

Migrating z/VM Customers from V5.4 to V6.3

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Migrating Customers to z/VM 6.3

Everyone knows someone who is still hanging on to z/VM 5.4 and other old releases. In many cases, it isn't because they don't have the hardware to run the latest z/VM release. They just haven't found a reason that is good enough to go ahead and migrate.

This document is meant to help open the discussion to reasons why migration might be of value to a customer. While the focus is on those with z/VM 5.4, it can be helpful to other releases as well.

The document lists questions to ask a client or to ask yourself if you're the client, and then maps those questions to value statements of z/VM 6.3.

If you need additional help in understanding the solutions or problems, let me know. I'm here to help.

Questions to ask your client	z/VM 6.3 Feature/Benefit/Value	Old z/VM Release where z/VM 6.3 advantage applies		
		V5.4	V6.1	V6.2
Do you have systems that are at the 256 GB limit for real memory?	Support for 1 TB of real memory <ul style="list-style-type: none"> • Efficient usage of larger real memory sizes • Allows vertical scaling for larger workloads. • Helps reduce logical partition (LPAR) sprawl, by consolidating more virtual machines into a single LPAR.* • Reduces administrative expenses through managing a smaller number of large-capacity z/VM host servers. 	X	X	X
Are you running with a higher Virtual to Real Memory ratio than optimal because of the 256 GB limit for real memory?				
Are you managing multiple z/VM logical partitions as you needed to split the workload due to memory constraints?				
Have you SET REORDER OFF for large virtual machines in order to get acceptable performance?	Memory Management changes <ul style="list-style-type: none"> • improved the page steal selection process where the old reorder processing was replaced with new algorithms • Improved efficiency of page selection for virtual machines up to 1 TB in size* 	X	X	X
Are you currently running an SSI Cluster with z/VM 6.2 and would like to gain benefits of z/VM 6.3 but are afraid of needing a cluster-wide outage?	Upgrade in place <ul style="list-style-type: none"> • New installation process that allows step-wise approach to bring an SSI cluster forward to a new release • Can continue to push out the new release individually on separate members of the SSI cluster 			X

* Dependent on workload characteristics.

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Are you running with a larger number of IFLs? Greater than 16? 24? The limit of 32?	HiperDispatch <ul style="list-style-type: none"> Strengthens the affinity between where work is dispatched and where the data used by that work exists in processor cache Improves throughput and processor efficiency Allows greater elasticity in logical processor usage Processor Scalability (via Service March 13, 2015) <ul style="list-style-type: none"> Available March 13, 2015 as service Improves the n-way curves on all supported processors* Increases the IFLs supported to 64 on the z13 (Limit is 32 on z13 with SMT enabled) 	X	X	X
Do you limit the size of your logical partitions, in terms of number of IFLs, due to a drop off in performance?				
Do you change the number of online IFLs to your z/VM LPARs on a regular basis (VARY OFF/ON) to address processor resource needs and availability over time?				
Do you limit adding additional IFLs because the capacity gain is too low compared to the software expense increase?				
Are you looking for increased capacity in a z/VM footprint?	Simultaneous Multithreading (SMT) Support (via service March 13, 2015) <ul style="list-style-type: none"> Available March 13, 2015 as service Allows z/VM to use two threads on IFLs to dispatch virtual CPUs with SMT support available on z13 server.* 	X	X	X

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Are you looking for ways to lower software license costs of IBM passport advantage products on Linux guests?	CPU Pooling and IBM License Metric Tool (ILMT) <ul style="list-style-type: none"> Available in z/VM service June 2014 and ILMT in August 2014 CPU pooling allows you to assign a limit or cap on the processor resources that can be used by a set of virtual machines in aggregate. CPU pooling is similar to limit shares, but applies across a multiple virtual machines. Support also allows ILMT to gather information on the CPU pool limits for IBM licensing purposes of Passport Advantage products. This is not 'usage' based pricing, but 'capacity' based. 	X	X	X
Do you want a way to limit a group of virtual machines in aggregate without having to micromanage each virtual machine with SHARE settings?				
Are you running multiple LPARs today to limit the number of logical IFLs as part of managing software license costs?				
Are you avoiding the consolidation of additional workloads or applications onto an existing Linux on z/VM environment for fear of increasing software costs?				
Do you struggle with planned outages for critical workloads on your z/VM systems?.	Live Guest Relocation (LGR) <ul style="list-style-type: none"> Introduced with z/VM 6.2, LGR is part of the optional VMSSI feature. Allows most Linux guests to be relocated from one z/VM member of an SSI Cluster to another member without stopping the applications running in the virtual machine. Helps clients avoid planned outages for virtual servers when performing maintenance 	X	X	

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Are you looking for integrated graphical user interface for rudimentary systems management tasks?	xCAT Appliance in base of z/VM 6.3 <ul style="list-style-type: none"> • Extreme Cloud Administration Toolkit allows basic tasks to be performed graphically. • No download required, only minor tailoring. 	X	X	X
Are you looking for enterprise cloud management software based on OpenStack technology?	z/VM 6.3 is the foundation for OpenStack technology on z/VM. IBM Cloud Manager with OpenStack and IBM Cloud Orchestrator utilize the z/VM OpenStack enablement to provide Cloud solutions for z/VM environments.	X	X	X
Is full support for your z/VM system important to you?	Fully supported <ul style="list-style-type: none"> • z/VM 6.1 had an End of Service date of April 30, 2013 • Problems can be reported and fixed with Subscription and Support offerings that provide Level 1-3 support for later releases of z/VM • Note while z/VM 5.4 is still supported, enhancements will not be moved back to z/VM 5.4 (and z/VM 6.2 in some cases). Additionally, z/VM 5.4 is not supported on the z13. • z/VM 6.2 will not be supported on processor families after the z13 family. 	X	X	x

References for z/VM 6.3

- z/VM Home Page for z/VM 6.3
 - <http://www.vm.ibm.com/zvm630/>
- z/VM 6.3 Initial GA
 - z/VM Version 6 Release 3: Making Room for Your Growing Business, IBM Systems Magazine
 - <http://enterprisesystemsmedia.com/article/z-vm-version-6-release-3-making-room-for-your-growing-business>
 - Replay of z/VM 6.3 Platform Update Presentation from August 28, 2013
 - <https://ibmstg.adobeconnect.com/a819987824/zvm0828/>
- z/VM 6.3 Enhancements from 2014
 - Replay of “What’s New in the z/VM 6.3 Hypervisor?” presentation from August 27, 2014
 - <http://ibmstg.adobeconnect.com/p97ha5shbtg/>
 - Replay of “z/VM CPU Pooling and ILMT” presentation from October 29, 2014
 - <http://ibmstg.adobeconnect.com/p65y7acx1lk/>
- z/VM 6.3 z13 Related Enhancements

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