

# Computing & Software Activities at KIT

D-HEP Computing Strategy Workshop  
Manuel Giffels

Karlsruhe Institute of Technology  
Institute of Experimental Nuclear Physics & Steinbuch Center for Computing



© Courtesy Argonne National Laboratory

# Computing & Software Activities

# Computing & Software Activities

- Tracking Algorithm for Belle and LHC Phase II
  - Some master theses in the future
  - Tracking based on graph theory (Already started)

# Computing & Software Activities

## ■ Tracking Algorithm for Belle and LHC Phase II

- Some master theses in the future
- Tracking based on graph theory (Already started)

## ■ Workload Management/Data Management

- GlideIn WMS for D-CMS
  - Goal: Provide access to opportunistic resources like Freiburg HPC Cluster
  - Discussion: Provide service for D-CMS pilots to German community?
- Smart data caching on SSDs + add data locality to batch system
  - Goal: Affordable analysis cluster with high I/O (>10 MB/s/core)

# Computing & Software Activities

## ■ Tracking Algorithm for Belle and LHC Phase II

- Some master theses in the future
- Tracking based on graph theory (Already started)

## ■ Workload Management/Data Management

- GlideIn WMS for D-CMS
  - Goal: Provide access to opportunistic resources like Freiburg HPC Cluster
  - Discussion: Provide service for D-CMS pilots to German community?
- Smart data caching on SSDs + add data locality to batch system
  - Goal: Affordable analysis cluster with high I/O (>10 MB/s/core)

## ■ Data Transfer Research & Development

- LifeCycleAgent - PhEDEx test framework
- Dynamic Data Management web framework
- Further projects in the future  
(PhEDEx@Laptop, Open Source PhEDEx, ...)



# Computing & Software Activities

## ■ Tracking Algorithm for Belle and LHC Phase II

- Some master theses in the future
- Tracking based on graph theory (Already started)

## ■ Workload Management/Data Management

- GlideIn WMS for D-CMS
  - Goal: Provide access to opportunistic resources like Freiburg HPC Cluster
  - Discussion: Provide service for D-CMS pilots to German community?
- Smart data caching on SSDs + add data locality to batch system
  - Goal: Affordable analysis cluster with high I/O (>10 MB/s/core)

## ■ Data Transfer Research & Development

- LifeCycleAgent - PhEDEx test framework
- Dynamic Data Management web framework
- Further projects in the future  
(PhEDEx@Laptop, Open Source PhEDEx, ...)

High demand for R&D in computing & software, strongly depends on funding