GeoSphere
Austria

Datacenter

everything virtual / virtually everything

Seismological Service

Nikolaus Horn

nikkolaus.horn@geosphere.at

June 6, 2023

one well organized datacenter

GeoSphere runs a well maintained datacenter with all bells and whistles

so why not use it?

- trigon fire extinguisher
- redundant power supplies, generator
- redundant networking
- 24/7 support – with a few exceptions
- homegrown virtualization based on KVM
- resource friendly
- different cluster concepts
- sysadmin knowledge – CentOs not preferred
- separate virtualizalization hosts
- separate virtualization platforms

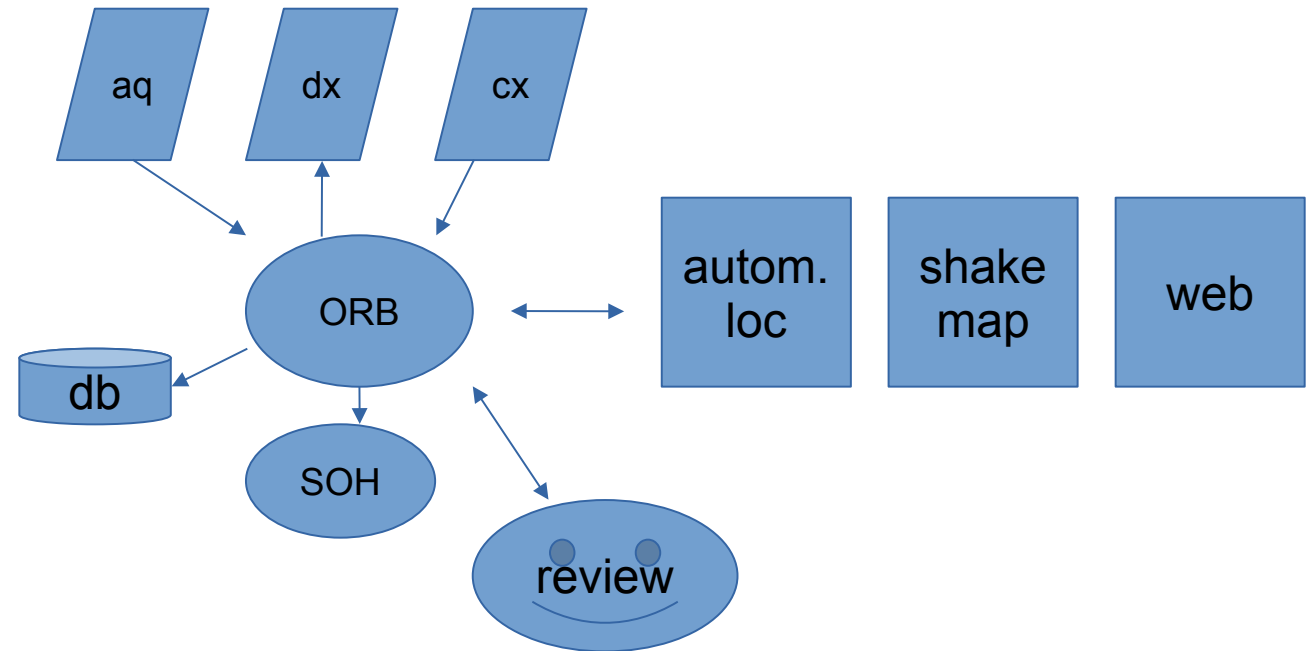internal / DMZ

VM – general considerations

- separate device for ringbuffer
- small shared storage
- reuse waveform data on central storage
- small image – orb and such on separate volume

- different types of cluster
  - active/standby
  - active/active
  - separate services

- mount Antelope from NFS
  - link to different versions
    - maintenance
    - test
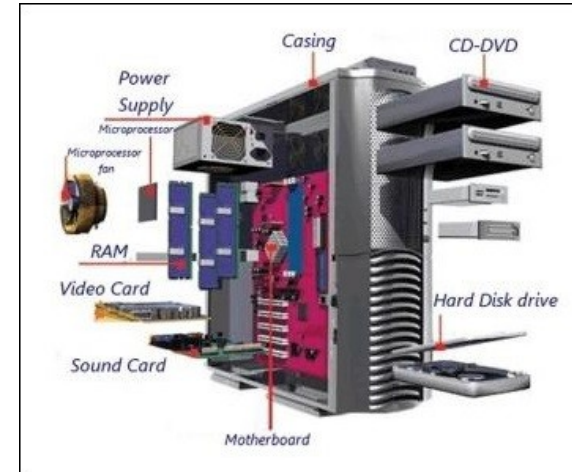
separate VM per function

functionalities

- central ORB with all data
- data exchange / data acquisition
- automated processing
- manual review
- central ID-server
- special products
- SOH / quality control
- general purpose computer
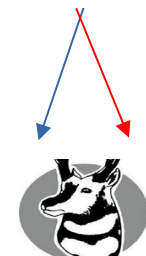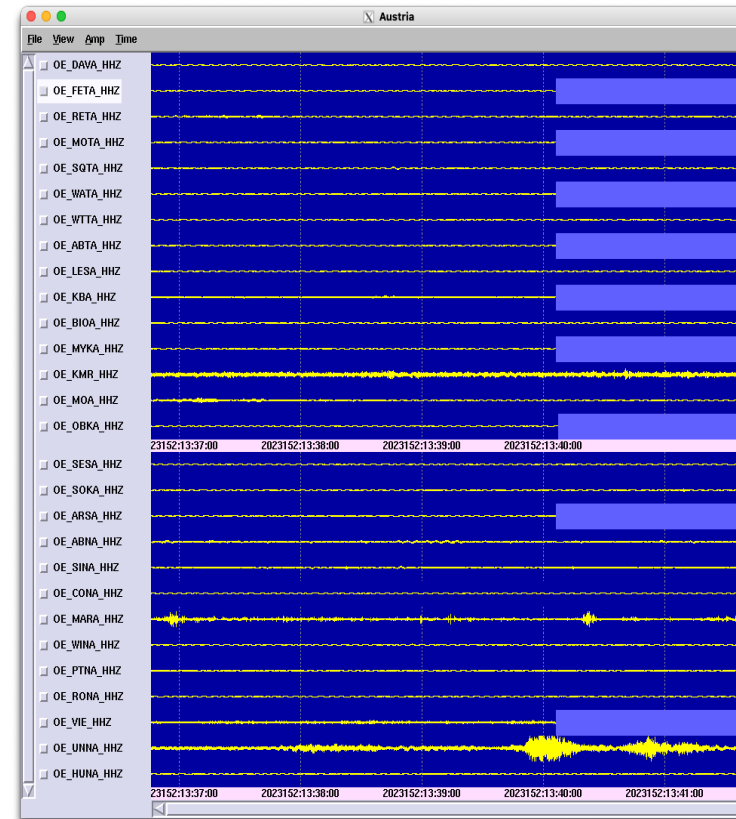- Conrad Observatory / other satellites

internal data acquisition

- 2 virtual machines
- jobs migrated by cluster mechanism
- statefile on shared storage
- geographical split
- transparent backup over SAT

data exchange

- behind firewall
- 3 virtual machines
- geographical split / no clustering
- all data on all VMs
- transparent backup over SAT to a few data centers

external data acquisition (mobile)

workhorses

data hub / central ORB

- active / standby
- statefiles on central storage
- separate ringbuffers
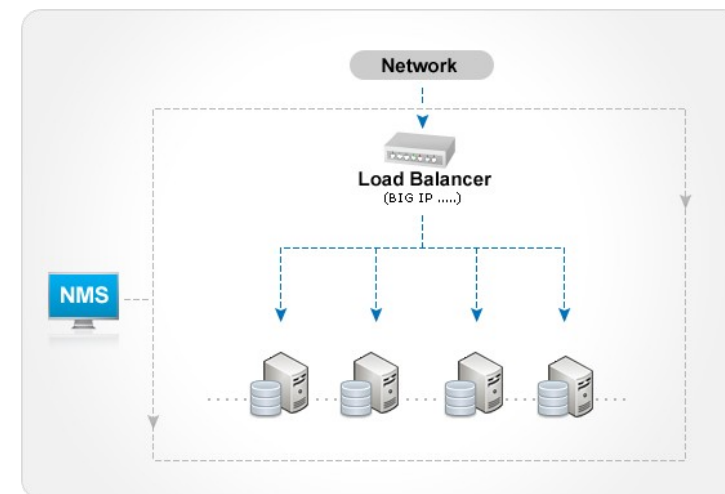- failover not (yet) perfect
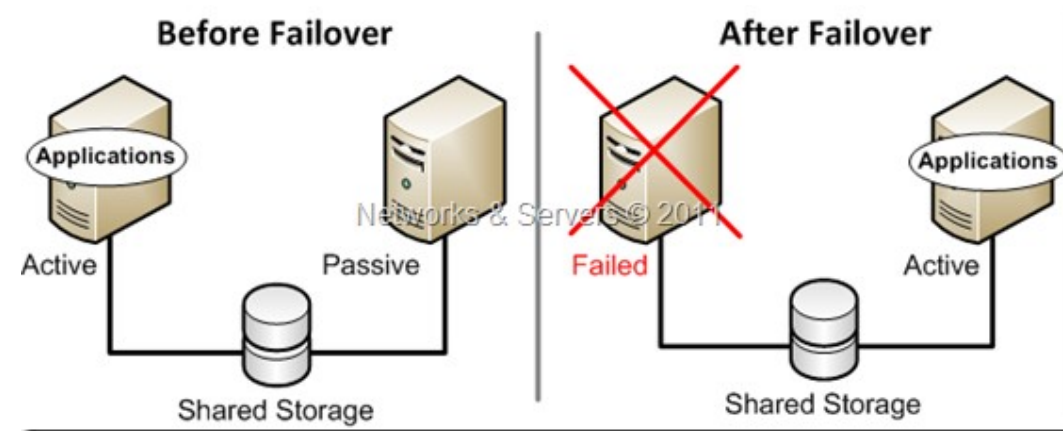
IDserver

- active / standby
- db on central storage

automatic location

- active / active
- migrate service IP

webserver

- parallel systems behind loadbalancer

- macOS not compatible with ISO 27001
- good computer running Linux too Noisy

- workstation in datacenter
- graphics via KVM

:-(old mac still faster with dbpick – decrease db size

:-) RedHat supported, graphics card supported

GeoSphere Austria

internal data acqusition	vseisaq1/2
ringbuffer	vgeoorb1/2
data exchange / dmz daq	vdaux1/2/3
CTBT	vctbtxa/b
autom processing	vgeoseis1/2
test	vseis-test
development	vseis-dev
QC	vseisqc
Website	vbebenkarte
Wiki/Intranet	vgeowiki
„private" website	geoweb1/2 – F5
test	vweb-test
development	vweb-dev
antelope for website	vdante
shakemaps	vgeoshake
test	vshake-test
development	vshake-dev

share for Antelope software
share for waveforms – working copy (a few days only)
share for waveform archive

Questions?

Seismological Service
Nikolaus Horn
nikolaus.horn@geosphere.at

GeoSphere Austria