network-filesystem-design(7)

Receipt for the setup of a network files system design

March 10, 2011

Contents

List of Figures

.

1 General

In distributed environments with a worker and storage architecture the common location independent view of the processing nodes to the task data is the main design issue. This could be easily provided by defining a directory structure stored on a network filesystem like NFS or AFS with identical mount points on each machine. This has to be provided for the hypervisor access points to the stored VMs as well as for the contained filesystem structure of the GuestOSs.

The following figure depicts the views for Xen and QEMU based VMs.

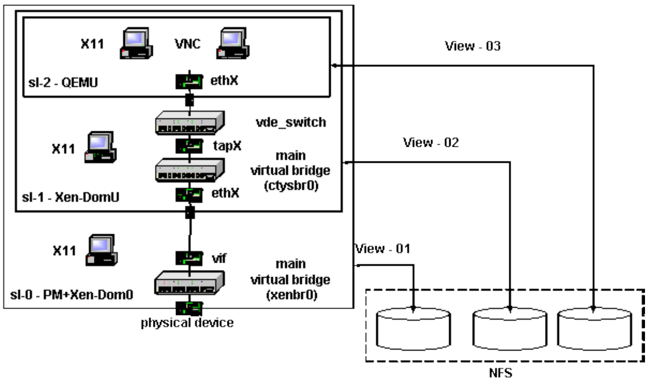

Figure 1: Network filesystem design

The main aspect is here the provided flexibility for the almost location independent roaming of generic VMs. Therefore two intermediate layers are introduced, first the interface of the hypervisors to stored VMs, second the execution and low-level access of the VMs to and from the PMs.

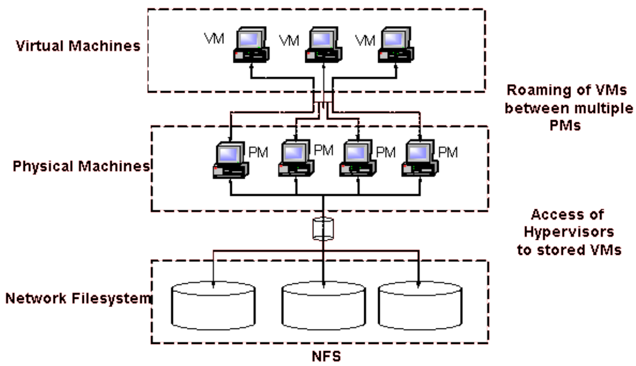

Figure 2: Network filesystem design - access locations

The result is a common view to the filesystem directory tree for each VM and it's contained GuestOS.

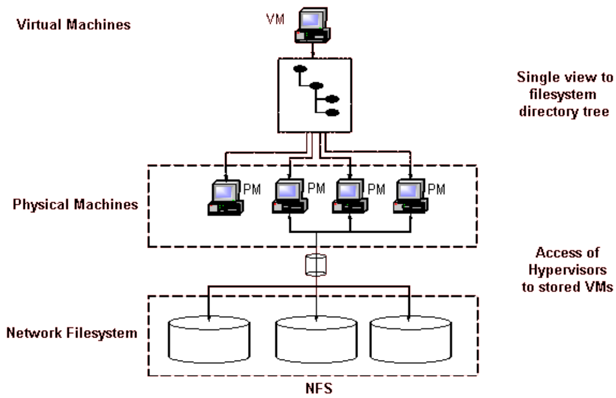

Figure 3: Network filesystem design - directory tree

The required access functionality for the addressing of specific stored VMs is provided by the UnifiedSessionsManager. This is e.g. required for some hypervisors and which reuqire a storage addressing slightly different from common filesystem names. The eventualy required conversion functions due to proprietary addressing of the Vendors is provided by the UnifiedSessionsManager.

2 SEE ALSO

ctys-distribute(1) , *ctys-plugins(1)*
HowTo

3 AUTHOR

Maintenance:	<acue_sf1@users.sourceforge.net>
Homepage:	<http://www.UnifiedSessionsManager.org>
Sourceforge.net:	<http://sourceforge.net/projects/ctys>
Berlios.de:	<http://ctys.berlios.de>
Commercial:	<http://www.i4p.com>

4 COPYRIGHT