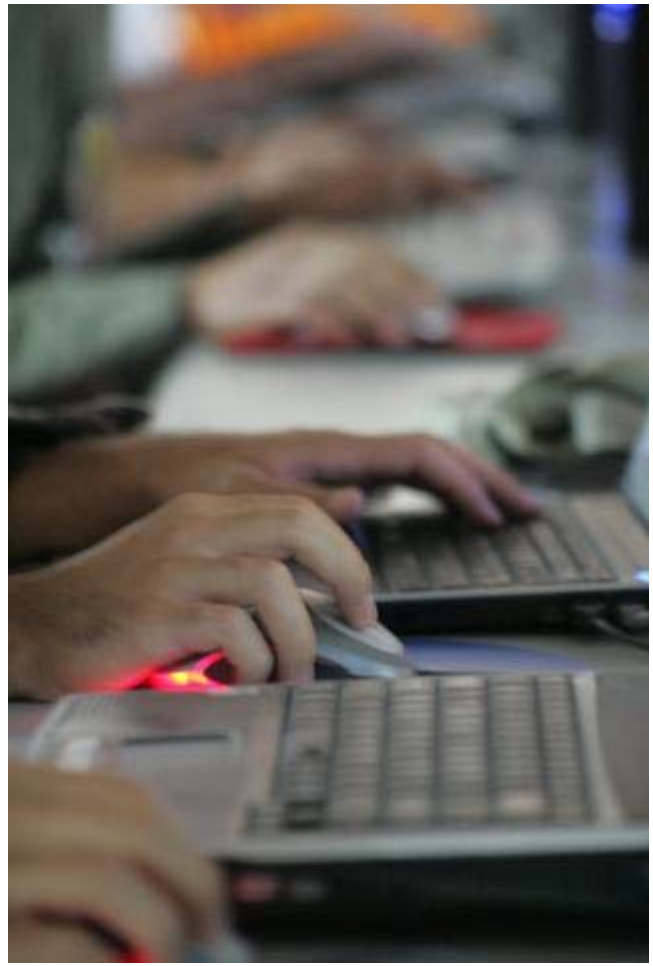
Thoughts on Data Access

- What data?
- Some numerology
- Data servers
  - Pruning
  - Peeling & Event Displays
- Tuples vs Root trees vs userAlg
- Feedback??



What Data?

- **Similar problem: accessing IA data & DC2-prep data**
  - **Merit, svac tuples – "physics", "instrument" summaries of events O(2 kB/evt)**
  - **Digi tree – structured full "raw" data**
  - **Full recon – all details stored from recons O(50 kB/evt)**
  - **MC – particle 4-vectors + detailed true energy deposits**
  - **Design point: Can remake tuples from trees**
  - **Produced in the pipeline**
  - **Catalogued in the pipeline dataset catalogue today**
    - **To be absorbed into generic catalogue shortly**
    - **Will allow 'user contributions', eg MC that Anders has been running**

Getting the Data

- **Brute force: ftp files from SLAC however you figure out what files you want**

- **Data Server:**
  - **being tested now for DC2 (included scaling tests):**
    - **Pruner for merit**
    - **Peeler returning trees**
  - **In the works:**
    - **Will have "pruner" – apply your TCut to merit && svac tuples and get back your choice of tuples & trees**
    - **Will have peeler – supply event list, then ibid**
  - **Should be able to greatly reduce filesizes that need transfer with judicious cuts**

Ways to Analyze Data

- Generally analysis is done from tuples
- Sometimes specialists are better off working with the trees
  - RootTreeAnalysis

- Tuple Analysis - TCut, TDraw, TreeViewer
  - Trivial – merit/svac tuples – use examples from Anders
  - Roll your own:
    - userAlg to add columns to merit tuple
      - Read recon trees into Gleam
      - Make use of propagator
    - Read recon trees with RootTreeAnalysis; add tuple columns or create your own tuple
      - No help with geometry
        - » Could think about detModel interface to Root
      - Slow access – suited to batch at SLAC; ftp over your new tuples

Event Displays

- **Use peeler to get full trees to download**
  - **View them with FRED**
- **For MC:**
  - **Full MC info is not kept, so beware in first method of any conclusions from the MC info**
  - **For DC2 we are instituting a 2-step process:**
    - **Source generator in step 1**
    - **Sim/recon in step 2**
    - **Run peeler to get source MC files; use standard jobOptions file to recreate event with full detail in FRED.**
- **In the works to supply web display via WIRED**