises provide hands on experience with IBM Wave
- Two weeks of 24x7 access at no charge to qualified IBM clients, and more time if needed

Now Available
- Contact Paul Novak (pwnovak@us.ibm.com) or e-mail IBM Wave Test Drive get started

Test Drive Environment

SLES Guest

RHEL Guest

CSL-WAVE Server

WAVESRV

SLES Guest

RHEL Guest

CSL-WAVE Server

WAVESRV

Second Level z/VM systems for other Clients

Second Level z/VM for Client "A"

Second Level z/VM for Client "B"

First Level z/VM Environment
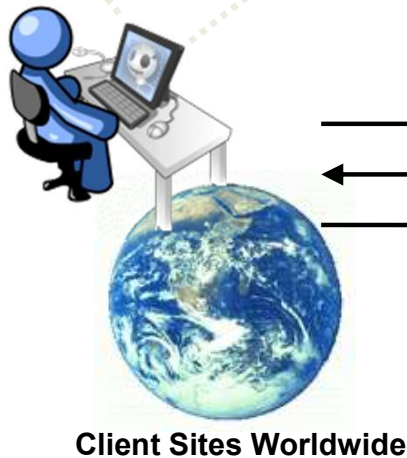
Request

System Info
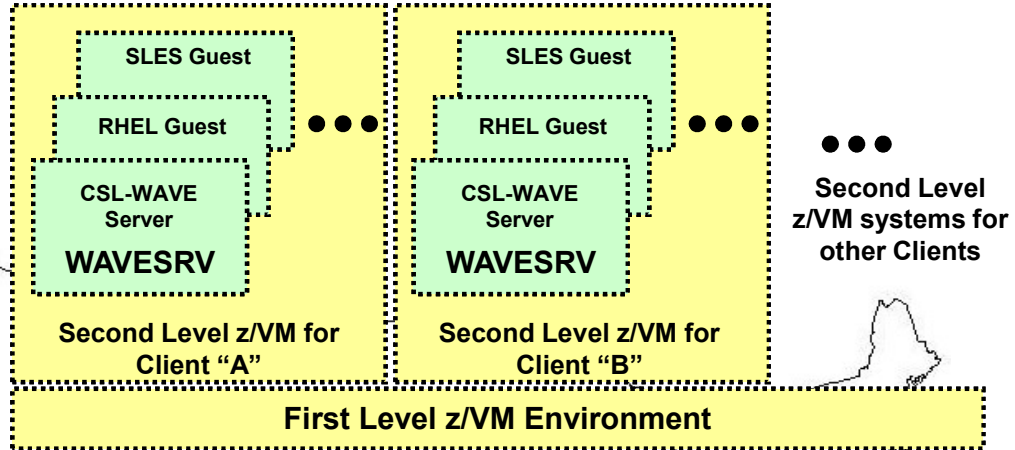
Access and Use

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Client Sites Worldwide

Complete Solution for Administration & Management of z/VM and LinuxONE

Integration with other platforms and solutions
- Alerts
- Log data

IBM Infrastructure Suite for z/VM and Linux

OMEGAMON XE on z/VM and Linux

Performance monitoring of z/VM and Linux guests

Spectrum Protect (formerly TSM)

File Level backup and recovery for Linux Virtual Machines

IBM Wave for z/VM

Simple, intuitive, graphical z/VM administration and provisioning tool

Operations Manager for z/VM

Facilitate operational monitoring and automated operations, take action based on events

Backup and Restore Manager for z/VM

Image and file level backup and recovery of z/VM environment
Image level backup and recovery of Linux

Single PID

5698-IS2 OTC
5698-IS1 Annual S&S
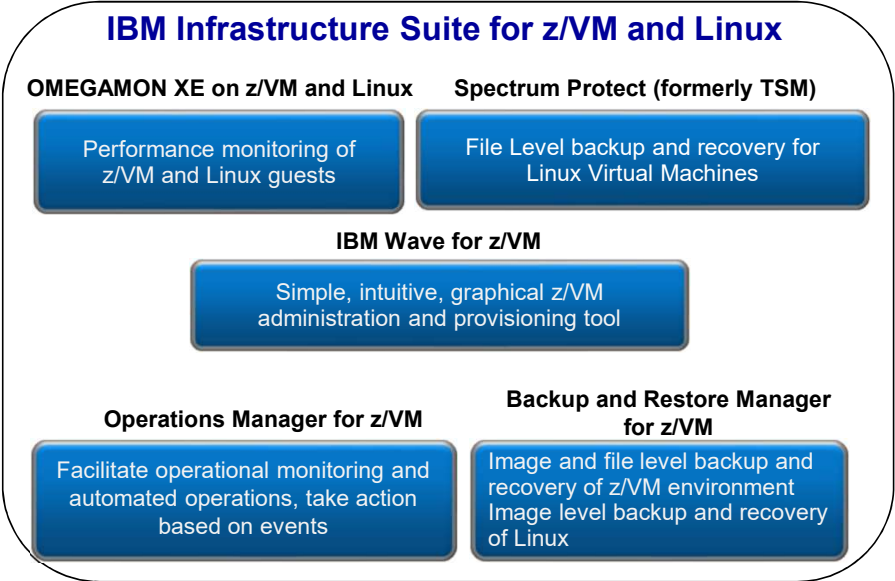
Add Tape Manager for z/VM (5697-J08) for customers backing up from z/VM to tape

Web site: http://www.ibm.com/software/products/en/ibm-infrastructure-suite-for-zvm-and-linux
DeveloperWorks Wiki – videos, presentations, white papers: http://ibm.biz/Bd4up3

IBM Cloud Infrastructure Center

A new IBM Z and LinuxONE on premises software offering

Empower how you deploy and manage Infrastructure as a Service (IaaS).
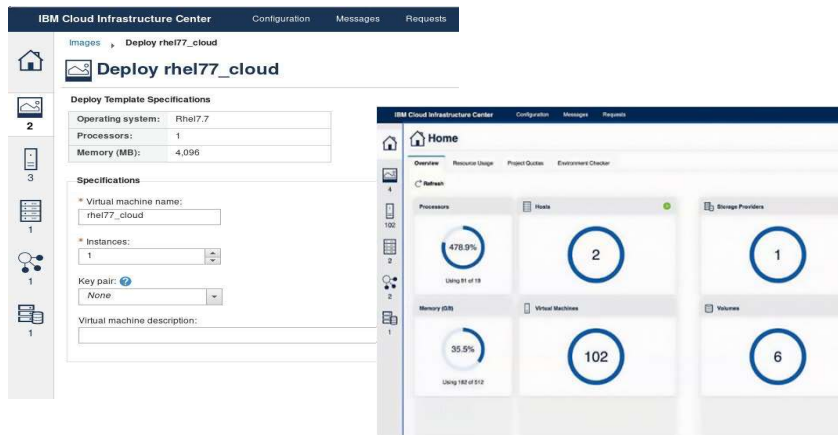
– [Marketplace](#) at ibm.com

– [Announcement](#)

– [Shopz](#) ("Linux on z-Standalone products" catalog)

– [mySupport](#) IBM Support Portal

– [Documentation](#) at IBM Knowledge Center

Comprehensive cloud management

Improves administrator productivity and simplifies the lifecycle management of Linux virtual machines and related resource on IBM Z and LinuxONE

z/VM-based software-defined infrastructure

Infrastructure mgmt of z/VM-based virtual machines for compute, network, and storage resources.

Integration with multicloud automation tooling

VMware vRealize Automation/Orchestration can consume Cloud Infrastructure Center via OpenStack compatible RESTful APIs to connect, provision, orchestrate Linux-based virtual machine instances for Z and LinuxONE

Contact:

Stev Glodowski - Cloud Infrastructure Center Offering Manager
stev.glodowski@de.ibm.com

z/VM Library Web Page Updates - http://www.vm.ibm.com/library/

| z/VM > Library > |

z/VM Library Overview

| **Overview** | z/VM 6.x PDFs | z/VM 7.1 PDFs | z/VM Related PDFs | Indexed PDFs | Presentations |

z/VM

News

About z/VM

Events calendar

Last Updated: 9 July 2019

Update: z/VM Presentations have been added to the Library. The through the entire indexed PDF collection, or individually. These u z/VM New Function APARs.

You can now get all IBM z/VM PDF files directly from the z/VM Lib supported version and release will be available regardless of the N files are available for z/VM 6.x and z/VM 7.1 releases as well as z/VM related publications.

6 Horizontal Tabs
➢ Overview
➢ z/VM Version 6
➢ z/VM Version 7
➢ Related
➢ Indexed PDFs
➢ Presentations

z/VM Library Web Page Updates - Overview

▪ Includes following categories of links:
  – z/VM product information
    • Knowledge Center links
  – Linux on IBM Z documentation
  – White papers, consultant results, performance reports
  – Data sheets, brochures
  – Reference guides

z/VM Library Web Page Updates – z/VM PDF Files

z/VM 7.1 PDF files

| Overview | z/VM 6.x PDFs | **z/VM 7.1 PDFs** | z/VM Related PDFs | Indexed PDFs |

Designed based on sponsor user feedback.

z/VM

News

About z/VM

Events calendar

Products and features

Downloads

Technical resources

Library

Last Updated: 10 December 2018

Update: Revised publications are now available for newly released December 2018 z/VM 7.1 New Function APARs.

The table below contains the documentation for z/VM 7.1 in PDF format. The table can be sorted by the column headers or you can filter the results in the table by using the input box below.

Filter: [   ]

Category ▲	Title ⇕			Order # ⇕	Latest Content ⇕	Last Update ▼
Application Programming	z/VM: Language Environment User's Guide	👁	⤓	SC24-6293-00	7.1 - 2018 3Q GA	September 2018
Application Programming	z/VM: CMS Application Development Guide	👁	⤓	SC24-6256-00	7.1 - 2018 3Q GA	September 2018
Application Programming	z/VM: CMS Callable Services Reference	👁	⤓	SC24-6259-00	7.1 - 2018 3Q GA	September 2018

z/VM Library Web Page Updates – z/VM PDF Files

z/VM 7.1 PDF files

Overview | z/VM 6.x PDFs | **z/VM 7.1 PDFs** | z/VM Related PDFs | Indexed PDFs

z/VM

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Last Updated: 10 December 2018

Update: Revised publications are now available for new

The table below contains the documentation for z/VM 7
filter the results in the table by using the input box belo

❖ Includes all editions of books
❖ Sort on columns
❖ View in browser
❖ Download with meaningful name (e.g. zVM 710 CP Planning and Administration SC24-6271-00.pdf)
❖ Filter ability

Filter:

Category	Title			Order #	Latest Content	Last Update
Application Programming	z/VM: Language Environment User's Guide	👁	↓	SC24-6293-00	7.1 - 2018 3Q GA	September 2018
Application Programming	z/VM: CMS Application Development Guide	👁	↓	SC24-6256-00	7.1 - 2018 3Q GA	September 2018
Application Programming	z/VM: CMS Callable Services Reference	👁	↓	SC24-6259-00	7.1 - 2018 3Q GA	September 2018

z/VM Library Web Page Updates – z/VM PDF Files

| Filter on any text in the table | | | Filter: Performance |

Category ▲	Title		Order #	Latest Content	Last Update ▼
Customization and Tuning	z/VM: Performance	👁 ↓	SC24-6301-00	7.1 - 2018 3Q GA	September 2018
Customization and Tuning	z/VM: Performance	👁 ↓	SC24-6301-01	7.1 - 2018 4Q NFA	December 2018
PerfKit for z/VM	z/VM: Performance Toolkit Reference	👁 ↓	SC24-6303-00	7.1 - 2018 3Q GA	September 2018
PerfKit for z/VM	z/VM: Performance Toolkit Guide	👁 ↓	SC24-6302-00	7.1 - 2018 3Q GA	September 2018

z/VM Library Web Page Updates – Indexed PDF Files

| z/VM 7.1 PDFs | z/VM Related PDFs | **Indexed PDFs** |

1. Download the zip file and extract to a folder.
2. Open the "Open Me First File"

+ Instructions on how to use the indexed PDF collection

Filename	Description	Size (MB)	Latest Content
2019 1Q zVM710 Collection.zip	**z/VM 7.1 2019 1Q indexed PDF collection** - This collection includes all z/VM 7.1 and related publications including any changes to publications as part of the New Function APARs released in 4th Quarter 2018. New Function APARs in this collection include: • Support for the IBM Adapter for NVMe (APAR: VM66180) • Elliptic Curve Cryptography (APAR: PI99184) • Query RSCS service level (APAR: VM66174)	344.9	7.1 - 2018 4Q NFA
2018 3Q zVM710 GA Collection.zip	**z/VM 7.1 2018 3Q GA indexed PDF collection** - This collection includes all z/VM 7.1 and related publications that were published when the version became generally available (GA). z/VM 7.1 includes all previously released New Function APARs.	345.7	7.1 - 2018 3Q GA

z/VM Adobe Indexed PDF Collection

- Opening the .PDX file allows searching entire z/VM Library
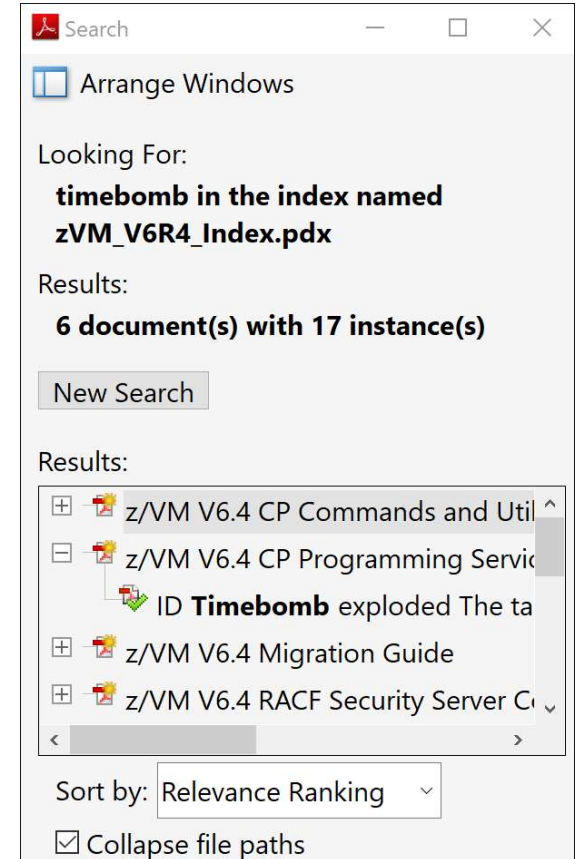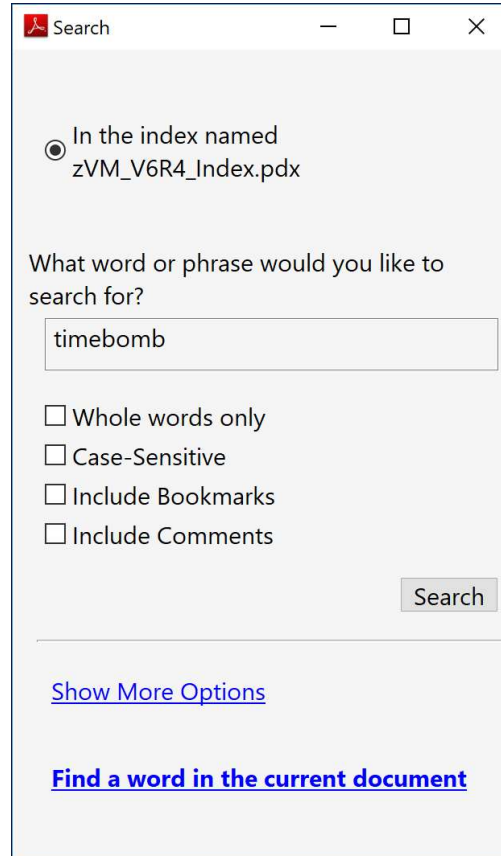
Other Highlights

z/VM Sponsor Users

▪ Customer's input and feedback on individual enhancements

▪ Examples of value add:
 – Feedback on how to handle IPL when dynamic memory downgrade configuration settings do not make sense with real memory on the system
 – Testing of EAV minidisk support with non-IBM DASD
 – Feedback on NICDEF Security Enhancements switch to go back to old default behavior
 – Feedback on VSwitch load balancing enhancement:
  • Urgency
  • Degree of wasted bandwidth at the time and improvement required

▪ http://www.vm.ibm.com/sponsor_user/

"I helped build z/VM"
– Sponsor User

Become a Sponsor User

- Look for items that interest you and you'd work to make a reality with IBM
  - New web page to subscribe to:
    - http://www.vm.ibm.com/newfunction/
  - Request For Enhancements (RFE) that you submit
  - Other dialogues with IBM

- Express interest in being a sponsor user for an item
  - Link on the continuous delivery page
  - Email to Kerry Wilson (kerryw@us.ibm.com)

- Requirements
  - Program is free
  - Must have an IBMID
  - Must sign Feedback Program Agreement (FPA)
 - Commit to work with IBM on the candidate items

Life of a Sponsor User

Design-Heavy

- Paperwork (really online web-work) for approval

- Initial meeting to discuss the pain points / opportunity

- Follow up meetings to discuss design and feedback on externals
  - ~Monthly

- Demo of early code on IBM systems

- Delivery of drivers for client testing

Testing-Heavy

- Paperwork (really online web-work) for approval

- Initial meeting to discuss the pain points / opportunity

- Follow up meetings to discuss design and feedback (no externals)
  - 1 or 2

- Delivery of drivers for client testing
  - Various hardware
  - Various ISV products

Test

Design
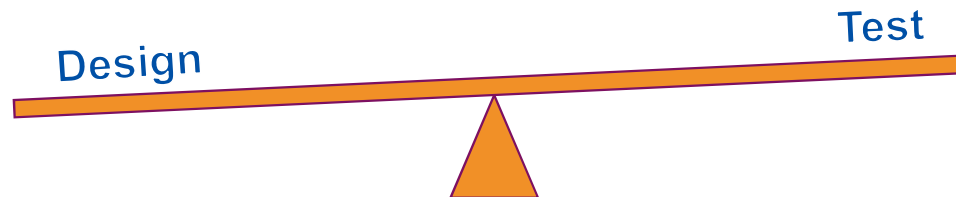
Sponsor Users Wanted:

Specifically looking for sponsor users for:

- CP New Function Interrogation API

- 4TB Main Memory Support

- Active Drain for Page Volumes

- DirMaint Health Checker

- EDEVICE Path Management

- Guest 1-End HyperPAV Aliases

- z/XC Architecture Support

- Fast z/VM Dump Distiller

- z/VM Education / Videos

z/VM Council – Client Communication and Collaboration

- z/VM-centric community started in June 2018
  - Meeting about once a month via telephone and web conferencing
  - User research
  - Propose, define, and prioritize new project proposals
  - Sponsor User Recruitment and Playbacks
  - Other collaboration done via membership web site

- Membership Requirements
  - IBM Z Feedback Program Agreement (FPA)
  - Regular participation
  - Sponsor User for at least one project per year
  - Homework assignments

- Additional details:
  - http://www.vm.ibm.com/sponsor_user/zvm_council.html
  - Contact: Kerry Wilson – kerryw@us.ibm.com
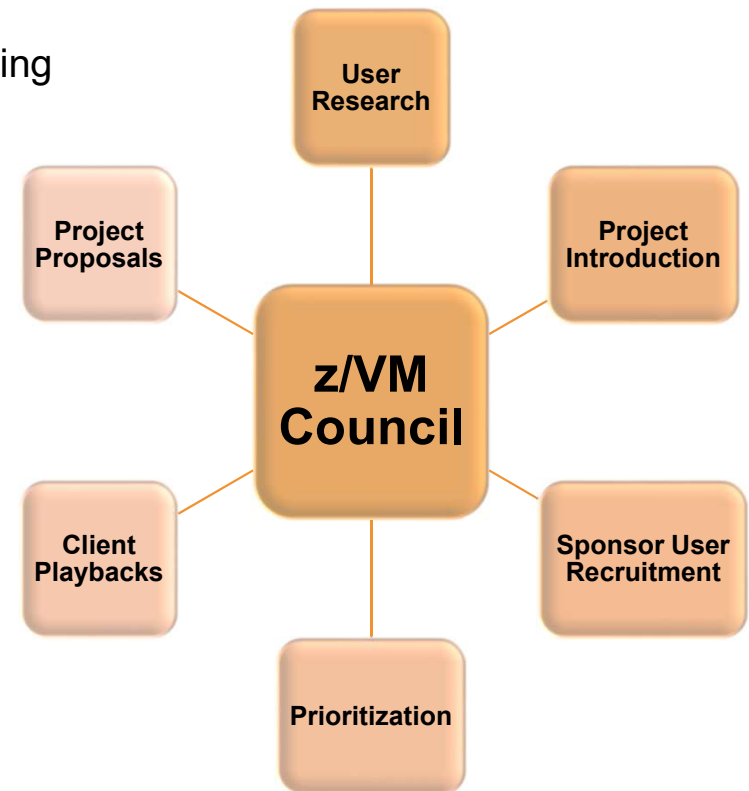
z/VM Related Statements of Direction

- Subset of IBM Statements of General Direction that are most important to the z/VM environment. See announcement materials for additional statements.
- Subject to change or withdrawal without notice, representing IBM goals and objectives only.

Security Evaluation of z/VM V7.2
April 14, 2020 Announcement

Security Evaluation of z/VM V7.2
IBM intends to pursue an evaluation of z/VM V7.2 with the RACF Security Server and SSI features. This includes labeled security, for conformance to the Virtualization Protection Profile (VPP) and Server Virtualization Extended pack of the Common Criteria standard for IT security, ISO/IEC 15408, at Evaluation Assurance Level 4 (EAL4+).

FIPS Certification of z/VM V7.2
April 14, 2020 Announcement

FIPS Certification of z/VM V7.2

IBM intends to pursue an evaluation of the Federal Information Processing Standard (FIPS) 140-2 using National Institute of Standards and Technology's (NIST) Cryptographic Module Validation Program (CMVP) for the System SSL implementation utilized by z/VM V7.2.

Removal of RACF for z/VM support for RACF database sharing between z/VM and z/OS
April 14, 2020 Announcement

Removal of RACF for z/VM support for RACF database sharing between z/VM and z/OS

z/VM V7.2 is intended to be the last z/VM release to support sharing RACF databases between z/VM and z/OS systems. While databases may remain compatible, sharing between operating systems is discouraged due to the distinct security and administration requirements of different platforms. A future z/VM release will be updated to detect whether a database is flagged as a z/OS database and reject its use if so marked. Sharing of databases between z/VM systems, whether in a Single System Image cluster or in stand-alone z/VM systems, is not affected by this statement.
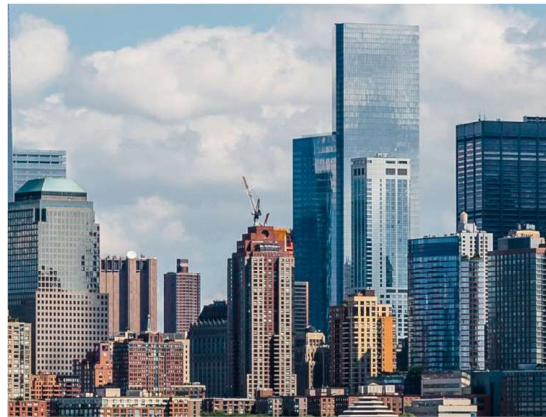
Removal of line edit support during LOGON
April 14, 2020 Announcement

Removal of line edit support during LOGON

z/VM V7.2 intends to remove support for performing line editing of data entered during LOGON, such as user ID, password, or command, when a z/VM External Security Manager (ESM) is not configured and active. This excludes honoring the system default line-end character to identify guest console input data in a LOGON command entered on the LOGON panel or in responses to prompts issued before LOGON completes. When an ESM is configured, it will control these aspects of system behavior.

Summary

z/VM – Expanding the Horizon

z/VM – Expanding the Horizon