

z/VM and Linux



Real World Case Study in Setting Up a Development Environment

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Oracle environment:

Z990 with 16 LPAR's:

- One coupling facility

- Seven MVS LPAR's

- Two z/VM LPARs with Linux guests

- Four Linux LPARs

- One DMZ

Oracle environment - Continued

VM1 – 9i Support and Development

z/VM 4.4

SLES 7 (31 bit) at 2.4.7

SLES 8 (31 bit) at 2.4.21

VM2 – 10g Support and Development

z/VM 4.4

SLES 8 (64 bit) at 2.4.21

SLES 9 (64 bit) at 2.6.5

Four Linux LPARS

QA servers for product/patch release

Linux environment

Linux support infrastructure

OS models for cloning 31 bit and 64 bit

One SLES 8 server used as NFS server for program products

Install once and export

One Linux Intel server for NFS installs

ISO files, RPM updates

Linux servers

Install servers

Product build servers

QA servers

Developers' servers for debugging

Support servers for second level customer support

Planning Considerations

What is a development system?

What is a test system?

Is it on a public or private network?

Who has access?

What hours must it be up?

Off shift support? Who can request it?

Who can request OS upgrades?

Is the system stable, eg. for training?

Can users install applications?

When do groups of users get their own systems?

Planning Considerations - continued

VM guest versus LPAR

Directory considerations – minidisks versus dedicated packs

Will the guests move from VM to LPAR and back?

Will the guests compete for resources, i.e. contention under VM's 2GB line?

Will you need multiple VM's to alleviate the 2CB contention?

How will you monitor the guests and resources?

Maintenance Considerations

Apply SP levels rather than rpms for maintenance

Use YaST for system upgrades and patching

Use change control and track changes for each server

Reserve root privileges for the individuals responsible for server accessibility

Keep z/VM and the zLinux OS current. Take advantage of the constant
IBM improvement in the VM/Linux relationship.

Maintenance Considerations - continued

GUI interface for running YaST - PuTTY works

TN3270 products for root console are better than using the HMC
Shutdown/startup procedures must be established. A system that
exports filesystems must be started first and shutdown last.

Send your VM systems programmer to Linux classes and to SHARE.
It's easier than teaching a Linux systems administrator VM.

Network Considerations

Will the guests be on the network?

Does the subnet have enough spare IP addresses?

Will each guest use OSA interfaces or use a VLAN?

Are there enough OSA interfaces?

VLAN, VSWITCH?

NFS mounts - how will they affect network traffic?