



# NUC

# 06-02-2020

Kemp Yves  
Hamburg, 06-02-2020

# Containers in NAF

## Singularity

### Testsetup & results

- Low-invasive, relatively easy
- KRB/AFS aware without extra work
- Successful tests by NUC members and 'real' users
- Positive feedback
- GRID SL6 images provided by VO's in CVMFS work flawlessly
- Syntax:
  - +MySingularityImage = "/path/cms:rhel6"
  - Individual options could be added (?)

### Details and questions

- SL6 image size ~1gb
- Dedicated images for 'one binary' would be smaller
- IT will not provide images of any kind
- "End of SL6 problem" solved ?
- What is the opinion on future usage of more individualized containers published by the Vos ?
- If in the short future every job comes with an individual singularity image the administrative overhead per job would rise significantly

# Containers in NAF

## Current usage

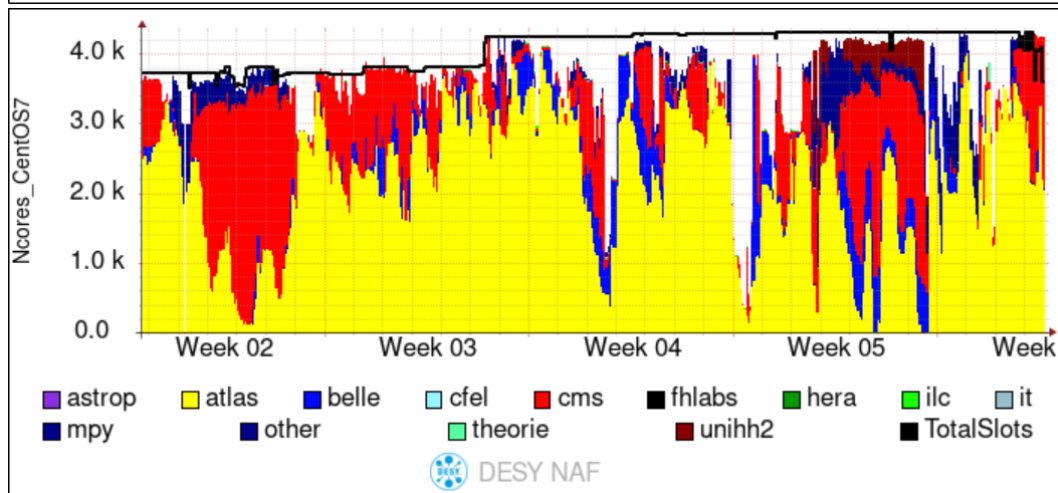
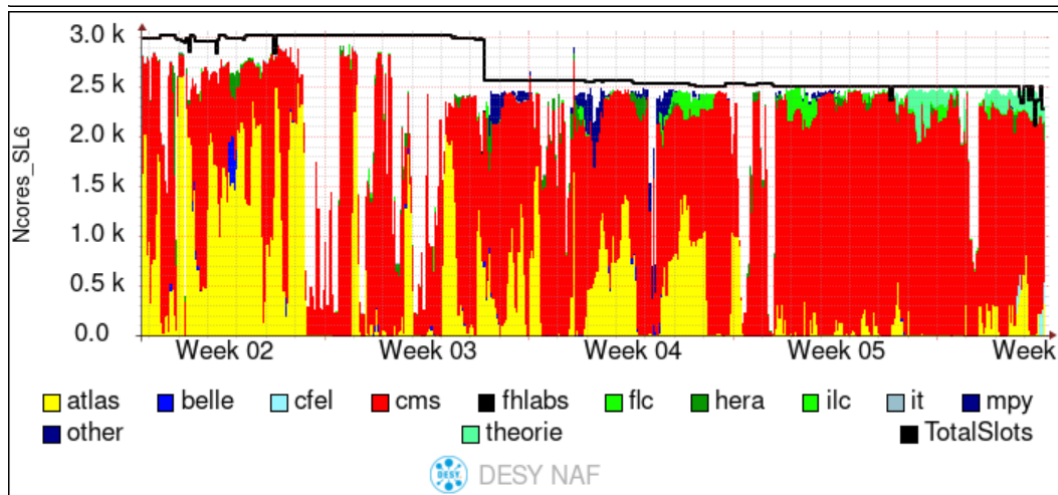
**Since 2/4 03:26 (beginning of actual history file)**

- 29.606 /cvmfs/grid.desy.de/container/sl6
- 13.008 /cvmfs/singularity.opensciencegrid.org/cmssw/cms:rhel6
- 16.235 /nfs/dust/cms/user/swieland/slc6\_latest.sif

# Migration SL6 → EL7

## Progress

- Migrating in steps of ~ 400 cores
- Last step mid January
- Currently balanced usage of both OS's (atlas switching between both)
- New hardware will be EL7, decommissioning of equal number of SL6 cores planned
- Currently no explicit requests for more EL7 nodes



# Recent changes

## And future topics

- SL6 is no longer 'default' - The OS version of the submit host now defines the OS version requested by the Job
- Change of behaviour announced through mailinglist, no feedback and not a single ticket about this → seems to be logic behaviour
- CMS dcache needs to be upgrade sometimes in the first half of this year, no definite date so far
- New GANESHA version from IBM (bugfix release of last version) rollout on monday on a couple of nodes
- Network/firewall changes on next slide :)



# Network changes

## DMZ with white-listed connections

### Change in network for WGS

- Machines with ssh port opening must be moved to another firewall segment
  - all NAF WGS (and some Maxwell WGS, and Jupyter, ...)
- Why? For security reasons, these machines should be placed into a DMZ, with only white-listed connections to the DESY internal network

### Three phases:

- **Phase one**
  - Change the firewall config: ~10s network outage. Date to be fixed
  - After this, firewall is on log-only mode (no blocking!)
  - This phase will go on for at least 3 month, maybe more

# Network changes ct'd

## DMZ with white-listed connections

- Also performance test for the firewall (which should be up to the task, but you never know)
- **Phase two**
  - analyse the logs, deduct traffic pattern.
  - **Categories to be expected:**
    - Known pattern, and meaningful (e.g. NFS traffic to DUST or dCache)
    - Unknown pattern, but meaningful, maybe after check-back with users (e.g. connection to some job database run by a group within the DESY internal network)
    - Unknown pattern, und not meaningful (e.g. connection \*from\* a WGS \*to\* desktop machines, connection to specially secured networks in DESY, ...)
  - Discuss traffic patterns with user representatives (e.g. NUC)

# Network changes ct'd

## DMZ with white-listed connections

- also check performance tests
- **Phase three**
  - Create rules based on the outcome of phase two
  - no downtime needed for this
- Date to be fixed. Maybe in March with a dCache update?