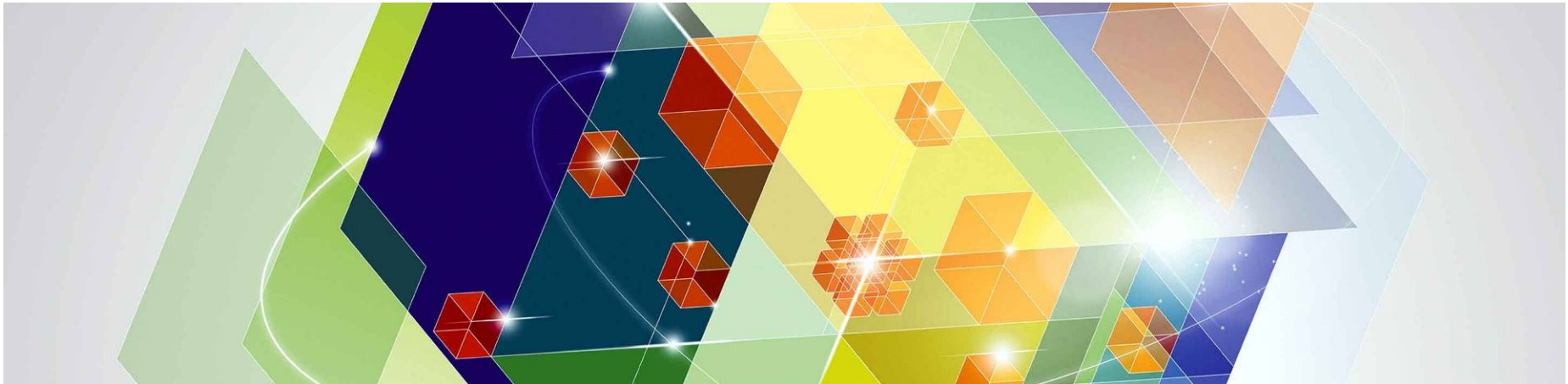


Cloud Computing with xCAT on z/VM 6.3

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Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

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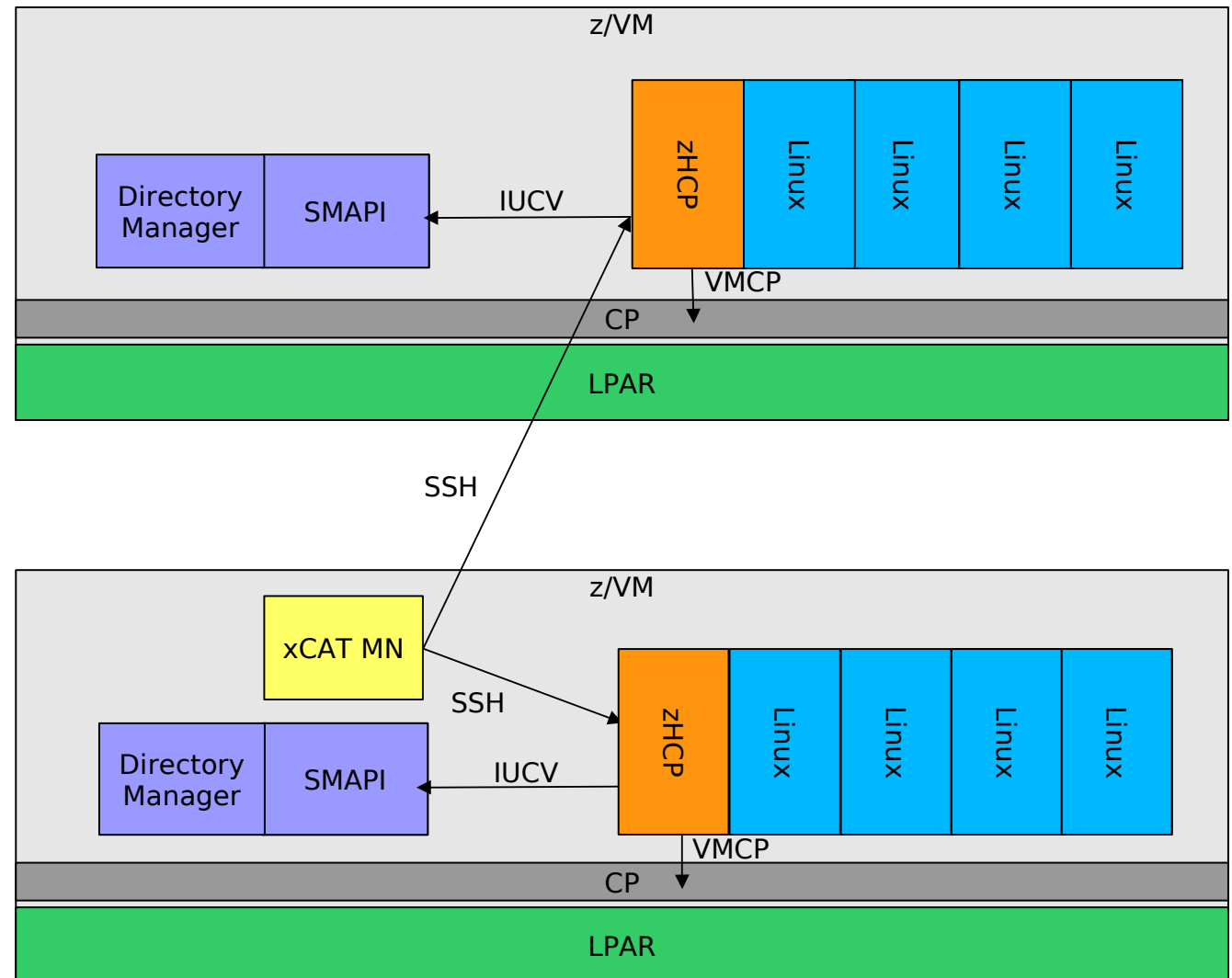
Updates

- xCAT is shipped and installed with z/VM 6.3
 - No separate download needed
 - Deploy xCAT with minimal amount of tailoring
- Subject to same terms and conditions as z/VM 6.3 Service and Support Agreement

Background

- Stands for **E**x**treme** **C**loud **A**dministration **T**oolkit
- Tool to manage, provision, and monitor physical and virtual machines on IBM System x[®], IBM System p[®], and IBM System z[®]
- Built to scale **thousands** of nodes with distributed architecture
- Easy to use
- Open sourced in 2007 and licensed as EPL (Eclipse Public License)

Architecture



xCAT MN: Central management server running on VM

zHCP: Runs on privileged VM and manages other VMs via SMAPI and CP

Features

Feature	Description
Lifecycle management	<ul style="list-style-type: none"> • Power on or off any virtual machine (VM) • Create VM based on a user directory entry • Edit the user directory entry of an existing VM • Delete any VM • Migrate a VM between any z/VM hosts within an SSI cluster
Inventory	<ul style="list-style-type: none"> • Collect the software (OS version and z/VM host) and hardware inventory (CPUs, disks, and networks) of any VM • Collect the inventory of resources available for any z/VM, such as the networks available and the disks available in any disk pool
Image management	<ul style="list-style-type: none"> • Clone any Linux VM • Install a brand new Linux on any VM using AutoYast or Kickstart
Network management	<ul style="list-style-type: none"> • Add or delete network devices to any VM • Create or delete virtual switches or virtual network LANs • Supports layer 2 and 3 QDIO Guest LAN, VSWITCH, and HiperSockets™
Storage management	<ul style="list-style-type: none"> • Add or delete ECKD™, FBA, or native SCSI/FCP disks from a disk pool • Add or delete ECKD, FBA, or native SCSI/FCP disks from VM
Operating system (OS) management	<ul style="list-style-type: none"> • Upgrade the Linux OS • Add, update, or delete software packages on any Linux VM • Includes basic xCAT features, such as remote shell, post-scripts, etc.

Future Features

Feature	Description
Image management	<ul style="list-style-type: none">• Capture (snapshot) and deploy (restore) any Linux VM
Storage management	<ul style="list-style-type: none">• Clone native SCSI/FCP disks
Monitoring	<ul style="list-style-type: none">• Real time monitoring of z/VM and Linux VMs via Performance Toolkit for VM™
Security	<ul style="list-style-type: none">• Integrated support for external security manager (e.g. RACF)

Software Supported

z/VM

z/VM version 5.4/6.2/6.3



redhat

Red Hat Enterprise Linux (RHEL) 5.4/5.5/5.6/6.0/6.1/6.2/6.3



SUSE Linux Enterprise Server (SLES) 10.3/10.4/11.0/11.1/11.2

Benefits

- Scalability (manages hundreds of virtual machines running Linux on System z)
- Performance (minimal overhead)
- Lightweight
- Few dependencies
- Open source (EPL) and **free!**



Reference

- xCAT wiki for z/VM:
http://sourceforge.net/apps/mediawiki/xcat/index.php?title=XCAT_zVM
 - Information on setting up and using xCAT
- xCAT YouTube channel: <http://www.youtube.com/user/xcatuser>
 - Demonstrations of how you can manage your systems through xCAT user interface





Try xCAT today!