

network-filesystem-design(7)

Receipt for the setup of a network files system design

March 10, 2011

Contents

1	General	2
2	SEE ALSO	4
3	AUTHOR	4
4	COPYRIGHT	4

List of Figures

1	Network filesystem design	2
2	Network filesystem design - access locations	2
3	Network filesystem design - directory tree	3

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.

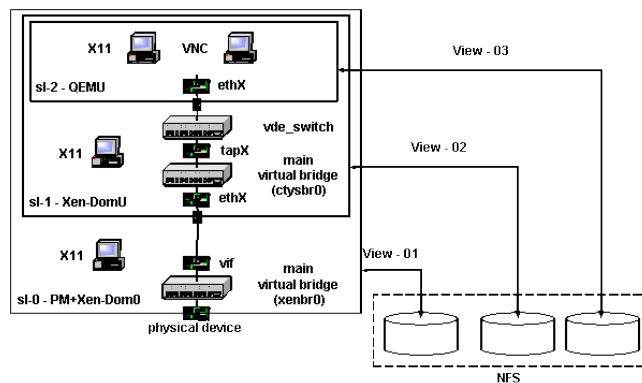


Figure 1: Network filesystem design

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.

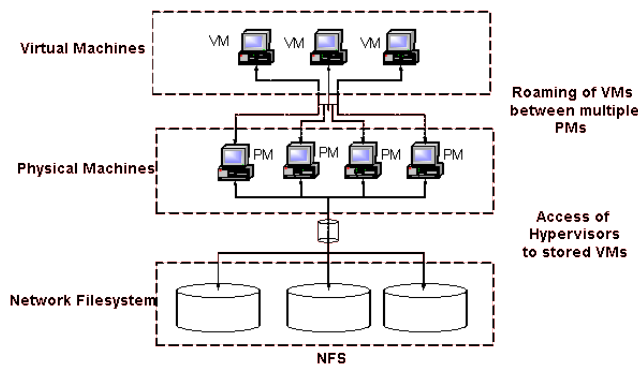


Figure 2: Network filesystem design - access locations

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

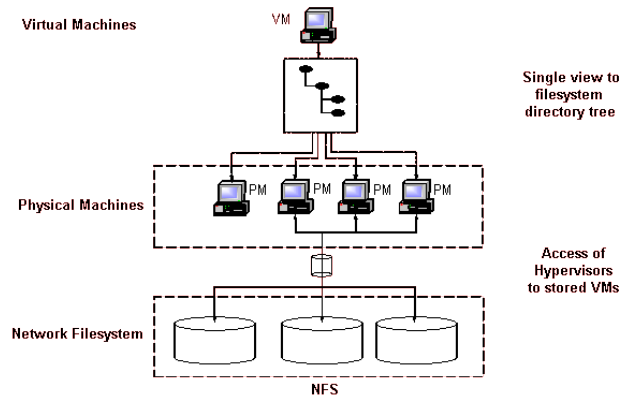


Figure 3: Network filesystem design - directory tree

The required access functionality for the addressing of specific stored VMs is provided by the UnifiedSessionManager. This is e.g. required for some hypervisors and which require a storage addressing slightly different from common filesystem names. The eventually 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

Copyright (C) 2008, 2009, 2010, 2011 Ingenieurbuero Arno-Can Uestuensoez
For BASE package following licenses apply,

- for software see GPL3 for license conditions,
- for documents see GFDL-1.3 with invariant sections for license conditions,

This document is part of the **DOC package**,

- for documents and contents from DOC package see
'Creative-Common-Licence-3.0 - Attrib: Non-Commercial, Non-Deriv'
with optional extensions for license conditions.

For additional information refer to enclosed Releasenotes and License files.

