z/VM Platform Update: Ever Onward

Version 14

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Abstract

z/VM 7.1 is the first release in a new release cadence. This session starts with a high-level tour of the overall continuous delivery strategy and release cadence; and then begins a tour of five value areas and the recent enhancements in each of those areas. You will hear about things such as encrypted paging, greater scalability, and RAS enhancements. 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

- New delivery strategy
  - Two year cadence
  - Continuous delivery
  - Communication

- Overview of z/VM Version 7 Release 1

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

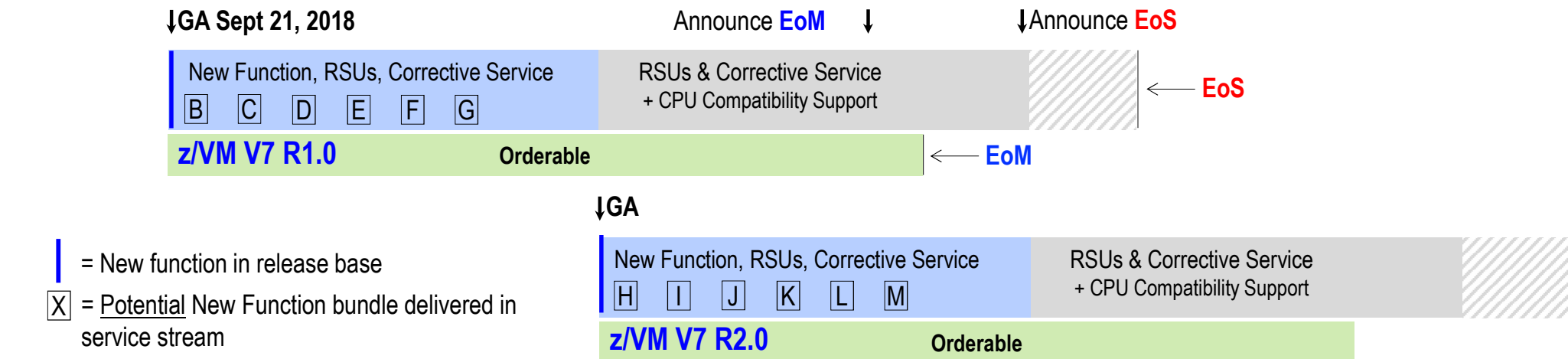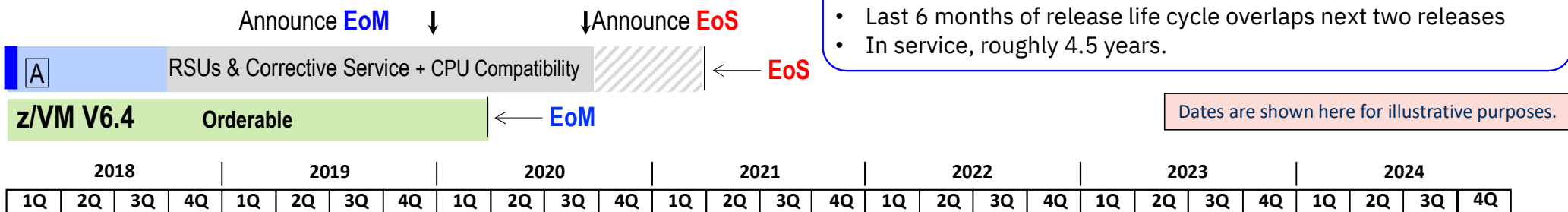- Other Highlights and News

Release Cadence and Continuous Delivery

Greater Predictability for Release Schedules and Function

▪ z/VM has gone to a two-year cadence on new releases.
  – Every two years in 3rd quarter of even years
  – Releases remain orderable for approximately 18 months after GA of the next release
  – Releases stay in service for approximately 4.5 years
  – Last 6 months of a release life cycle overlaps with the next two releases
  – Releases will be primarily a roll up of function released in the service stream as new function APARs (Small Programming Enhancements)

▪ Continuous Delivery Strategy
  – Most new function will be delivered as a new function APAR to the most current release of z/VM
  – Heavy dependence on the sponsor user program
  – A set of new function APARs will likely be grouped together and released within a few weeks of each other to help facilitate IBM and client testing
  – Plans for new function will be published on the z/VM home page

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** |

Dates are shown here for illustrative purposes.

| **z/VM V6.4** | **Orderable** | ← **EoM** |

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 B C D E F G | RSUs & Corrective Service + CPU Compatibility Support | ← **EoS** |

| **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 H I J K L M | RSUs & Corrective Service + CPU Compatibility Support |

| **z/VM V7 R2.0** | **Orderable** |

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

z/VM Version 7 Release 1 Overview

z/VM 7.1

- GA announce August 7, 2018
  - Preview announce April 10, 2018
  - GA September 21, 2018

- Single System Image and Live Guest Relocation included in the base
  - In z/VM 6.4 was the VMSSI priced feature

- New Architecture Level Set of zEC12, zBC12, or newer processor families

- Includes SPEs shipped for z/VM 6.4, including:
  - Virtual Switch Enhanced Load Balancing, DS8K z-Thin Provisioning, Encrypted Paging, etc.

- Additionally, includes:
  - Dump scalability improvements
  - Foundation work for future SPEs

z/VM Release Status Summary

z/VM Level	GA	End of Service	End of Marketing	Minimum Processor Level	Maximum Processor Level	Security Level
7.1	9/2018			zEC12 & zBC12		
6.4	11/2016			z196 & z114®	-	Common Criteria Complete FIPS 140-2 Complete

z/VM 7.1 References

- z/VM 7.1 Introduction Video
  - https://www.youtube.com/watch?v=drhhFFyyja4&feature=youtu.be

- Videos explaining two-year cadence and continuous delivery
  - MP4 version http://www.vm.ibm.com/devpages/bitner/presentations/intro71.mp4
  - WMV version http://www.vm.ibm.com/devpages/bitner/presentations/intro71.wmv

- z/VM 7.1 Resources Page
  - http://www.vm.ibm.com/zvm710/

- z/VM 7.1 General Information Manual
  - http://www.vm.ibm.com/library/hcpa0_v7.pdf

- Client agility improved with continuous delivery & IBM z/VM
  - https://www.ibm.com/blogs/systems/client-agility-improved-continuous-delivery-ibm-zvm/

Spotlights

- New spotlight page and video for new function APARs

- http://www.vm.ibm.com/news/spotlight/
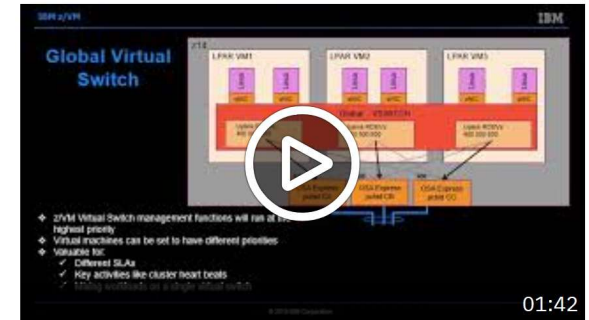
VSwitch Priority Queuing

When you want to optimize network consolidation for your z/VM guests, Virtual Switch Priority Queuing allows z/VM administrators to determine the transmission priority of each guest to the external network.

Currently all VSwitch outbound traffic to the external network is transmitted at the same priority, e.g. backup and transaction workloads. When VSwitch Priority Queuing is enabled, z/VM will establish multiple OSA QDIO Output queues, and transmit data to the external network at different priorities. Dynamically prioritize guests with high, normal, and low assignments.

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 z14 ZR1 and LinuxONE Rockhopper II

- Available May 29, 2018
  - See http://www.vm.ibm.com/service/vmreqz14.html for background.
    - Besides the previous z14 service, you'll need at least VM65639
    - Page includes a file (VMREQMR1 SERVICE) you can down load to check for valid service with command:

      SERVICE ALL STATUS LIST VMREQMR1 SERVICE
  - See also 3907/ZVM subset of the 3907DEVICE PSP bucket.

- Just like the larger z14 and LinuxONE machines, please remember to rebuild stand alone utilities (Formerly ESA/390-based will not work on z14 and new LinuxONE).
  - See http://www.vm.ibm.com/service/redalert/index.html#SAPLZ14

- As with the other z14 machines, Security performance enhancements:
  - Crypto Express6S feature
  - CPACF no-charge feature

- Up to 30 configurable cores and 8TB

- 19-inch frame

80 Logical Processor Support

<div style="text-align:right">Target July 2019</div>

- 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	TBD	TBD
Stand Alone Dump	VM66296	TBD	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

- CP APAR VM66263
  - z/VM 7.1 PTF UM35475 RSU TBD

- CMS APAR VM66297
  - z/VM 7.1 PTF UM35483 RSU TBD

Resource Pool Member Limit Removed

Target July 2019

- The limit of 1000 members of an individual resource pool (RESPOOL or CPUPOOL) is removed.
  - New limit is the logged on user limit (MAXUSERS setting)

- CP APAR VM65786 for z/VM 6.4 and 7.1

- Benefits:
  - As systems get larger, more virtual machines per z/VM system, can continue to use resource pools to the full advantage.
  - Having a large pool, all virtual machines, you have another way to control resource access.

Improved Resource Management of Diverse Workloads

Virtual Switch Priority Queuing

- 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

- CP APAR VM66219
  - PTF UM35465 (z/VM 7.1)

- TCP/IP APAR PH04703
  - PTF UI62768 (z/VM 7.1)

- DirMaint APAR VM66223
  - PTF UV99352 (z/VM 7.1)

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, or LinuxONE Rockhopper II

- APAR VM66173
  - PTF TBD (z/VM 7.1)
  - RSU TBD

Enhanced Security

Security Enhancements

<div style="border:1px solid; padding:4px;">Base z/VM 7.1</div>

- Improvements
  - Ability to use an ESM to control who can use which Systems Management APIs (SMAPI) against which targets (VM66167)
  - Many virtual machines now configured to better match common security policies.
    - Set up to be autolog only or logon-by only
    - Affects new installs
  - Accessing CP disks (CPACCESS) subset of commands that ignored Link controls in ESM have been corrected

- Benefits:
  - Focus security policy coming from the ESM
  - Better positioned to meet security policy
  - Fewer surprises based on security policy

Elliptic Curve Cryptography Support

December 2018

- z/VM TLS/SSL Server enhanced with enablement of Elliptic Curve Cryptography (ECC) cipher suites

- ECC Ciphers provide a more secure mechanism for asymmetric encryption than standard RSA or DSS algorithms.

- Performance Report available
  - http://www.vm.ibm.com/perf/reports/zvm/html/4q8qk.html

- APAR PI99184
  - PTF UI60128 (z/VM 7.1) available December 6, 2018
  - RSU TBD

Improved Resiliency and RAS

Enhanced Dump Processing

Base z/VM 7.1

- Improvements
  - Reduce size of both snap dump and hard abend dumps
  - Reduce time to take and process dumps

- No longer dump Frame Table and Page Tables by default unless it is an abend code where those are helpful for problem determination

- New options to override defaults on what data is dumped

- Dump size reduction varies, examples often show 20% the size of the former dumps

Reduce CPU Required for Dump Processing

- Further improves performance of dump processing from a processor requirement perspective.
  - Applies to snap dump and hard abend processing

- APAR VM66176
  - PTF UM35352 (z/VM 7.1) available September 13, 2018
  - RSU TBD

RSCS Query Service Levels

- New command option that shows the service level for each of the RSCS parts
  - Highest level PTF that is applied to each part

- APAR VM66174
  - PTF UV99342 (z/VM 7.1) available November 29, 2018
  - RSU TBD

Dynamic Crypto

Target 3Q 2019

- Will enable 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

- z/VM 7.1 PTF

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

- APAR VM66278
  PTF UV99353 for z/VM 7.1
  RSU TBD

#	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.

Improved System Management

Automatic Standby Memory for Guests

Target 2H 2019

- 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

- z/VM 7.1 PTF

z/VM and Dynamic Partition Manager

- Dynamic Partition Manager (DPM)
  - z/VM 6.4 and z/VM 7.1 Supported
  - I/O configuration much easier than older IOCDS approach
  - FICON ECKD Support – available September 2018
  - FICON CTCA Support – known requirement.
    - Required to permit Single System Image cluster and Live Guest Relocation
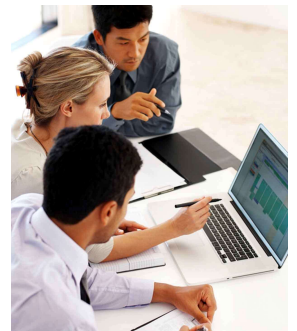
IBM Wave for z/VM

- Current level is IBM Wave V 1.2

- Fix Pack 11 available September 2018
  - Support for z/VM 7.1, SLES 15, RHEL 7.5
  - APAR fixes

- Fix Pack 12 available April 2019
  - Upgrading to Java 8 for server (client already there)
  - Eliminating Apache prerequisite in favor of embedded WebSphere Liberty (upgraded to latest level)
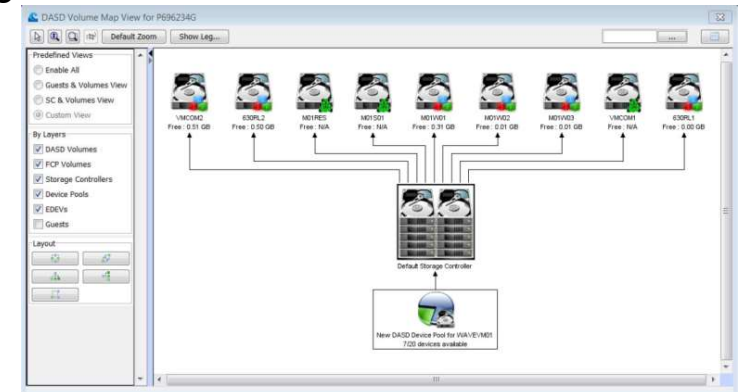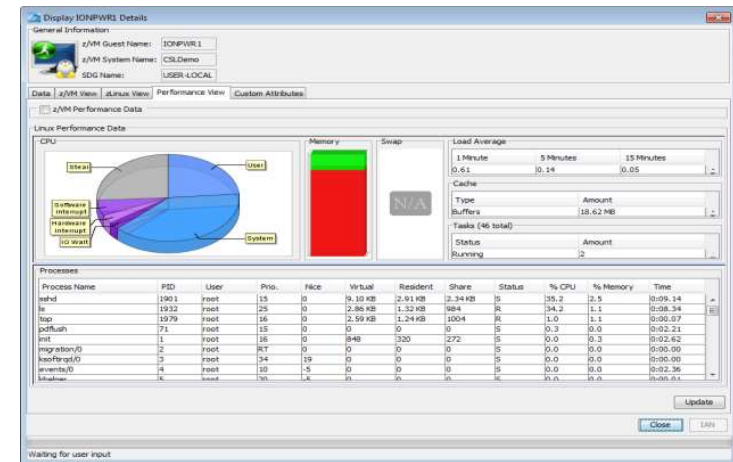
Extend the Reach of Skills with IBM Wave for z/VM

Intelligent Visualization	Simplified Monitoring	Unified Management

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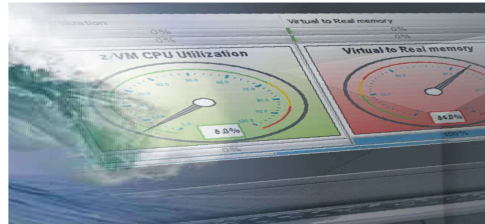- **Organize and simplify management** of z/VM and virtual Linux servers
- View servers and storage utilization graphically; understand the status of system resources with Intelligent icons
- Reduce unnecessary steps using highly customizable views
- Graphical or tabular displays with layered drill down

- 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

- 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

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

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z/VM Library Overview

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5 Horizontal Tabs
➤ Overview
➤ z/VM Version 6
➤ z/VM Version 7
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Last Updated: 5 December 2018

Update: You can now get all IBM z/VM PDF files directly from the z/VM Library web site. All documentation pertaining to a specific supported version and release will be available regardless of the New Function APARs you have installed on your z/VM system. PDF files are available for z/VM 6.x and z/VM 7.1 releases as well as z/VM related publications.

The z/VM Library also offers complete PDF collections of the documentation on a near quarterly basis. These collections are indexed, meaning you can search for any terms and it will return all matches from any document within the collection. No more hunting for a specific manual to find exactly what you need.

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- Includes following categories of links:
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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.

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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.

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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

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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
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- ❖ Download with meaningful name (e.g. zVM 710 CP Planning and Administration SC24-6271-00.pdf)
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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

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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

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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 availabile (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

Search — □ ✕

○ In the index named
zVM_V6R4_Index.pdx

What word or phrase would you like to search for?

| timebomb |

☐ Whole words only
☐ Case-Sensitive
☐ Include Bookmarks
☐ Include Comments

Search

Show More Options

Find a word in the current document

Search — □ ✕

Arrange Windows

Looking For:
timebomb in the index named zVM_V6R4_Index.pdx

Results:
6 document(s) with 17 instance(s)

New Search

Results:

⊞ 📄 z/VM V6.4 CP Commands and Util
⊟ 📄 z/VM V6.4 CP Programming Servi
  📄 ID **Timebomb** exploded The ta
⊞ 📄 z/VM V6.4 Migration Guide
⊞ 📄 z/VM V6.4 RACF Security Server C

Sort by: Relevance Ranking ⌄

☑ Collapse file paths

z/VM Cloud Strategy Futures

February 2018

Allow customers to enjoy a broader set of features, collectively provided by IBM and partner-based solutions as part of their vertically integrated Cloud offerings than we have been able to provide via the z/VM Cloud Management Appliance (CMA)

- Switch from an IBM-provided OpenStack and xCAT solution (CMA) to supporting partner-provided cloud solutions via the new z/VM Cloud Connector

- The new code will be serviced as part of z/VM but will be installed on a customer-provided Linux on z guest

- The code is being developed in open source and is enabled for 3rd party contributions

- Available as open source or from IBM Fix Central

- See http://www.vm.ibm.com/sysman/cloudcon.html for a lot more details on Cloud Connector

- CMA
  - No additional new function
  - Will continue to supply defect and security fixes to the z/VM 6.4 release
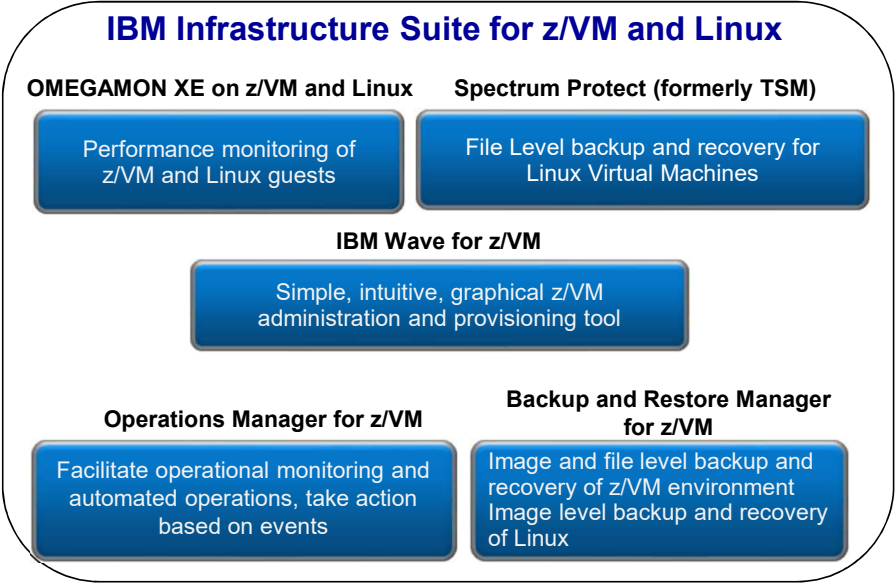
Complete Solution for Administration & Management of z/VM and LinuxONE

Integration with other platforms and solutions
- Alerts
- Log data

Single PID
5698-IS2 OTC
5698-IS1 Annual S&S

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
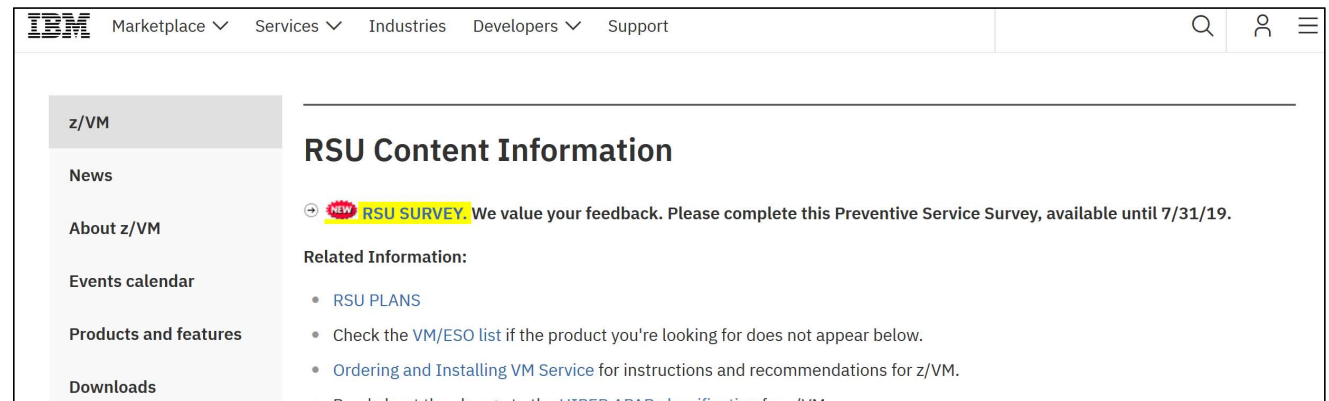Image level backup and recovery of Linux

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

Other Highlights

z/VM RSU News

▪ z/VM 6.4 RSU 1901 scheduled for June 28, 2019
  – Includes a RACF template change
  – Please remember to validate your RACF database prior to applying (and afterwards)
    • White paper on validating and repairing the database is available:
      https://www.ibm.com/downloads/cas/LVOL5P8Q

▪ We're looking for input and direction on the RSU. Please see the RSU news page
  http://www.vm.ibm.com/service/rsu/ on June 28th or later for link to a brief survey. You'll have until July 31st to
  complete the survey

New Support Community – Coming Soon

- IBM Service Request Tool being replaced
  - Summer 2019 – IBM Z software products
    - Migration over a weekend
  - Future date – IBM Z hardware

- What will happened
  - Existing service requests will automatically be moved to the new Support Community
  - Exisiting SRs/PMRs will be converted to "Cases"
    - Case numbers in format of TS123456789

- What to do
  - Familiarize yourself with the new environment
    - http://ibm.biz/Zsupport

z/VM Service Changes with GDPR

- Global Data Privacy Regulation (GDPR) has far reaching implications including on how you send documentation for z/VM problem records and how we retrieve, use, and control them.

- Date for complete enforcement has been extended, but we are encouraging everyone to not wait until it is enforced.

- z/VM-centric information: http://www.vm.ibm.com/service/vmgdpr.html

- In addition to general information, if you are going to send data from z/VM itself, you'll need to:
  - Install and configure the z/VM SSL server using the TCP/IP Planning and Customization book, SC24-6238, Chapter 16: Configuring the SSL Server
  - Get the required ECuRep DigiCert Certificates into GSKKYMAN and test connection. http://www.vm.ibm.com/related/tcpip/tcpipdig.html
  - Customer firewall changes may be required. Consult with firewall administrators to identify any changes.

- Stay tuned for additional information

z/VM Sponsor Users

- Customers 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

Design   Test
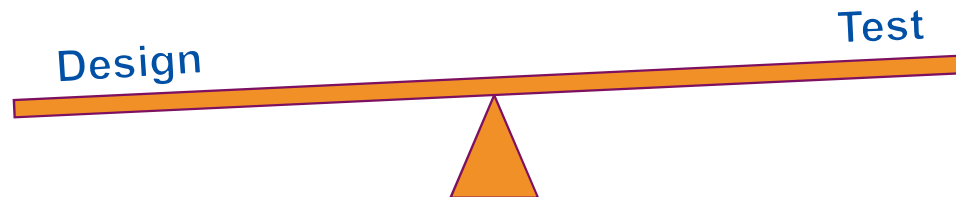
Sponsor Users Wanted:

Specifically looking for sponsor users for:

- 4TB Real Memory Support

- Active Drain for Page Volumes

- Fast Minidisk Erase

- Group Memory Limiting

- MSS Multi-Target PPRC

- TLS/SSL Certificate Verification

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
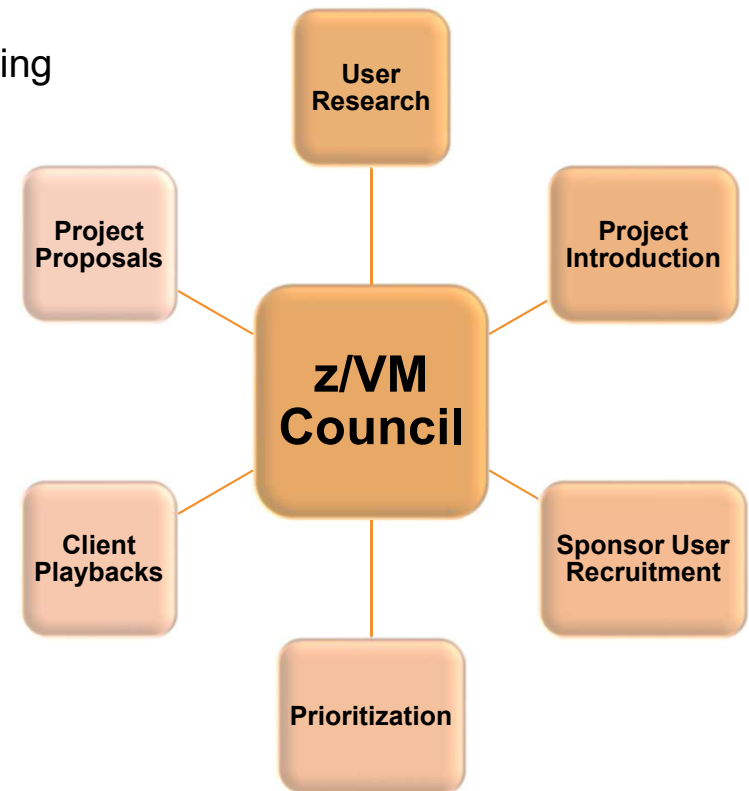
Statements of Direction
July 23, 2013
January 14, 2015
February 16, 2016
October 25, 2016
July 17, 2017
August 7, 2018

- 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.

Current Statements of Direction for z/VM

Statement of Direction	From Announce Letter
Security and FIPS 140-2 Evaluations of z/VM 6.4	October 2016
DPM Support of ECKD	July 2017
Stabilization of z/VM support for the IBM EC12 and BC12 server family	August 2018
Discontinuance of support for separately ordered EREP licensed product	August 2018

Stabilization of z/VM Support for z196 Processor Family
October 25, 2016 Announcement

Stabilization of z/VM support for the IBM zEnterprise 196 (z196) family:
z/VM V6.4 is the last z/VM release planned to support the IBM Enterprise 196 (z196) or IBM zEnterprise 114 (z114) family of servers. Either an IBM zEnterprise EC12 (zEC12) or an IBM zEnterprise BC12 (zBC12) is planned as the required minimum level of server for future z/VM releases. Refer to the IBM Support Portal for the most current support lifecycle information for z/VM.

Satisfied with z/VM 7.1

Removal of Support for IEEE 802.3 Ethernet Frame Types
October 25, 2016 Announcement

Removal of support for IEEE 802.3 Ethernet frame types:
z/VM V6.4 is planned to be the last z/VM release to support IEEE 802.3 Ethernet frame types. All future z/VM releases are planned to support DIX Version 2 (DIX V2) exclusively. This includes the z/VM Virtual Switch (VSwitch) and the z/VM TCP/IP server.

Satisfied with z/VM 7.1

Removal of Support for the IMAP Server
October 25, 2016 Announcement

Removal of support for the IMAP server
z/VM V6.4 is planned to be the last z/VM release to support IMAP.

Satisfied with z/VM 7.1

Removal of Support for Certain TCP/IP Functions
October 25, 2016 Announcement

Removal of support for certain TCP/IP functions
z/VM V6.4 is planned to be the last z/VM release to support the Graphics
Data Display Manager Interface for X Window System (GDDMXD/VM).

Satisfied with z/VM 7.1

Install to 3390 Model 3 DASD
October 25, 2016 Announcement

Install to 3390 Model 3 DASD
z/VM V6.4 will be the last release to allow installation using Model 3 3390
DASD (Direct Access Storage Device) volumes. Future z/VM releases will
support 3390 installation using only model 9 or model 27 DASD.
Installation onto SCSI volumes will not be affected.

Satisfied with z/VM 7.1

FIPS Certification of z/VM V6.4
October 25, 2016 Announcement

FIPS Certification of z/VM V6.4

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 V6.4.

Satisfied

Security Evaluation of z/VM V6.4
October 25, 2016 Announcement

Security Evaluation of z/VM V6.4

IBM intends to evaluate z/VM V6.4 with the RACF Security Server feature, including labeled security, for conformance to the Operating System Protection Profile (OSPP) of the Common Criteria standard for IT security, ISO/IEC 15408, at Evaluation Assurance Level 4 (EAL4+).

Satisfied

Removal of support for virtual machines with dedicated processors
October 25, 2016 Announcement

Removal of support for virtual machines with dedicated processors
z/VM 6.4 is planned to be the last z/VM release to support dedication of
logical to virtual processors via the CP DEDICATE command or with the
DEDICATE option on the CPU user directory statement. z/VM running in
a logical partition with dedicated processors will continue to be supported.

Satisfied

Stabilization of z/VM V6.3 support
July 17, 2017

Stabilization of z/VM V6.3 support
IBM z14 is planned to be the last IBM Z high-end server and z13s is planned to be the last midrange IBM Z server supported by z/VM V6.3 and the last IBM Z servers that will be supported when z/VM V6.3 is running as a guest (second level). z/VM V6.3 will continue to be supported until December 31, 2017, as announced in Withdrawal Announcement 915-025, dated February 3, 2015.

- Hardware support is restricted as above even with extended support contracts for z/VM V6.3

Satisfied

Future z/VM Release Guest Support
July 17, 2017

Future z/VM release guest support:
z/VM V6.4 will be the last z/VM release supported as a guest of z/VM V6.2 or older releases.

- This does not mean that z/VM 6.2 is still supported outside a support contract extension.

- This does not mean that z/VM 6.3 is going to be supported beyond Dec 31, 2017

- This is a warning that if you will not be able to simply migrate to a future release of z/VM by running it second level on z/VM 6.2 or older releases, and then swap to first level after the migration.

Satisfied with z/VM 7.1

Disk-only Support for z/VM Dumps
July 17, 2017

Disk-only support for z/VM dumps
z/VM V6.4 will be the last z/VM release to support tape as a media option for stand-alone, hard abend, and snap dumps. Subsequent releases will support dumps to ECKD DASD or FCP SCSI disks only.

Satisfied with z/VM 7.1

Dynamic Partition Manager support of ECKD
July 17, 2017

Dynamic Partition Manager support of ECKD
IBM intends to deliver support for adding and configuring ECKD FICON disks to partitions create in Dynamic Partition Manager (DPM) mode for Linux running in LPAR, under KVM on z, and under z/VM 6.4

Satisfied

z/VM New Function Portal
August 7, 2018

z/VM New Function Portal
The z/VM Continuous Delivery News web page will be the primary vehicle used by IBM to describe new functions that are planned for z/VM. It is the recommended way to keep track of future development and support plans for the z/VM product. z/VM clients should consider subscribing to this page. Instructions are included on the VM Site File Change Notification web page.

Satisfied

Stabilization of z/VM Support for the IBM EC12 and BC12 server family
August 7, 2018

Stabilization of z/VM Support for the IBM EC12 and BC12 server family
z/VM V7.1 is the last z/VM release that is planned to support the EC12 or
BC12 family of servers. Consequently, either an IBM z13® or an IBM z13s®
will be the required minimum level of server for future z/VM releases. See
the IBM Support Portal for the most current z/VM support lifecycle
information.

Discontinuance of support for separately ordered EREP licensed product
August 7, 2018

Discontinuance of support for separately ordered EREP licensed product
z/VM V7.1 is planned to be the last z/VM release to support EREP as a separately orderable and serviceable IBM licensed product. EREP functionality will continue to be delivered as part of the z/VM offering.

Summary

z/VM – Ever Onward

Ever Improving
z/VM

Sponsor Users

Continuous
Delivery

Release
Cadence