

# Status & Plans KIT

## Manuel Giffels for the KIT Computing Team FIDIUM Kickoff Meeting, 16.12.2021



KIT – The Research University in the Helmholtz Association

## www.kit.edu

# **Topic 2 - "Caching" - Status**

- Deployment of XRootD proxy based caches on various compute resources based on work done at GSI (NEMO HPC, TOPAS, Open Telekom Cloud, etc.)
  - Not sufficient to study complexity of distributed coordinated caching (DCC) Decided to do simulations first
- XRootD monitoring has been developed and deployed @ KIT
  - Study cacheability of workflows
  - Collect data as input for simulations
- Started simulation of DCC
  - Cache coordination
  - Caching algorithms



### 100 Monitoring Data 80 60 at least i 20 file 10 11 12 Connection Schedule Job Queue Pool 1 Job Drone odificatior Scheduling Decision Job Pool 2 Transfe Drone Job Drone Job Look up Coordinatic nput from use HCondor Job Input Pool Input input file information original LAPIS art job in dron Caching Extension Connection with limited throughpu

### Manuel Giffels

## ETP & SCC



# **Topic 2 - "Caching" - Plans**

Work Plan (Proposal):

# Work Package 2

- Development, maintenance and extension of a caching simulator Simulation of complex systems with dynamic, distributed and coordinated
- caches

Comparison between different caching strategies

- Work Package 3
  - Integration of dynamic, distributed and coordinated caches into the compute infrastructure (Topic 1)
  - Data locality aware scheduling



# We are looking forward to a successful collaboration with all partners & associates!





