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z/VSE, z/VM, KVM und Linux on z Systems
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G09: Aktuelles zu z/VM

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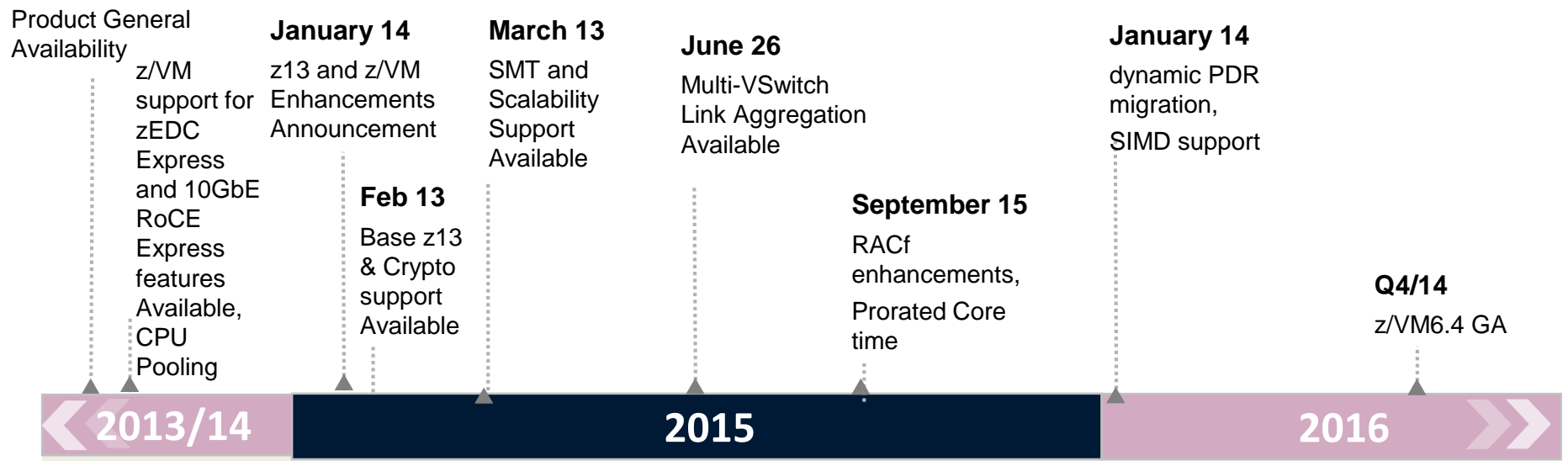
IBM z/VM Hypervisor

- z/VM is the product name of a Type-1 Hypervisor
- z/VM
 - virtualizes the architecture:
 - Guests definitions are completely virtual (and do not necessarily be consistent with physical HW)
 - support DASD and FCP
 - Offers the possibility to choose the solution with the largest convenience factor
 - SSI Clustering for increased availability
 - Integration into GDPS
- Since z990 (with the removal of the Basic Mode), z/VM always runs either in an LPAR or nested on another z/VM systems

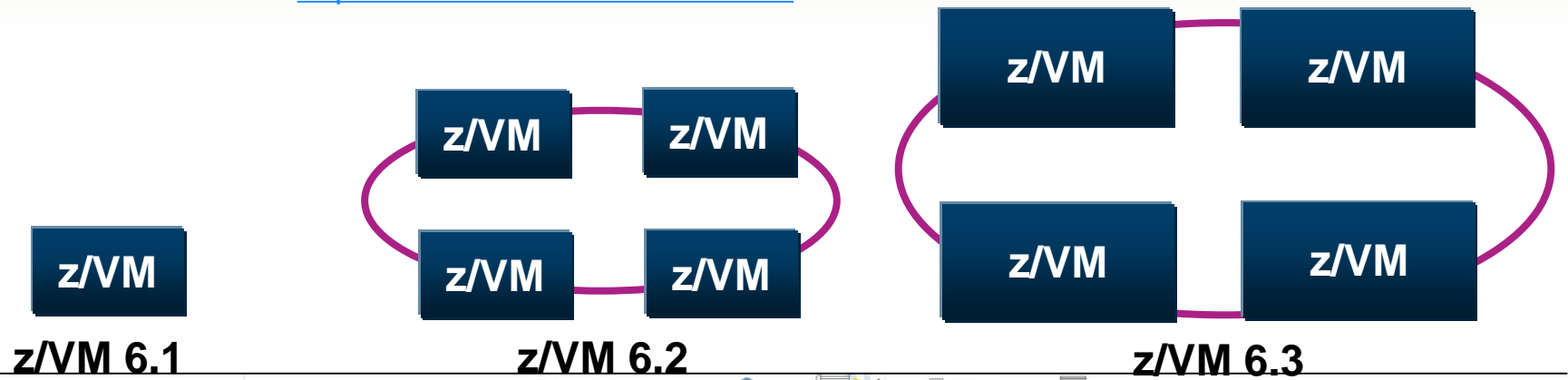


z/VM Version 6 Release 3

Making Room to Grow Your Business



See <http://www.vm.ibm.com/zvm630/>



Preview IBM z/VM 6.4

- Preview announcement 216-009, dated February 16, 2016
 - <http://www.vm.ibm.com/zvm640/index.html>
- Planned availability date Fourth Quarter 2016
- A release born from customer feedback
- Key components:
 - Enhanced technology for improved scaling and total cost of ownership
 - Increased system programmer and management capabilities
- New Architecture Level Set (ALS) of z196 and higher



Improved Scalability and TCO

- z/VM Paging enhancements
 - Use of HyperPAV when available to increase bandwidth for paging
 - Increases number of paging I/Os that can be in-flight at once
 - Exploitation for Paging, Spooling, z/VM user directory, and minidisk pools that are mapped to z/VM data spaces.

- Guest large page support
 - Enhanced DAT facility for guest use
 - 1 MB pages
 - Decreases memory needed for DAT structures by guest with Enhanced DAT support
 - z/VM maps to 4KB pages at the host level.

Improved Scalability and TCO

- Memory scalability improvements
 - Enhanced algorithms to further improve the efficiency of memory management
 - Provide a foundation for future enhancements in scaling and efficiency
- Guest Transactional Execution support
 - Potential efficiency and scaling improvements for guests and guest software that exploits
 - Alternative for serializing a set of operations.
- FlashSystems support for FCP-attached SCSI disks.
 - Removes requirement of a San Volume Controller (SVC) to use FlashSystems for z/VM system volumes and EDEVs

System Programmer & Management Capability

- QUERY SHUTDOWN command
 - Allows better understanding of state of the system
 - Allows for increased programmatical management of the system

- CP environment variables
 - New framework to allow information to be set and queried for automatic processing
 - Example: Indicate system is being started for Production or DR Test or Actual DR

- New management queries for SCSI environment.
 - Allows SCSI detailed information to be gathered for emulated devices (EDEVs)

System Programmer & Management Capability

- CMS Pipelines enhancements
 - Pipelines is a powerful programming construct available in the CMS environment
 - Objective is to make available, with the product, many of the advances made to Pipelines since it was last updated in the product
 - Allows use of various tools and programming without the need to download additional code

- DirMaint to RACF Connector
 - Modernizes the Connector with a collection of functional enhancements
 - Brings processing in line with modern z/VM practices
 - Allows better passing of directory information to RACF
 - Facilitates proper security policy in environment managed by IBM Wave for z/VM or OpenStack

System Programmer & Management Capability

- Upgrade In Place migration enhancements
 - Upgrade In Place migration was introduced in z/VM 6.3
 - Enhanced to allow migration to z/VM 6.4 from
 - z/VM 6.2 or z/VM 6.3 (but not both at same time in cluster)
 - Supports migration for clustered or non-clustered systems

z/VM 6.4 Supported Hardware

- Following z Systems servers:
 - z13
 - z13s
 - LinuxONE Emperor
 - LinuxONE Rockhopper
 - IBM zEnterprise EC12
 - IBM zEnterprise BC12
 - IBM zEnterprise 196
 - IBM zEnterprise 114

- Electronic and DVD install
 - No tapes

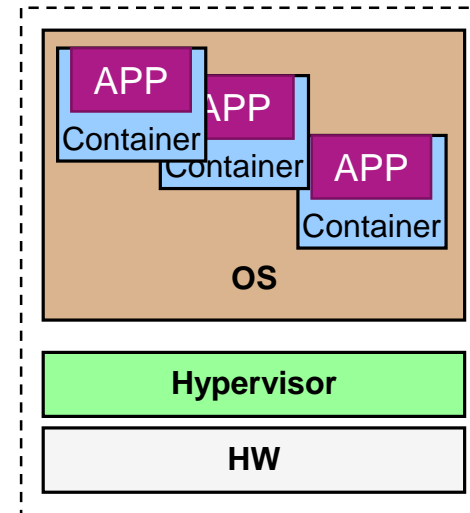
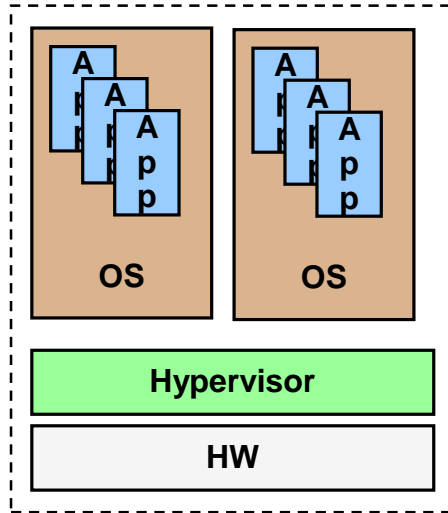
Others



Virtualization

vs.

Containers



- Infrastructure oriented:
 - coming from servers, now virtualized
 - several applications per server
 - isolation
 - Separation between tenants

- Service oriented:
 - application-centric
 - solution decomposed
 - DevOps
 - separations between the apps of a tenant



Herzlichen Dank