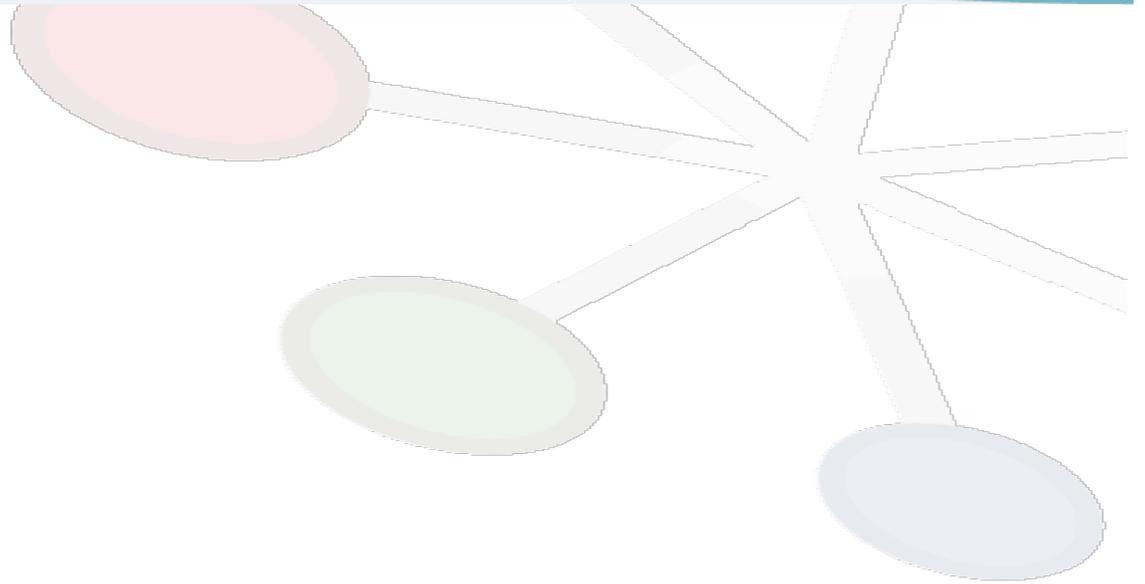


LHCb usage of Tier2s





- **Guidelines**
 - Evaluate computing needs for all activities
 - ☆ Simulation
 - ☆ Real data processing
 - ☆ Analysis
 - Map it to expected resources at Tier0, Tier1s (6) and Tier2s (including non MoU)
 - Large needs for simulation (precision experiment)
 - ☆ Use full power of Tier2s (and others) for simulation
 - Minimize potential file access problems
 - ☆ For processing and analysis
- **TDR baseline**
 - Run processing applications at Tier0/CAF and Tier1s
 - ☆ For reprocessing, largely use also the Online HLT farm
 - * Estimated ~50% of needs, but needs developments
 - Run simulation primarily at Tier2s
 - ☆ Use any opportunistic site



- **Batch analysis**
 - **Using Grid facilities at Tier0 and Tier1s**
 - ☆ All stripped DSTs available at all sites
 - ☆ MC DSTs at 3 sites (CERN + 2)
 - **Storage of output (microDST, Ntuple...) on Grid SE**
 - ☆ TxD1 storage (LHCb_USER token)
 - **Expected number of selected events is small ($<10^7$ \sim 1 TB)**
- **End user analysis**
 - **Well feasible on desktop / laptop**
 - **Assume Tier3/4: not part of Grid activities**
 - ☆ **Under institute responsibility to set up:**
 - * Storage and dataset replication
 - * Software installation
 - ☆ **Develop multi-core/processor interactive programming (GaudiParallel, in collaboration with LCG-AA/PH-SFT)**



LHCb Analysis on Tier2 ?

- First goal is to get it running reliably on Tier1s
 - Experience a lot of file access problems
 - ☆ Only 2 flavors (Castor and dCache)
 - ☆ Full time job to follow up on 7 sites
 - ☆ No central manpower for supporting more sites / flavors
- How could a Tier2 be used for analysis?
 - Grid resources are shared
 - ☆ LHCb does not want to support "national computing"
 - Our CPU requests are balanced between Tier1 and Tier2
 - ☆ Therefore analysis should come from additional resources
 - Local LHCb group(s) should be involved in the support
 - ☆ Dataset assignment
 - ☆ Problem resolution (data access, software installation...)
- Proposal
 - Investigate feasibility with a few selected sites (1-2)
 - Define a model that doesn't increase the load on central support