Grid Enabled ATLAS
World Wide Computing Model?

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Present

- The ATLAS Word Wide Computing „Model“ was based on the MONARC hierarchical Model
- Tier-0
  - Repository for Raw Data
  - Reconstruction
- Tier-2 Regional
  - Data Analysis
  - ESD, AOD, TAG
  - MC Production
- Tier-2 Group of Institutes or Smaller Countries
  - AOD, Tag, Small Samples of ESD
- Tier-3 Institute
  - Part of AOD
- Tier-4 User desktop
  - Tag, „N-Tuple“
Sharing of Resources

• Centres are Regional and NOT National
• Physicists from other Regions should have also Access to the Computing Resources
• Profit from GRID Middleware for
  - access control
  - priority handling
  - information on available resources
• Agreement as part of the Computing M.o.U.
• However, all Institutes have to contribute adequately to the ATLAS GRID Infrastructure and Maintenance.
ATLAS World-Wide Computing Model (Modified)
Structure

• T0 at CERN
• 6 + 1 T1 (each T1 serves ~ 200 phys. (CERN 300)
• Some T2’s part of the cloud i.e. 4 T2 play the role of 1 T1
• T1’s might be larger than seen by the collaboration (important for the cost sharing)
• Condition for being part of the „cloud“
  - > 2.5 GB connection
  - 24 h / 7 d available
  - Open to all members of the collaboration
Basis for the new calc.

- Rates, event sizes etc. as before
- Include backup for RAW at T0
- Only some fractions of the RAW send to the T1
  - Each T1 holds 1/3 of the current ESD on disk (no local backup)
  - Each T1 holds 1/6 of the prev. ESD on disk (local backup)
  - Each T1 holds all AOD, TAG etc.
- MC-Raw not collected at CERN
Next Steps

- Task Force will Summarize the Present Knowledge and the New Model => Dec. S/W week
- NCB Members are asked to investigate if there are reasons against such a model.
- Paper Should Contain (Ideas About):  
  - Comparison Old <-> New  
  - ATLAS Tier Structure  
  - Resource Sharing  
  - Cost Sharing  
  - Milestones  
  - Relation to Other Activities  
  - Discussion with Tier's involved  
  - Discussion with the other experiments
- If endorsed in December: Presentation to the Collaboration (Feb 2002)
- Test the Model (Data Challenges; GRID tests)