Oracle VM 3
»behind the sceenes«

Damjan Žiberna

damjan.ziberna@abakus.si

Abakus plus d.o.o.

ORACLE Gold Partner

History
- from 1992, ~20 employees

Applications:
- special (DB – Newspaper Distribution, FIS – Flight Information System)
- **ARBITER – the ultimate tool in audit trailing**
- **APPM - Abakus Plus Performance Monitoring Tool**

Services:
- DBA, OS administration , programming (MediaWiki, Oracle)
- networks (services, VPN, QoS, security)
- open source, monitoring (Nagios, OCS, Wiki)

Hardware:
- servers, **SAN storage**, firewalls

Infrastructure:
- from 1995 GNU/Linux *(~20 years of experience !)*
- Oracle on GNU/Linux: since RDBMS 7.1.5 & Forms 3.0 *(before Oracle !)*
- **>20 years of experience with High-Availability !**

Mestna občina Ljubljana

MESTNA OBČINA KOPER COMUNE CITTA DI CAPODISTRIA

Iskra Iskra MIS

Aerodrom Ljubljana

KONTROLA ZRAČNEGA PROMETA SLOVENIJE

Gorenjska Banka — Banka s poslubom

GOOD YEAR

Components of Oracle VM 3

- Oracle VM Server = Xen hypervisor + agents

- Oracle VM Manager = GUI/CLI hypervisor management

- [Oracle OpenStack = Cloud management]
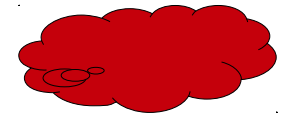
Advantages of OracleVM

- Fully integrated into Oracle environment

- Pre-built templates
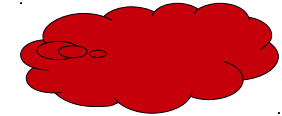
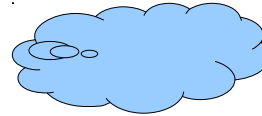- Enterprise class virtualization platform

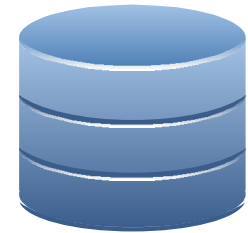- Can be used to limit CPU licences on the latest hardware
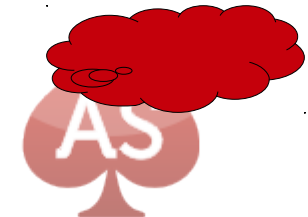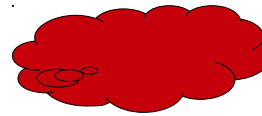
Challenges
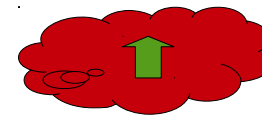
- P2V migration

- V2V migration

- SAN 2 SAN migration

- POOL 2 POOL migration

- UPGRADES

P2V migration

- Physical machine to HVM mode virtual machine
  - limited to IDE controller (up to 4 drives)

- Windows OS »Blue Screen of Death« due to HAL change

- Migration process requires creation of a template

- No »wizzards« available for OracleVM

V2V migration

- Virtual machine to HVM mode virtual machine
  - limited to IDE controller (up to 4 drives)

- Windows OS »Blue Screen of Death« due to HAL change

- Migration process requires creation of a template

- Capable of importing OVF format exports

- Wizzard included

MS Windows HAL fix

Windows 2003 »OVF« migration from VMware :

- **Pre-OVM** driver Installation:

  copy *HALMPS.DLL* over C:\WINDOWS\system32*HAL.DLL*

- **Post-OVM** driver Installation:

  copy *HALMACPI.DLL* over C:\WINDOWS\system32*HAL.DLL*

MAX 3 HDDs supported when migrating Windows OVF from Vmware to OVM3.

MAX 4 HDDs if you clone template disks and manually set-up the VM!

HALMACPI.DLL	ACPI Multi processor PC
HALAACPI.DLL	ACPI Uniprocessor PC
HALACPI.DLL	Advanced Configuration and Power Interface (ACPI)
HALMPS.DLL	MPS Multiprocessor PC
HALAPIC.DLL	MPS Uniprocessor PC
HAL.DLL	Standard PC

SAN 2 SAN migration

- PoolFileSystem and RepositoryFileSystem need to be in the same cluster!

- OVM Manager database gets corrupted when disk ID (Page83) changes!

- Corrupt PoolFS -> no Repository -> no VM

- Manual intervention possible but not supported!

- BACKUP!

POOL 2 POOL migration

CLEAN WAY

- Shutoff VMs,

- Unassign VMs,

- Unpresent Repos,

- Remove OVS from pool,

- Add OVS to new pool,

- Present Repos,

- Assign VMs

CORRUPT POOLFS WAY

- Delete PoolFS LUN

- Define new PoolFS LUN

- Delete /etc/ovs-agent/db/ {aproc,exports,server}

- Reboot

- Clear OracleVM Manager DB

- Define a new pool

- Add OVS to new pool

- Change cluster ID attribute on RepositoryFS

- Rescan LUN

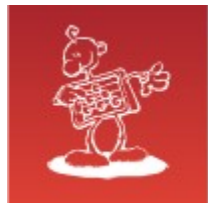- Present Repo to new pool

- Assign VMs

UPGRADES

OVM Server & Manager 2.x -> 3.x =
»new install«

#OVM Manager 3.1.x uses OracleDB#
#OVM Manager 3.2+ uses Mysql EE#

OVM Server & Manager 3.2 -> 3.3 =
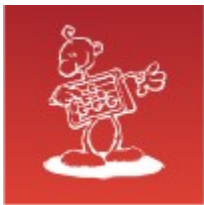»two-step« upgrade

WebGUI Access

Thank You

Damjan Žiberna

ABAKUS plus d.o.o.
Ljubljanska c. 24a
Kranj

e-mail: damjan.ziberna@abakus.si

phone: +386 4 287 11 14