

z/VM News you can Use



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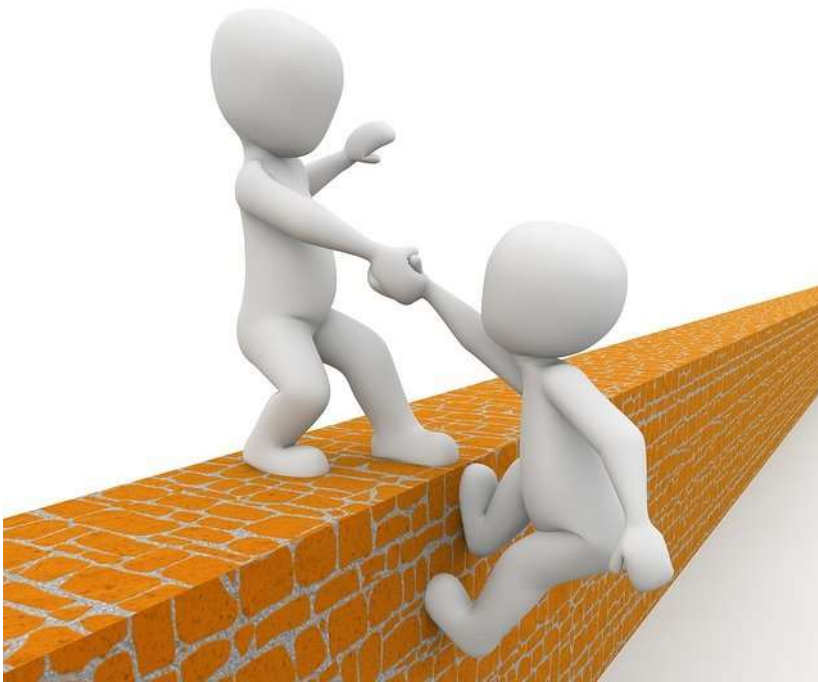
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Good Samaritan Story of the Week



CMS HELP Enhancements

- **HELP** is a CMS command that provides information on various commands, tasks, and messages.

- Enhancements were made to add information for the following:
 - CP Source Directory statements
 - Example: **HELP DIRECTORY**
 - CP System Configuration file statements
 - Example: **HELP SYSCONFIG**

CMS HELP Enhancements – Source Directory

- **HELP DIREctory** *help_file_name*
 - Displays help file for a specific directory statement
 - **HELP DIRECTORY NICDEF**
 - **HELP DIRECTORY XCONFIG**
 - **HELP DIRECTORY XFCONFADD**

- **HELP DIRECTORY MENU**

- **HELP DIREctory** (plus PF11 for related)

CMS HELP Enhancements – System Configuration File

- **HELP SYSCONFIG** (plus PF11 for related)
- **HELP SYSCONFIG MENU** (scroll down)
- **HELP SYSCONfig *file_name***
 - Display help file for a specific system configuration statement
 - **HELP SYSCONFIG SYSTEIDD**
 - **HELP SYSCONFIG FEATURES**
 - **HELP SYSCONFIG CRYPTAPV**

CMS HELP Enhancements – Reference

- New Function Page
 - <https://www.vm.ibm.com/newfunction/#hfi>

Component	APAR	PTF	Available	RSU
CP	VM66511	z/VM 7.2 UM35886	August 4, 2021	2102
CMS	VM66512	z/VM 7.2 UM35885	August 4, 2021	2102
VMSES	VM66513	z/VM 7.2 UM35875	June 30, 2021	2102

Sports Update



Improved LGR for Mixed-Level Crypto Environments

- Previously an attempt to do Live Guest Relocation (LGR) of a virtual machine between IBM Z or LinuxONE boxes with different Crypto Express Adapter types would **not** be allowed.
 - Example: Crypto Express6 vs. Crypto Express7
 - One could *force* the relocation if you took the risk.

- This enhancement enables successful LGR for virtual machines when the type of the shared crypto resource on the source system does not match the type of shared crypto resource on the target system.
 - The *force* will no longer be needed.
 - This is most often needed when upgrading to a new IBM Z or LinuxONE server.

- This extends the concept of relocation domains to usage of shared Crypto Adapter usage (APVIRT).

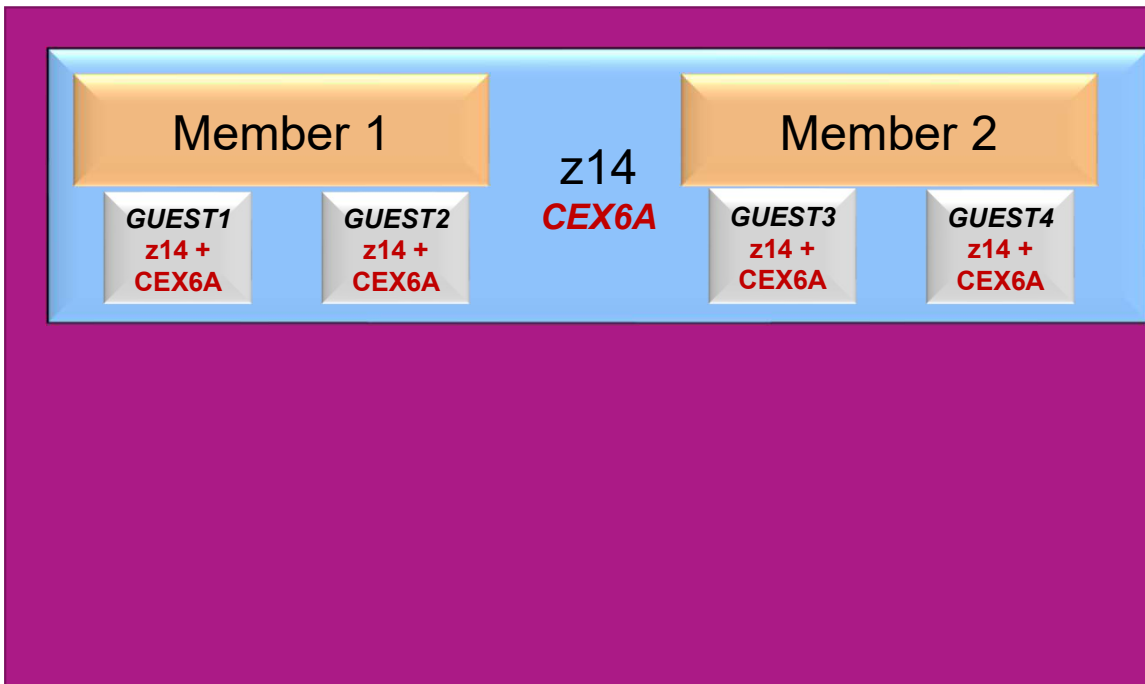
Shared Crypto Resources in Relocation Domains

- APVIRT crypto guests will see the lowest type of Crypto Express (CEX) adapter that is available in the shared pools of all systems in a relocation domain.
 - This is the level of functionality that enables guests to relocate between systems in the relocation domain without using the **FORCE ARCHITECTURE** option.

- **QUERY VIRTUAL CRYPTO**
 - Shows the lowest type of CEX adapter available in a guest's relocation domain
 - Only displays CEX adapters in the guest's relocation domain that have the same shared crypto mode as the current system
 - Shared pools can have adapters with either Accelerator (A) or CCA coprocessor (C) mode

Upgrading APVIRT Guests to a New Server

SSI Relocation Domain (default)

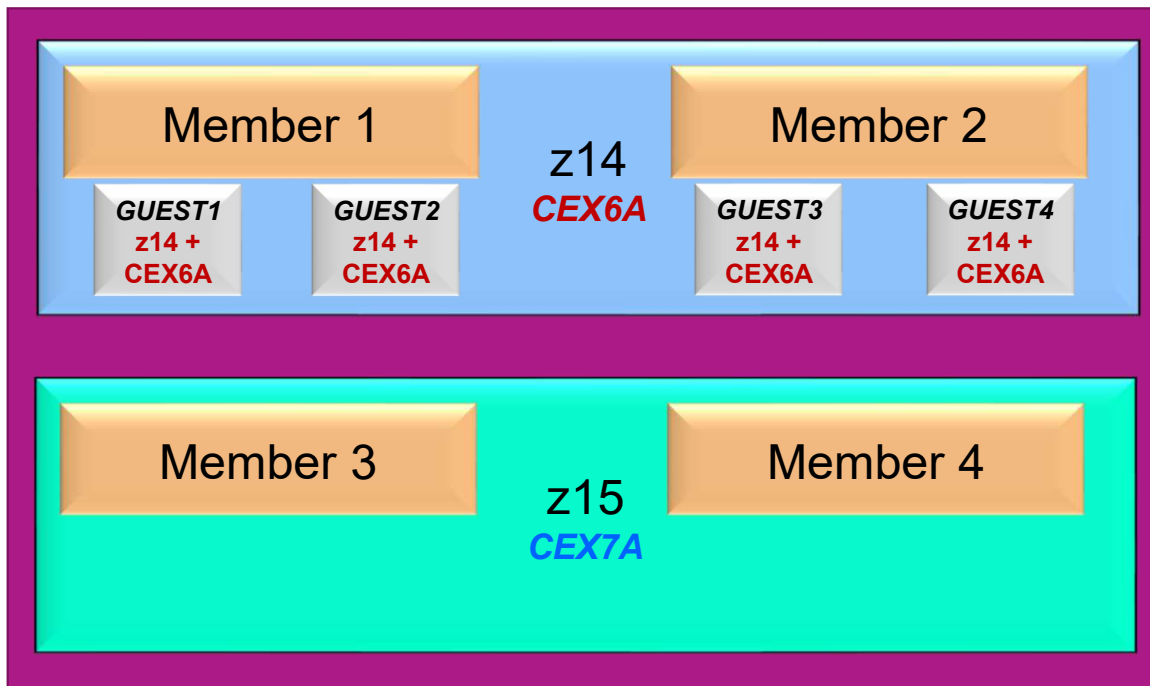


- 2 member SSI cluster
 - Both members on **z14** with **CEX6A** Crypto Express adapters
- SSI relocation domain
 - Includes all members of the cluster
- Crypto Express adapter level for APVIRT guests is **CEX6A**

* All systems have Improved LGR for Mixed-level Crypto function installed

Upgrading APVIRT Guests to a New Server...

SSI Relocation Domain (default domain)

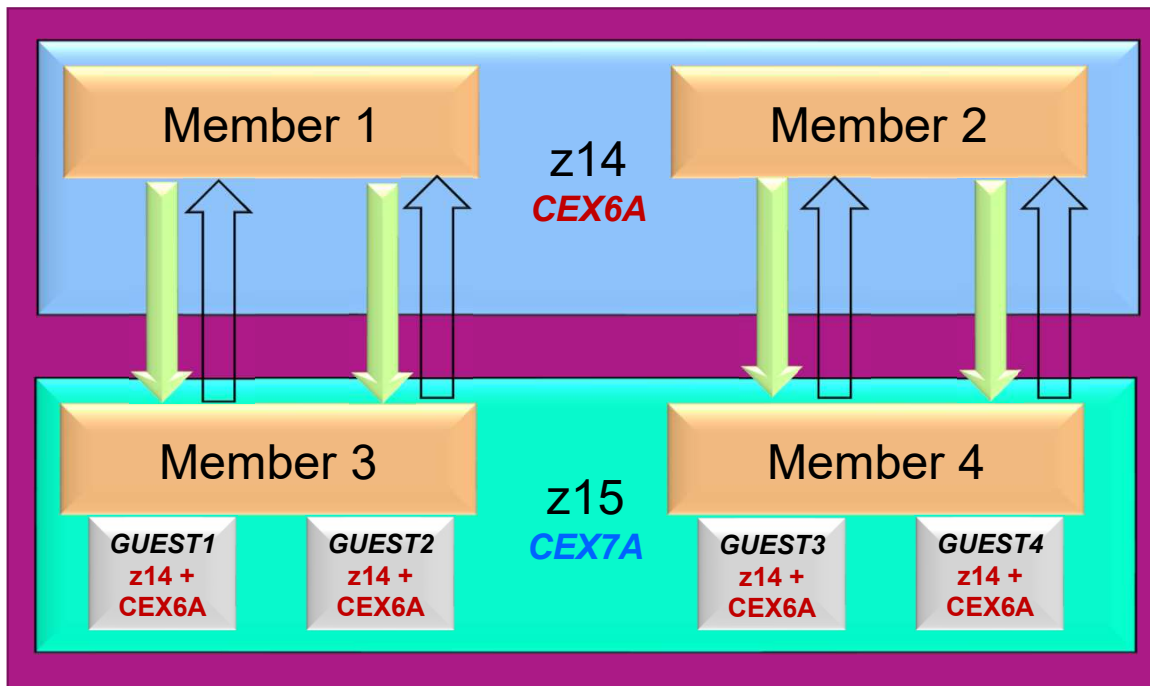


- Add members 3 and 4
 - On **z15** with **CEX7A** adapters
- All members are in SSI relocation domain

* All systems have Improved LGR for Mixed-level Crypto function installed

Upgrading APVIRT Guests to a New Server...

SSI Relocation Domain (default domain)

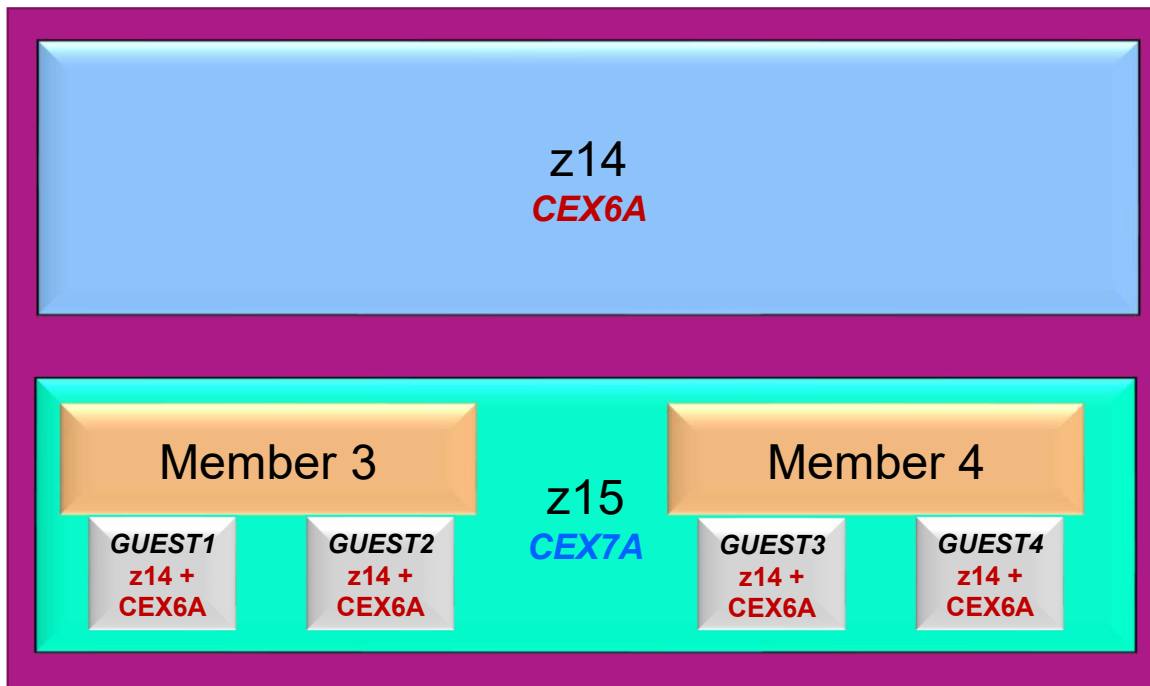


- Functional level for guests on all members is still
 - **z14**
 - **CEX6A** for APVIRT guests
- This allows relocation of guests among all members without **FORCE ARCHITECTURE**

* All systems have Improved LGR for Mixed-level Crypto function installed

Upgrading APVIRT Guests to a New Server...

SSI Relocation Domain (default domain)

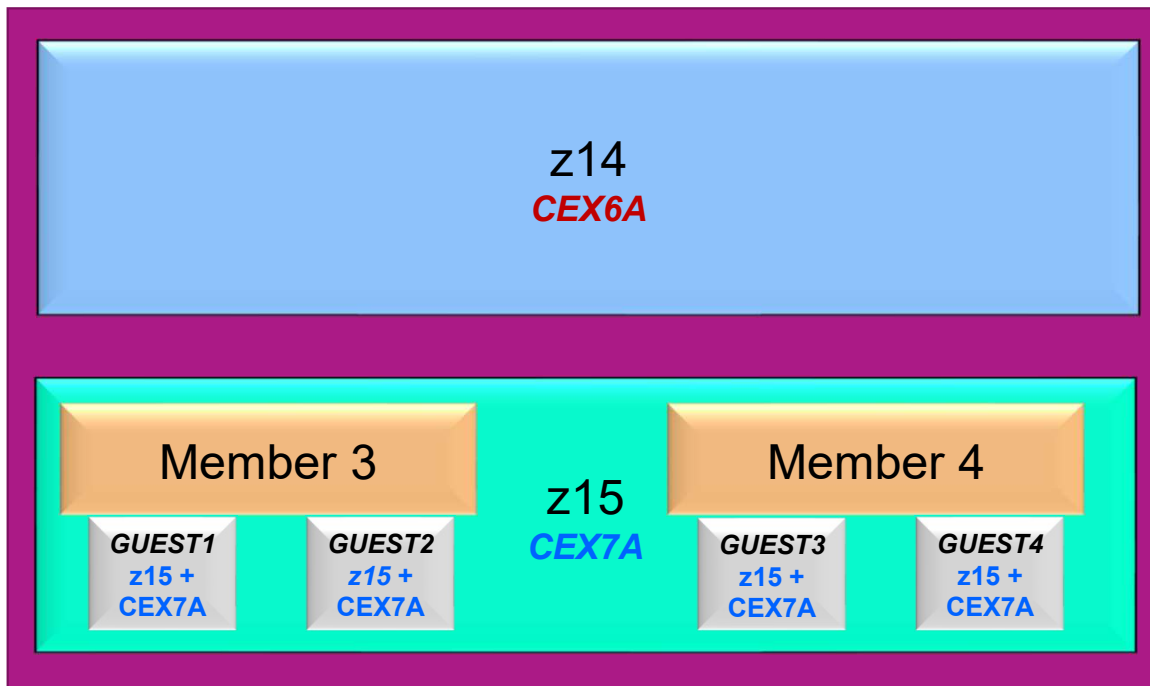


- Shutdown Member 1 and Member 2
- Remove them from SSI cluster configuration
 - **SET SSI SLOT 1 AVAILABLE**
 - **SET SSI SLOT 2 AVAILABLE**
- Update SSI statement in system config

* All systems have Improved LGR for Mixed-level Crypto function installed

Upgrading APVIRT Guests to a New Server...

SSI Relocation Domain (default domain)



- Functional level for guests changes to
 - **z15**
 - **CEX7A** adapter level for APVIRT guests

* All systems have Improved LGR for Mixed-level Crypto function installed

Improved LGR for Mixed-Level Crypto - Reference

August 2021

- New Function Page
 - <https://www.vm.ibm.com/newfunction/#lgr-apvirt>
- CP Function Environment Variable
 - **CP.FUNCTION.CRYPTO.MIXED_APVIRT** = 1
- Updated *z/VM: CP Planning and Administration*
 - Chapter 5: Crypto Planning and Management

Component	APAR	PTF	Available	RSU
CP	VM66496	z/VM 7.2 UM35893	August 6, 2021	TBD

Business Report



Scaling and flexibility with 4TB Real Memory and Dynamic Memory Downgrade

- Support the definition and use of real memory up to the 4TB line for first level z/VM systems.
- Allows for real memory to be removed from a running z/VM system
 - Complements the existing ability to add memory to a system
 - Introduces “Perm” and “Reconfigurable”
 - Maximum of 50% reconfigurable.
- Benefits:
 - Scaling
 - Add and remove memory for workload shifts and other load balancing
 - Assist in DR scenarios
 - Assist in Live Guest Relocation scenarios

4 TB Main Memory Support - Details

March 2021

- New command syntax introduced in support of Dynamic Memory Downgrade
- Increased memory will increase dump space requirements
- Increased memory does not mean less paging space required
- Red Alert – Installing 4 TB Support
 - z/VM 7.2.0 users applying this PTF for 4TB REAL MEMORY SUPPORT will encounter VMSES/E errors if they are using RACF as their External Security Manager.
 - <https://www.vm.ibm.com/service/redalert/#RACF1>
 - Includes VMSES/E steps to address the error messages
 - APAR VM66508 for VMSES/E to automatically handle the scenario
 - Will be on the next 7.2 RSU (~September 2021)

4TB Main Memory Support - Reference

March 2021

- New Function Page
 - <https://www.vm.ibm.com/newfunction/index.html#4tb>
- Red Alert
 - <https://www.vm.ibm.com/service/redalert/#RACF1>
- CP Function Environment Variable
 - **CP.LIMIT.MEMORY.REAL_TOTAL** = 4
 - **CP.FUNCTION.MEMORY.RECLAIM** = 1
 - **CP.LIMIT.MEMORY.RECONFIG** = 0 (will change with Dynamic Memory Management PTF)

Component	APAR	PTF	Available	RSU
CP	VM66173 ¹	z/VM 7.2 UM35834	March 3, 2021	TBD

¹ – Originally this was the APAR for Dynamic Memory Downgrade. Foundational support for DMD is included here.

Dynamic Memory Downgrade - Reference

August 2021

- New Function Page
 - <https://www.vm.ibm.com/newfunction/index.html#dmd>
- CP Function Environment Variable
 - **CP.LIMIT.MEMORY.RECONFIG** = 50 (Percentage of memory that can be reconfigurable)
 - **CP.FUNCTION.MEMORY.RECLAIM** = 1
- Additional support and usage information
 - <https://www.vm.ibm.com/memman/dmd.html>
- Requires z15, LinuxONE III, z14, LinuxONE Emperor II, LinuxONE Rockhopper II, or newer

Component	APAR	PTF	Available	RSU
CP ¹	VM66271	z/VM 7.2 UM35561	August 6, 2021	TBD
Performance Toolkit	VM66285	z/VM 7.2 UM35562	August 4, 2021	TBD

¹ – Originally the APAR was VM66173, but that was changed to add foundational support as part of the 4TB support enhancement.

International News

EDEVICE Path Management

- Improves health checking and path selection for SCSI-FCP emulated devices
- SCSI-FCP device driver updated in the following areas:
 - Path selection
 - Path state tracking
 - Path health checking
- Better path selection provides a more robust system.
- New information available to describe state and changes of environment
- Takes advantage of path optimization for ALUA storage devices
 - Asymmetric Logical Unit Access (ALUA) – a device capable of servicing I/O to a given LUN where access characteristics may differ across ports



EDEVICE Path Management - Reference

August 2021

- New Function Page
 - <https://www.vm.ibm.com/newfunction/#edevic-pm>
- CP Function Environment Variable
 - **CP.FUNCTION.EDEVICE.PATH_MANAGEMENT = 1**

Component	APAR	PTF	Available	RSU
CP	VM66507	z/VM 7.2 UM35902	August 31, 2021	TBD

This Week's Investigative Story



New z/VM 7.2 RSU October 5th

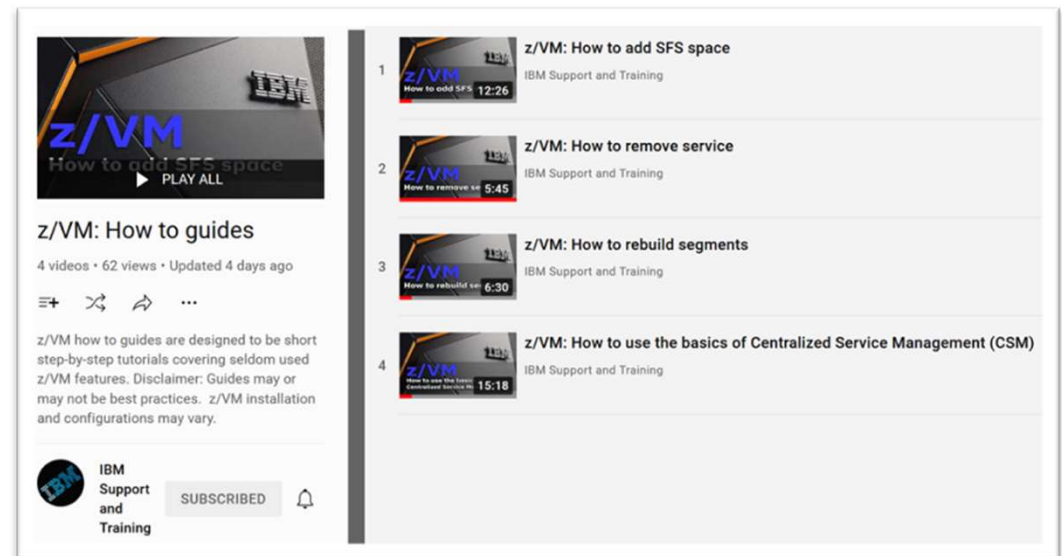
- RSU Page
 - <https://www.vm.ibm.com/service/rsu/>
- Third RSU for z/VM 7.2
- Next one is tentatively scheduled for 1Q2022
- Last RSU for z/VM 7.1 likely 4Q2022

Entertainment News



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



Sneak Peaks



More stories on the z/VM Lab late news....

- z/VM Direct to Host Service Transfer
– Rob van der Heij
- z/VM Adjunct Virtual Machines
– Lauren Maietti