#### **UTA Site Report**

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2<sup>nd</sup> DOSAR Workshop UTA Mar. 30 – Mar. 31, 2006



## Introduction

- UTA has been focusing on conversion to ATLAS experiment
  - Kaushik De is co-leading development of distributed analysis framework – Panda
    - Part of ATLAS SW Tier 2 is at UTA
    - Its phase I implementation in progress
  - Jae Yu is participating in developing distributed analysis leg of panda
    - Along with distributed analysis monitoring based on MonALISA
- UTA is a member of HiPCAT, a Texan grid organization
- HEP group working with other discipline in shared use of existing computing resources, notably DPCC



## UTA Swift Farm

- Hardware capacity
  - 38 CPU's of P3 900MHz
  - Total Disk: 0.5TB
  - Memory: 250MBytes/cpu
- Produced and delivered over 4 million events 2003 present
- This farm has retired from the participating in active production
  - Turned to a test farm



# UTA DPCC

- UTA HEP-CSE + UTSW Medical joint project
- NSF MRI supported
- Hardware Capacity
  - Linux system
    - 197 CPU's of mixture of P4 Xeon 2.4 2.6 GHz
    - Total disk: 76.2TB
    - Total Memory: 1GB/CPU
    - Network bandwidth: 68Gb/sec
    - Additional equipment will be purchased (about 2 more racks)
  - 3 IBM PS157 Series Shared Memory system
    - 8 1.5GHz Power5 processors
    - 32 GB RAM
    - 6 140GB Internal Disk drives
    - 1 2Gb fibre Channel Adapter
    - 2 Gigabit Ethernet Nics



## UTA DPCC

- Participated strongly on DØ and ATLAS MC production as well as DØ data reprocessing
  - Other disciplines also use this facility
    - Biology, Geology, UTSW medical, etc
- Converted over for more focused ATLAS tasks
- Will use opportunistic computing tactics for DØ and other Tasks



### ATLAS SW Tier 2

- Joint effort between (UTA, OU, LU and UNM)
- Two locations: at UTACC Phase I and at CPB



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## Network Capacity

- Had DS3 (44.7MBits/sec) till late 2004
- Increased to OC3 (155 MBits/s) early 2005
- Now at OC12
- Expected to be connected to NLR (10GB/s) through LEARN soon (<u>http://www.tx-learn.org/</u>)
  - \$9.8M (\$7.3M for optical fiber network) state of Texas funds approved in Sept. 2004
  - Initial implementation completed



## Software Development Activities

- Initial effort put in for DIAL, interactive distributed analysis system
- MonALISA based ATLAS distributed analysis
  monitoring
  - The feasibility has been investigated
  - Scalability has been tested within the UTA domain
    - Mariam John will cover the details
- We are hiring a postdoc/software specialist to focus on development of the distributed analysis system
  - Will work closely with the Panda team



## CSE Student Exchange Program

- Joint effort between HEP and CSE
  - David Levine is the primary contact at CSE
- Two CSE MS Students each have worked in SAM-Grid team
  - Five generations of the student
  - PPDG project ending
- New program with BNL being implemented
  - First set of the students will begin this summer
  - Two CSE MS or UTA Honor College Seniors
  - Will participate in ATLAS distributed computing projects
  - Write theses for documentation



## Physics Analyses

- Higgs search JY
  - One Ph.D. Student already resident at CERN
  - Participating in e-ID development using H-matrix technique
    - Can use DOSAR resources
- SUSY search KD and AW
  - One other Ph.D. student is getting ready to go to CERN
- Diffractive physics and QCD AB
  - Working with ATLAS for detectors and physics



## Conclusions

- UTA's initial transition from DØ to ATLAS has been successfully completed
- ATLAS distributed analysis and development work started
- Physics analysis also picking up speed
- The new network capacity (hope to be in place in the next 2 years) of 10GB/s will give a big boost
- Our activities naturally integrates into the role of DOSAR

