

# dCache T1 WS

Technical exchange to improve stability and  
reliability of the dCache data management  
system at  
WLCG T1 centers  
Summary report



# Are we reliable

- The GridKa on-call engineers received 43 tickets because of storage related issues since December 20: ~3 per week
- dCache T1 sites have differences
  - Number of supported experiments and size
  - Type of HSM and HW
- And similarities
  - Number of administrators
  - (Lack of) integration with experiments

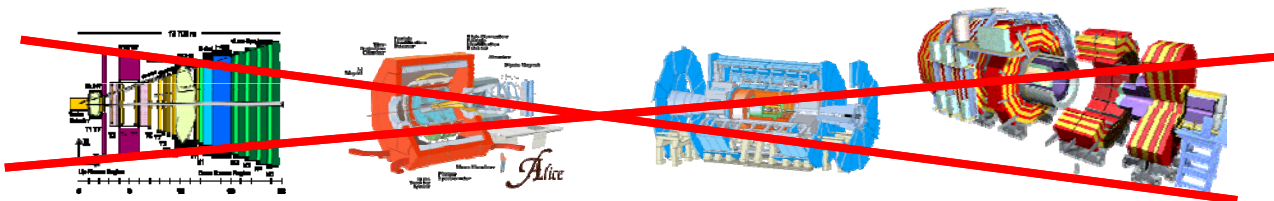


# Goal(s)

- Discuss mutual issues, practices, procedures
- Improve communication
- Meet/Unite administrators



- No interference of experiments reps. at WS



# Participants



# Sources of storage (dCache) instability

- Complexity: **not solved**
- Increasing resource footprint: **not solved**
- Databases in the line of fire: **not solved**
- Asynchronous operations: **that's gridlife**



# And of course: Bugs

- Bugs: can be solved
- Can they? Remember the famous Ed Dijkstra:  
“Testing shows the presence, not the absence of bugs”
- GridKa installed ‘emergency’ patches after almost every update



# Helpful hands and next steps

- SRM overloads
- Several design choices need revisit
- HSM: promises and expectations
  
- Workshop will have a follow-up

# Sustainability

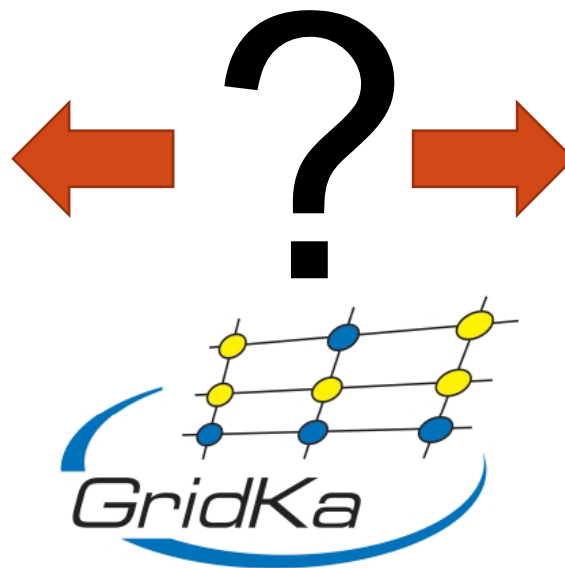
- dCache is developed by a small group
- Do T1s need/have a plan B?
- EOL will arrive for all software (except DOS)





# The TØ1 dilemma

- No place to test SW at production scale
- If put in production the impact is highest



# Slide input from dCache.org

- SRM
  - There has been an external, independent review of the dCache SRM at FERMILab. A lot of very good suggestions have been made. We will follow up on these. Please see Timur Perelmutov for details.
  - We are an active participant in a WLCG storage management working group, aiming for improved overall efficiency of SRM usage. This including changes to allow clients to behave better in overload situations and the use asynchronous SRMIs
- Chimera
  - has been demonstrated ready to be deployed in production. The NDFG Tier I successfully did the conversion last Friday. Preliminary results : Chimera seems to scale much better than PNFS. We are in the process of conducting additional benchmarks. Please find Gerd Behrmann or Mattias Wadenstein for details.
- Monitoring
  - Based on the new info service in dCache, there are multiple projects providing tighter integration between dCache and site monitoring systems (e.g. NDGF, nagios, ganglia). See Paul Miller and Gerd Behrmann
- ACL
  - will be available with 1.9.3. There will be a workshop on Chimera migration and the usage of ACL's in dCache organized by the German Storage Support group in Aachen (April 7/8). See Christopher Jung or Patrick Fuhrmann for details.

Details, minutes, names, presentations of the  
T1WS:

<http://indico.cern.ch/conferenceDisplay.py?confId=45966>

Any ?s

