

# z/VM Platform Update: Efficiency at Scale

Updated: October 22, 2024

# Agenda

- Summary of current releases and cadence
- Overview of z/VM Version 7 Release 4
  - Linear Service Model
  - Statements of Direction
- Overview of z/VM Version 7 Release 3
- Survey of recent Continuous Delivery enhancements in various focus areas
  - Scaling and TCO
  - Managing diverse workloads
  - Security
  - Resiliency and RAS
  - System Management improvements
- Other Highlights and News

## z/VM Releases and Cadence

## z/VM Release Cycle Cadence

For illustrative purposes, not a commitment.

	2022				2023				2024				2025				2026				2027			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
7.2	R				R					R														
	N	N	SC	SC	SC	SC	SC	SC	WFM	SC	SC	SC	EOS											
7.3			R		R		R		R				R					R						
			GA	N	N	N	N	N	N	N	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC			
7.4										R			R		R		R				R			
										GA	SC		N	SC	N	SC	N	SC	SC	SC	SC	SC	SC	SC

↑ Expected z/VM 7.2 EOS – March 31, 2025

1. GA 3<sup>rd</sup> Quarter of even years
2. In service ~ 4.5 years
3. New Function **every 6 months** until GA of next release, and then service, RSU, processor compatibility
4. Six RSUs for life of a release, One with GA, next 3 are every 6 months

### Legend:

GA: Generally Available  
 N: New function APAR PTFs available  
 SC: Service and processor compatibility  
 R: RSU  
 WFM: Withdrawn from Marketing  
 EOS: End of Service



# z/VM Releases

Release	ProdId	GA	EOM	EOS	Notes
z/VM 7.4	5741-A09	Sep 20, 2024	TBD	TBD	First release with linear service strategy
z/VM 7.3	5741-A09	Sept 16, 2022	TBD	TBD	
z/VM 7.2	5741-A09	Sept 18, 2020	Mar 4, 2024	Mar 31, 2025	

Release <sup>2</sup>	IBM z16 & IBM LinuxONE Emperor IV	IBM z15 & IBM LinuxONE III	IBM z14 & IBM LinuxONE II	IBM z13 & IBM LinuxONE Emperor	IBM z13s & IBM LinuxONE Rockhopper
z/VM 7.4	✓	✓			
z/VM 7.3	✓	✓	✓		
z/VM 7.2	✓	✓	✓	✓	✓ <sup>3</sup>

- 1. z/VM GA every 2 years with in service for ~4.5 years.
- 2. Service may be required for support of various servers.
- 3. The Rockhopper machine type 2828 does not meet ALS requirements and is not supported, but the rest of the IBM LinuxONE machines are.

## 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.

- <https://www.vm.ibm.com/newfunction/>

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

z/VM

Last updated: 12 February 2024

z/VM New Function APARs | z/VM 6.4 Function | z/VM 7.1 Function | Suspended Projects | Continuous Delivery

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### z/VM Continuous Delivery News

Upcoming and available new function for z/VM 7.2 and 7.3.

**Change Summary**

- February 12, 2024: VM Pass-Through ESA Support is now available.
- January 26, 2024: Added Added Query SCPID

#### 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. Check back often or [subscribe](#). Note: The z/VM Web site subscription service is intended to provide email alerts when specific z/VM pages are updated. If you are interested in receiving APAR updates, click the link for the individual APAR and subscribe to updates on that page.

We invite you to shape the future of z/VM by submitting and voting for ideas that matter most to you with the [IBM Z Hardware and Operating Systems Ideas Portal](#).

You may notice that some new functions are actively seeking sponsor users. If you are interested in becoming a sponsor user for a particular function, visit the [z/VM Sponsor User page](#) for more details. Also important, these and other ideas from customers and vendors are frequently discussed at the z/VM Council. For more information and details on how to join, please see the [z/VM Council web page](#).

#### + Characteristics of a New Function APAR

#### New Function APARs

New function in progress	Target date	Last updated
Active Drain for PAGE Volumes	TBD	August 4, 2022
CPU Measurement Facility Host Sampler Exploitation	TBD	September 28, 2022
Digital Signature Verification of z/VM Service Packages	1Q 2024	November 17, 2023
Query SCPID	1Q 2024	January 26, 2024
REXX Sockets Enhancements	TBD	September 28, 2022

## z/VM Continuous Enhancements

- Continuous Delivery means continuous improvements
- New function ideas come from many sources, including our clients
- The Ideas Portal is a great way to:
  - Submit the functionality you need
  - Vote on other suggestions
  - Get latest status on what our team is considering.
- Visit the Ideas Portal today:  
<https://ibm.biz/zvmIdeas>

z/VM Sort by: Trending ▼ Filter by: Status ▼  
Showing 372 of 3277

1 **Create new class B command to refresh stored DASD info without VARY OFF/ON the device**  
**VOTE** At present, for CP to see updated DASD info (like VOLSER, VTOC, etc), a device must be varied off/on to refresh the data. If the disk has been relabeled by a guest using full-pack minidisk, then the guest sees different information than a user wit...  
🕒 13 days ago in z/VM 🗨 0 Submitted

7 **As z/VM RACF is not sharing with z/OS anymore we need a z/VM face on RACF, remove irrelevant CLASSES**  
**VOTE** As z/VM RACF is not sharing with z/OS anymore we need a z/VM face on RACF, remove irrelevant CLASSES. IBM no longer permits the sharing of RACF DB's with z/OS and z/VM. So why have irrelevant RACF classes visible in z/VM? It is confusing when scan...  
🕒 8 months ago in z/VM 🗨 0 Future consideration

7 **Remove all references to JES on output of RACF commands on z/VM**  
**VOTE** I consider this an incorrout defect. My idea is to remove any references to JES and additional z/OS references that have no bearing on the z/VM product. It is distracting and confusing to me a VM sysprog. As RACF is pulling apart on z/VM from the ...  
🕒 8 months ago in z/VM 🗨 0 Future consideration

7 **DIRMAINT EXTENT CONTROL statements need to check with RACFVM for authorization with SECLABEL Mandatory Access Control**  
**VOTE** We require DIRMAINT to respect RACF SECLABELS for DASD devices when working with MDISKS. Our directory and storage management is provided through DIRMAINT. DIRMAINT's EXTENT CONTROL is the single source of storage definitions. We need to have DIRM...  
🕒 8 months ago in z/VM 🗨 1 Not under consideration

## New to z/VM?

- Welcome new people to the z/VM Community
- Some resources beyond this presentation:
  - The z/VM 7.4 Library Page <https://www.vm.ibm.com/library/740pdfs.html>
  - The z/VM Presentations Page <https://www.vm.ibm.com/library/presentations/index.html>
  - The z/VM Ideas Portal <https://ibm.biz/zvmIdeas>
  - The IBMVM Mailing List, see [https://www.vm.ibm.com/techinfo/listserv.html#Section\\_0.1](https://www.vm.ibm.com/techinfo/listserv.html#Section_0.1) for details on subscribing.
  - The z/VM related events calendar <https://www.vm.ibm.com/events/>
  - z/VM Education Overview and Roadmaps <https://www.vm.ibm.com/education/>
  - z/VM Playlist on YouTube <https://ibm.biz/zvmhowto-yt>
  - MVMUA (Metropolitan VM Users Association) <http://www.mvmua.org/>
  - The VM Workshop
    - Webpage - <http://www.vmworkshop.org/>
    - YouTube Channel - <https://ibm.biz/vmworkshopyoutube>





# **z/VM Version 7 Release 4 Overview**

## z/VM 7.4 – At a Glance

- Preview announce February 6, 2024
- Announce August 6, 2024
  - General Availability – September 20, 2024
  - <https://www.ibm.com/docs/announcements/AD24-0662/AD24-0662>
- Architecture Level Set of IBM z15 and IBM LinuxONE III or newer processor families
- New service strategy implementing a Linear Service Model
  - z/VM Component Change Logs – <https://www.vm.ibm.com/changelog/>
- New function delivered in the z/VM 7.3 service stream using the Continuous Delivery model, including:
  - z/VM Performance Data Pump
  - Reduced guest logoff time
  - Support for 2TB guest memory
  - Secure guest IPL
  - New security compliance interface
  - Digital Signature Verification of service
  - Ease-of-use enhancements for z/VM system programmers

## z/VM 7.4 – Removal of Obsolete Crypto Support

- Removal of support for obsolete crypto operands in the user directory
  - **CRYPTO** operand on the **CPU** statement
  - **CSU**, **KEYENTRY**, **MODIFY**, and **SPECIAL** operands on the **CRYPTO** statement
- Above must be removed from the directory prior to:
  - Running the z/VM 7.4 DIRECTXA MODULE
  - IPLing z/VM 7.4
  - Any DirMaint directory updates
- **CRYPTO** and **NOCRYPTO** operands are not allowed with **CPU** operation of Diagnose x'84'

## z/VM 7.4 – Packaging Changes

- DVD-R is no longer a supported System Image distribution media (satisfies Statement of Direction)
- **TCPIP** user directory entry will IPL 990 (ZCMS)
- Removal of option to use the default password during installation
- Installation support for **DATAPUMP** user ID
- Integration of HCD into CP base
- Hash value is added to DVDIMAGE file for each file on each DVD/ZIP
- Installation password for **DIRMAINT** userid is changed from AUTOONLY to LOGONBY
- Removal of the RLDSAVE option from the \$PPF file used to build the CPLOAD MODULE

## z/VM 7.4 – EREP Removal

- EREP has announced
  - Withdrawal from Marketing **May 6, 2024**
  - End of Service **February 28, 2025**
  
- EREP product executables are bundled in z/VM 7.3
  - Executables will no longer be available in z/VM 7.4
  
- RECORDING function defaults will likely change in z/VM 7.4

## z/VM 7.4 Linear Service Model

## How does z/VM deliver service today?

- z/VM ships all service as APARs
  - Corrective Service APARs
  - New Function APARs
- Recommended Service Upgrade are released regularly containing a selection of APARs with pre-applied PTFs for the core z/VM components (CP, RACF, TCPIP, ...)
- Corrective Service APARs contain the fix for a single issue and only has the minimum pre-requisites such as file intersections or logical pre-requisites
- Challenges with the current service process
  - Time consuming and challenging process of selecting service to be applied
  - Problematic to compare service levels of z/VM Systems or check if a system is current on service
  - Huge new function APARs create extensive APAR drag, leading to an “Illusion of Choice”
  - Huge number of valid configurations, creating service and validation challenges

## What is linear service?

- z/VM will continue to ship all service as APARs
  - Hot fix APAR
  - Fix pack APAR
  - Feature pack APAR
  - Hardware support APAR
- All APARs will have a pre-requisite against the APAR that was released last in its component
- A **hot fix APAR** will contain a critical fix or a security issue that must be released immediately due to its critical nature or the severity of the security exposure
- **Fix pack APARs** will be released on a regular cadence, containing all available fixes since the last released Fix Pack
- **Feature pack APARs** will be released every 6 months, containing new features
- **Hardware support APARs** will be released in support of new hardware and provide the necessary hardware toleration or exploitation
- **Recommended Service Upgrades (RSUs)** will be released shortly before a feature pack and will contain all available APARs pre-applied for the core components



## z/VM Service Level Identifier

- With z/VM 7.4, the four-digit z/VM component SERVICE LEVEL identifier will increment depending on the service that is installed.
- GA components will have the service level set to 0000.
- Hot fix, fix pack, and hardware support APARs will increment the last digit by one (0001).
- Feature packs will increment the second digit by one and reset the fourth digit to zero (0100).
- Service levels of components will be independent of each other (CP: 0302 vs. Rexx: 0001).
- CP and CMS Service Levels can be validated by commands Q CPLEVEL and Q CMSLEVEL respectively.

Comp	Type	Service Level
CP	GA (Sep)	0000
CP	Fix pack (Sep)	0001
CP	Fix pack (Oct)	0002
CMS	Fix pack (Oct)	0001
CP	HW FP (Nov)	0003
TCPIP	Fix pack (Nov)	0001
CP	Feature pack (Jan)	0100
CP	Fix pack (Apr)	0101
CMS	Fix pack (Apr)	0002
CP	Hot fix (Apr)	0102
CP	Fix pack (Jun)	0103
CP	Feature pack (Aug)	0200

**\*Fixes and feature timeline is a hypothetical example to show Service Level flow only.**

## Different APAR Types

Future Type	Rough Equivalent	Cadence	Description
Hot fix APAR	Corrective service APAR	When necessary	Fix for critical issue requiring an immediate solution
Fix pack APAR	Corrective service APAR	Every 4 weeks	Bundle of fixes for regular issues with in-depth validation
Security APAR	Corrective service APAR	When necessary	Security APAR with further information available at the Security Portal
Feature pack APAR	New function APAR	Every 6 months	Bundle of new features
Hardware support APAR	New function APAR	When necessary	Support for new or updated hardware, limited to hardware toleration on stable release when possible.

## What does this mean for you?

- Selecting applicable service will get significantly easier in the future
- Validating that all systems receive the same service will be simplified
- You will always run a service configuration that received extensive testing from IBM
- z/VM Development intends to improve the service experience with future Feature Packs
- However: You will no longer be able to select a single fix without having to apply other service

## Available service paths in the future

- Manage and control the amount of service that must be applied by following one of these paths

Service Path	Conservatism	Features	Description
Stay on the oldest release in service	High	Delayed by up two years	No feature packs must be applied to receive corrective service
Latest RSU of current release	Medium	Delayed by 6 months	Stay on the latest RSU and adopt new features only after a delay of 6 months after availability
Latest released APAR	Low	As soon as available	Apply service and features as soon as available, recommended for development or test systems

## z/VM Change Logs

- <https://www.vm.ibm.com/changelog/>
- z/VM Change Logs show what service packs and feature packs have been released at a component level.
- Details of the fixpack or feature pack content can be found in the Details column by clicking **+ More information**.

z/VM > Change Log >

### z/VM 7.4 CP Change Log

Overview **z/VM 7.4 CP** z/VM 7.4 CMS z/VM 7.4 TCP/IP z/VM 7.4 DirMaint z/VM 7.4 RACF z/VM 7.4 Other

Last Updated: 29 July 2024

Service and feature packs released for the z/VM 7.4 CP component

z/VM 7.4 introduced [linear service](#) to the product. Service fixpacks and feature packs are now released on a regular cadence. By installing the latest pack you will receive all service fixes and features for the component. Refer to the change log table below for a comprehensive list of changes to the component since the z/VM 7.4 General Availability date.

[Subscribe](#) to this page to receive email updates when this page has been changed.

Show  entries Filter:

Release	Level	Available	Type	Class	APAR	PTF	Details
7.4	0001	September xx, 2024	Fixpack	None	<a href="#">VM66780</a>	UM90463	Initial fixpack that is provided at the z/VM 7.4 day of release. <a href="#">+ More information</a>

Showing 1 to 1 of 1 entries Previous  Next

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## **z/VM 7.4 Statements of Direction**

## **z/VM 7.4 – Statement of Direction**

### **Removal of support for the LDAP Server**

- z/VM V7.4 is planned to be the last z/VM release to support the z/VM LDAP server. This server, a re-host of the z/OS Directory Server, will be removed from z/VM TCP/IP in a future release.
- This includes the LDAPSRV virtual machine and associated components.
- All future releases will continue to support ldap-bind as an authentication factor through the IBM Z Multi-Factor Authentication program (5655-MA1).
- CMS-based LDAP client utilities, and the RACF r\_admin interface, are not affected by this statement.

## **z/VM 7.4 – Statement of Direction**

### **Removal of NFS support**

- z/VM V7.4 is planned to be the last z/VM release to provide NFS client and server support. NFS client and server support will be removed from z/VM TCP/IP in a future release.



## **z/VM 7.4 – Statement of Direction**

### **z/CMS as the default CMS**

- z/VM 7.4 is planned to be the last z/VM release to have ESA/390 CMS as the default.
- A future z/VM release will use z/CMS, renamed "CMS", as the default.
- ESA/390 CMS, renamed "CMS390", is planned to remain available for guests that are dependent on ESA/390 or 370 accommodation.

## **z/VM 7.4 – Statement of Direction**

### **Security evaluation of z/VM 7.4**

- IBM intends to pursue evaluations in anticipation of certification of z/VM 7.4 to the Common Criteria standard for IT security (ISO/IEC 15408) as described here.
- The Target of Evaluation, z/VM V7.4, including the Single System Image function and the RACF Security Server feature, will focus on conformance both to the National Information Assurance Partnership (NIAP) Virtualization Protection Profile (VPP) with Server Virtualization Extended Package, including labeled security, and to the Operating System Protection Profile (OSPP) at Evaluation Assurance Level (EAL) 4+.

## **z/VM 7.4 – Statement of Direction**

### **FIPS certification of z/VM 7.4**

- IBM intends to pursue an evaluation of the Federal Information Processing Standard (FIPS) 140-3 using National Institute of Standards and Technology's (NIST) Cryptographic Module Validation Program (CMVP) for the System SSL implementation delivered with z/VM 7.4.

## **z/VM 7.4 – Statement of Direction**

### **Stabilization of z/VM support for the IBM z15 family**

- z/VM 7.4 is planned to be the last z/VM release to support the z15 family of servers, which includes IBM LinuxONE III. An IBM z16 family server, which includes IBM LinuxONE 4, will be the required minimum level for future z/VM releases.

## **z/VM 7.4 – Statement of Direction**

### **Full-part replacement**

- IBM intends to change how z/VM service is delivered in a future z/VM release.
- Instead of CMS update files, full-part-replacement files will be provided. In addition, full-part-replacement files will no longer contain sequence numbers, which are character line identifiers in the last 8 characters of every line in a fixed record file.
- z/VM source files will be encoded using the CP1047 code page, unless stated otherwise.
- Tooling will be provided to assist clients or ISVs who still have a need to update z/VM source files.

# **z/VM Version 7 Release 3 Overview**

## z/VM 7.3 - At a Glance

- GA September 16, 2022
  - See <https://www.vm.ibm.com/zvm730/> for more details
- Architecture Level Set of IBM z14 and IBM LinuxONE II or newer processor families
- Includes all new function service shipped for z/VM 7.2 including:
  - 4 TB Real Memory
  - Dynamic Memory Downgrade
  - Improved LGR for Shared Crypto
  - z/Architecture Extended Configuration (z/XC) support
  - Direct to Host Service Download

## New with z/VM 7.3

- Eight-Member SSI support
- NVMe EDEVICE support
- 4-character time zone identifier support
- External Security Manager (ESM) Control of Define MDISK Command
- Centralized Service Management (CSM) Usability Enhancements
  
- Default changes for the interest of
  - Security
  - Performance
  - Dropping function no longer needed
  
- Synergy for New Function APARs
  - Changing defaults at a release boundary rather than in service stream



## z/VM 7.3 - Related Statements of Direction

- IBM intends z/VM 7.3 to be the last release to provide TCP/IP support for the LAN Channel Station (LCS) device driver
- The release after z/VM 7.3 will continue to support ESA/390 CMS as the default (previous statement of direction was that z/VM 7.3 would be the last to support ESA/390 CMS as the default).
- IBM has no plans to include support for ProxyArp with any z/VM TCP/IP device drivers developed in the future
- IBM intends to remove DVD as a medium to receive an order for the z/VM product or z/VM service in a future z/VM release.
  - *Satisfied in z/VM 7.4*

## z/VM 7.3 - Related Statements of Direction (continued)

- z/VM 7.3 is the last z/VM release planned to support the ability to apply service in a selective fashion. A future z/VM release intends to implement a linear service model whereby applying one PTF will require all previous service for the same component to be installed.
  - *Satisfied with Linear Service Model in z/VM 7.4*
  
- IBM intends to change how z/VM service is delivered in a future z/VM release, moving to full-part-replacement files instead of CMS update files. Full-part-replacement files will no longer contain sequence numbers.
  
- IBM plans to provide the capability to verify digitally signed, electronically delivered z/VM service in a future z/VM deliverable.
  - *Satisfied with Continuous Delivery APAR VM66732*

## **Encore: Selected z16 Statements of Directions**

## Encore: Selected z16 Statements of Directions

- **Removal of support of the transactional execution and constrained transactional execution facility:**  
In a future IBM Z hardware system family, the transactional execution and constrained transactional execution facility will no longer be supported. Users of the facility on current servers should always check the facility indications before use.
- **Firmware update process:** IBM z16 is planned to be the last server family to support IBM service support representatives (SSRs) onsite performing firmware updates without an additional premium service contract. The IBM Z Remote Code Load (RCL) option, which was introduced on IBM z15, is available without an additional premium service contract. With IBM z15, and now IBM z16, clients can request a remote code load or they can choose the SSR onsite method for their firmware update. IBM recommends that clients try the RCL option on IBM z15 or IBM z16 to see for themselves that IBM provides the same quality service through RCL.
- **Transition to PCIe-based adapters like RoCE Express as the strategic adapter for Linux on IBM Z**  
In the future, IBM plans to shift from OSA-Express to PCIe-based networking devices like RoCE Express as the target strategic adapter type for IBM Z direct access networking connection to Linux operating systems.  
...  
IBM plans to continue to work toward common networking adapters for all operating systems on IBM Z, IBM LinuxONE, and Linux on IBM Z.

## Focused Value Areas of Enhancements

## Focused Value Areas

- Scalability
  - Improve memory scalability to fully exploit available physical memory
- Simplification
  - Improve defaults for next z/VM release to minimize necessary configuration changes
  - Improve virtual machine definition and share management
- Resiliency
- IO Recovery & Stability Improvements
- Enhanced security
  - Protecting data
  - Policy management
- Improved system management
  - Including things that make a system programmer happy



## Other Highlights

## Complete Solution for management of the z/VM and Linux on IBM Z environment

### Single PID

5698-K01 OTC

5698-K02 Annual S&S

[Web Site](#)

### Optional Priced Features

#### IBM Infrastructure Suite for z/VM and Linux V2.2

##### OMEGAMON XE on z/VM and Linux

Performance monitoring of z/VM and Linux guests

##### Spectrum Protect (formerly TSM)

File Level backup/recovery for Linux Virtual Servers

##### 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/restore of z/VM environment  
Image level backup/restore of Linux

##### Tape Manager for z/VM

Manage tape volumes and devices for backup/recovery

##### Cloud Infrastructure Center

IaaS offering that provides an industry-standard user experience for both traditional and cloud infrastructure management



# IBM Cloud Infrastructure Center

Scalable IaaS management for containerized and non-containerized workloads across the enterprise

## Infrastructure management

Instantiate, define, capture, and manage the lifecycle of virtual machines

## Automation

Build 'services' for automated infrastructure management

## Cloud integration

Integrate via compatible OpenStack APIs with cloud management tools

## Use cases

Simplified experience with virtualization

DB-as-a-service on-premises deployment

IaaS management for service providers

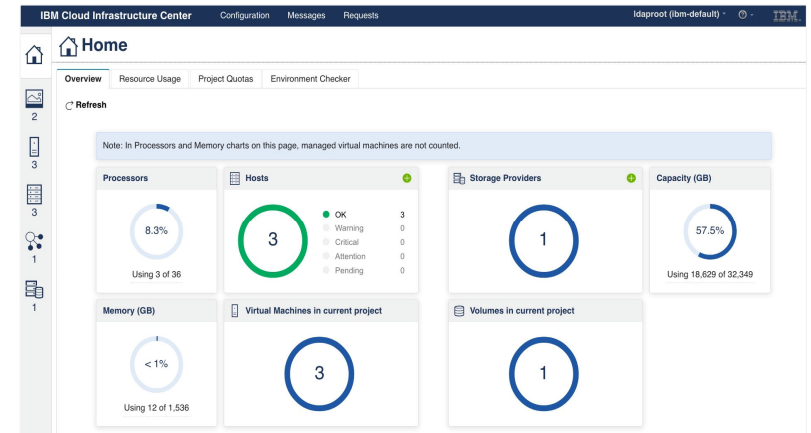
Deployment of Red Hat OpenShift clusters

Simplified standard operations

Automated deployment of instances

Vendor-agnostic

Streamlined automation and life-cycle mgmt.

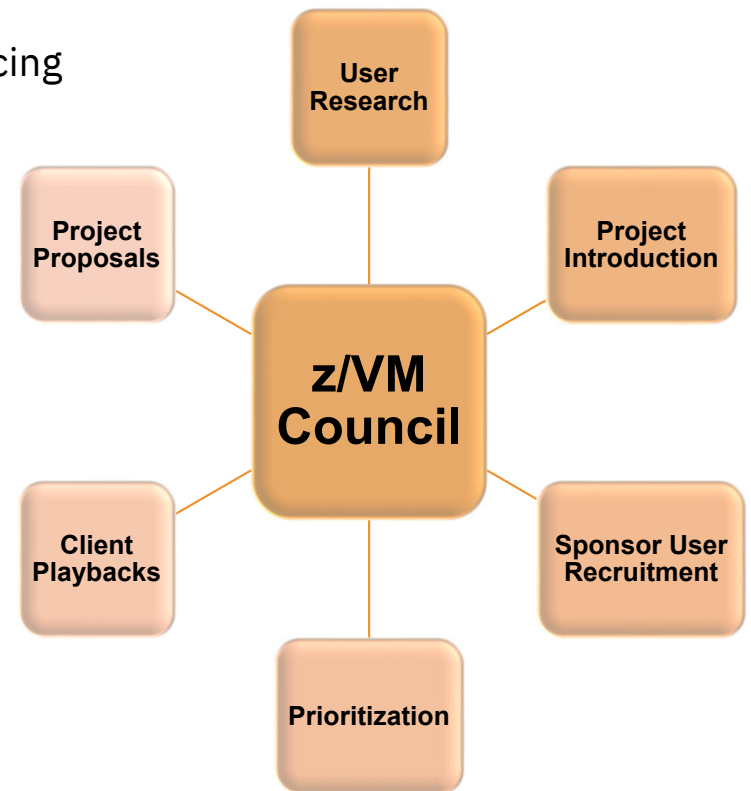


Learn more

- Watch [IBM Cloud Infrastructure Center webpage](#)
- Read the [technical blogs and announcements](#)
- Check out the [technical details at the IBM Documentation](#)
- Get started using the [Content solution](#)
- Request a demo from your IBM or BP representative
- Contact: 'Janet' Jia Wu, PM: [wujia@cn.ibm.com](mailto:wujia@cn.ibm.com)

## 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
  - 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:
  - more information [http://www.vm.ibm.com/sponsor\\_user/zvm\\_council.html](http://www.vm.ibm.com/sponsor_user/zvm_council.html)
  - Link to z/VM community - <https://ibm.biz/zvmCouncil>
  - Contact: Kerry Wilson – [kerryw@us.ibm.com](mailto:kerryw@us.ibm.com)



## **z/VM Council – Video Education Workgroup**

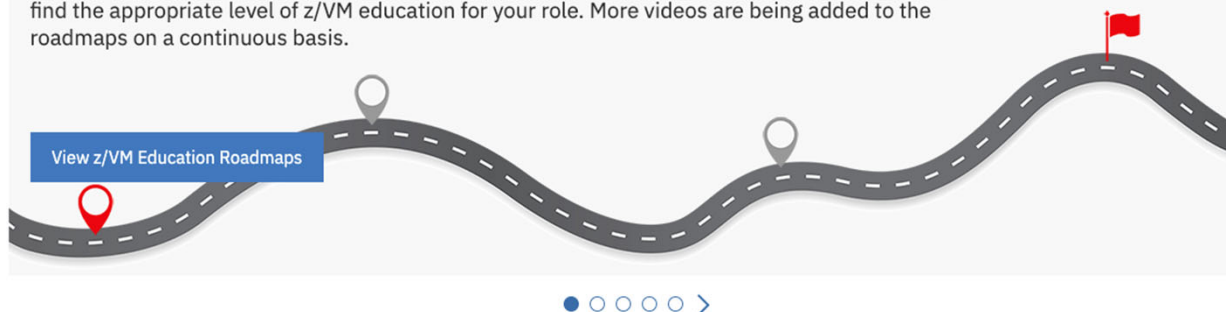
- Workgroup focused on creating educational videos
  - Goal of shortening the time required to become comfortable with z/VM
  
- Two types of videos planned
  - Pure education
  - Shorter “How to” videos
  
- Goal of providing roadmaps for education

## z/VM Education Pages


- <https://www.vm.ibm.com/education/>
- Newly renovated landing page for z/VM education.
- View a tailored list of z/VM education videos based on experience levels via the z/VM Education Roadmaps.
- Access existing z/VM education resources.

### z/VM education roadmaps

New z/VM education videos are now available. These videos have been created by the IBM z/VM Development team along with others within the IBM zSystems organization. Videos range from basic introductory courses to more advanced z/VM topics. Several roadmaps have been created for you to find the appropriate level of z/VM education for your role. More videos are being added to the roadmaps on a continuous basis.




### More z/VM education resources




**Additional Links to z/VM Education**  
Links to tutorials and more z/VM education resources

→ [Other education links](#)



**z/VM How to Videos**  
Step-by-step videos that walks a user through a specific task

→ [View all](#)



**z/VM Related Live Virtual Classes**  
Linux on IBM Z and LinuxONE - Technical Webcast Sessions

→ [View classes](#)

## z/VM Education Pages

- <https://www.vm.ibm.com/education/>
- Easily prioritize the education that matches your need and skill level.
- New videos added regularly

### z/VM education roadmap coverage

Reference the table below to find which videos are contained on the various z/VM education roadmaps.

Video Name	z/VM Basic Education Roadmap	New z/VM System Programmer Roadmap	z/VM Advanced Education Roadmap
100 - What is z/VM?	✓	✓	✗
101 - z/VM Virtualization Basics	✓	✓	✗
102 - CP and CMS Customization	✓	✓	✗
103 - Twelve Pillars of System Management	✓	✓	✗
104 - Introduction to System Administration	✓	✓	✗
105 - Introduction to CMS Pipelines	✓	✓	✗
106 - Introduction to RACF	✓	✓	✗
200 - Rexx Coding Techniques - Part 1	✗	✓	✗
201 - Rexx Coding Techniques - Part 2	✗	✓	✗
202 - Problem Determination	✗	✓	✗
203 - z/VM Virtual Switch (VSwitch): The Basics	✗	✓	✗
204 - z/VM Introduction to the Directory Maintenance (DirMaint)	✗	✓	✗
300 - What's Going Wrong? LPAR Weights	✗	✓	✓
301 - z/VM Virtual Switch (VSwitch): Advanced Topics	✗	✓	✓

## z/VM Education Pages

- <https://www.vm.ibm.com/education/>
- View video's right from our education webpage, or go directly to Youtube to watch and subscribe.

### Basic z/VM Knowledge Roadmap

This track assumes you have little or no experience with the IBM mainframe, and your role will only require a basic knowledge of the product. The courses in this roadmap will touch on the basics, but will not include some of the more technical courses intended for z/VM System Programmers.

Examples of this role may include: *Architect, Sales, Manager, General Operator*

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+ Session 100 - What is z/VM?

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+ Session 101 - z/VM Virtualization Basics

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+ Session 102 - CP and CMS Customization

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+ Session 103 - Twelve Pillars of System Management

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+ Session 104 - Introduction to System Administration

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+ Session 105 - Introduction to CMS Pipelines

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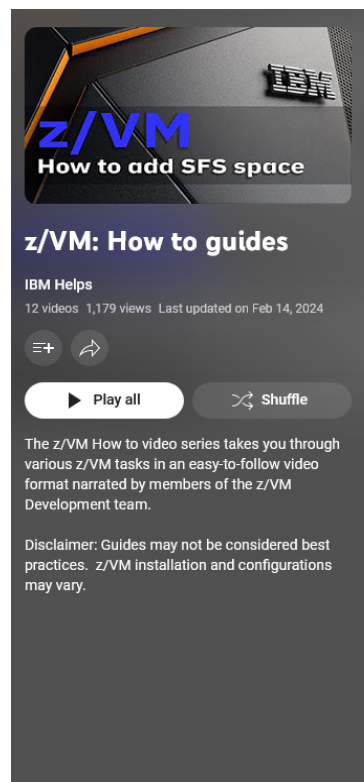
+ Session 106 - Introduction to RACF








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 [Youtube: Basic z/VM Knowledge Roadmap playlist](#)

## z/VM Education – How To Guides

- Short videos that provide guides on different z/VM related tasks.
- Part of the IBM Support and Training YouTube channel.
- Playlist - <https://ibm.biz/zvmhowto-yt>
- Please like and subscribe



- |    |   |   |
|----|---|---|
| 6  |    | <b>z/VM Education: How to Customize Your Logon Screen</b><br>IBM Helps • 1K views • 1 year ago      |
| 7  |    | <b>z/VM Education: How to Dynamically Add a Paging Volume</b><br>IBM Helps • 362 views • 1 year ago |
| 8  |    | <b>z/VM Education: How to Enable RACF</b><br>IBM Helps • 688 views • 1 year ago                     |
| 9  |    | <b>z/VM Education: How to Customize RACF</b><br>IBM Helps • 663 views • 1 year ago                  |
| 10 |    | <b>z/VM Education: How to Change Your System Name</b><br>IBM Helps • 268 views • 1 year ago         |
| 11 |   | <b>z/VM Education: How to Use GETSHOPZ</b><br>IBM Helps • 152 views • 7 months ago                  |
| 12 |  | <b>z/VM Education: How to Process a CP Dump Using DUMPLD2</b><br>IBM Helps • 57 views • 2 weeks ago |

## Problem Determination - Must Gather Information

- There is a new set of web pages at <https://www.vm.ibm.com/support/>

### z/VM Troubleshooting

OverviewPreparation**Troubleshooting**Must GatherSending Data

**z/VM**  
News  
About z/VM  
Events calendar  
Products and features  
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How to buy

Last Updated: 17 February 2021

This page provides a summary of materials for you to collect when you have a problem with your z/VM system. For more details, select the problem you are troubleshooting, and follow the instructions. Data that needs to be collected and sent to IBM is highlighted in the table below. If there is "data to collect" for your problem, refer to the "Must Gather - Details" section for details on how to collect the data.

Filter:

#	Category	Problem Description	Actions / Data to Collect
13.	Performance	z/VM system performance problems	<p>z/VM Support may request the data below. <b>Note:</b> This data should be collected from time periods in which the system was performing well, as well as from time periods in which the system was running poorly:</p> <ul style="list-style-type: none"><li>Collect and send MONWRITE data to IBM</li><li>Collect and send CP OPERATOR's console to IBM</li></ul>



# Open Mainframe Project – Project Feilong

## Project Mission:

Contribute and further develop the RESTful API server that simplifies interaction with the IBM z/VM Hypervisor

## Community Benefits:

- Have a strong codebase to use, contribute, and further develop thanks to the IBM contributions to the project
- The RESTful API server makes using z/VM easier especially for developers without deep knowledge of z/VM
- Enable development of self-service Infrastructure-as-a-Service automation of z/VM Guests, networking, and storage used by z/VM.

For more information: <https://www.openmainframeproject.org/all-projects/feilong>

## Open Source – Ansible for z/VM

### Project Mission:

Provide a set of ansible modules, roles, and playbooks for managing z/VM via SMAPI and zthin.

### Requirements

- z/VM SMAPI
- Directory Manager
- ICIC Compute node or Feilong zthin installed on virtual machine running Linux on Z

For more information: [https://github.com/IBM/zvm\\_ansible](https://github.com/IBM/zvm_ansible)

# Summary

## Summary

- z/VM 7.4 is available now.
  - Includes all Continuous Delivery enhancements shipped as service in z/VM 7.3
  - New Linear Service Model
  
- z/VM 7.3 is the “stabilized” z/VM release.
  - Receives hardware support and security APARs, but no new z/VM function.
  - Continues Using “Pick and Choose” Service Model
  
- New function will continue to be delivered with the Continuous Delivery model
  - Heavy dependence on the sponsor user program
  - Plans for new function are published on the z/VM website
    - <https://www.vm.ibm.com/newfunction/>
  
- Subscribe to or follow the websites referenced throughout this presentation for the latest news on new function, required service, and more

**Thank you!**