

# Tier 3 Meeting Goals and description of Types of Tier 3's

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# Goals for this Meeting

- Present the types of Tier 3's and show existing solutions
- Present the issues for Tier 3
  - Some of the issues should become fairly clear during the course of the meeting.
- Listen to those people attending the meeting understand your issues
  - Please speak up – your input is important
- Develop a plan (short and longer term)
  - Action items will be presented in close out tomorrow

# Types of Tier 3's

- Tier 3 gs (grid services)
  - Same services as Tier 2 - Can accept Panda jobs (not covered in the meeting)
- Tier 3 w (workstation)
  - Interactive workstation with Atlas Software
    - Atlas code on machine or served from local NFS fileserver
  - No batch system
  - Can submit Pathena or Prun grid jobs
  - All Atlas data retrieved using client tools (dq2-get)
  - Asoka De Silva (TRIUMF) will show how virtual machines can be used (Vmplayer required)

# Tier3 AF (Analysis Facility)

- Two sites have expressed interest and are setting up prototypes (very advanced ones)
  - BNL - interactive nodes , Batch Cluster & Proof Cluster
  - SLAC – interactive nodes & Batch Cluster
- In Tier 3 AF – University Groups can contribute funds
  - Groups granted priority “access” to resources they purchased
  - Purchase batch slots (Costs are reasonable – or so I am told)
  - Rest of Atlas can use the resources when not in use by owners
  - Model has worked well for the CDF experiment at FNAL
- Tier 3 AF open to all Atlas users with an account

# Tier 3 AF(cont)

- Tier 3 Analysis Facilities provide:
  - Excellent access to data at the site (Tier 1 or Tier 2)
  - Excellent database support
    - (Tier 3 will not necessarily have good DB access)
  - Augments the University campus based Tier 3
    - Not a replacement for the campus based Tier 3
- Tier 3 AF still not officially sanctioned by US Atlas and Atlas management
  - Tier3 AF's are a good idea
  - Make your views known to them
- Additional details and further discussions during BNL Jamboree – June 15-June 18

# Tier 3 G

*(expect to be most common Tier 3)*

- Interactive nodes
- Can submit grid jobs.
- Batch system w/ worker nodes
- Atlas Code available ( at least kit releases)
- Client tools used for fetch data (dq2-ls, dq2-get)
  - Talk on Tuesday about grid tools
- Storage can be one of two types (sites can have both)
  - Located on the worker nodes
    - Bare disks on workers – ANL PC Farm
    - XROOTD
  - Located in dedicated file servers (NFS/ XROOTD)
- Several talks from groups with existing Tier 3 g clusters.

# Tier 3 issues

- Monitoring of Data storage
  - Tier 3's will have finite amount of storage - Storage will be like a cache – Need to monitor data usage patterns to determine Data longevity at site. (clean up old data)
  - Storage system performance monitoring
- Data Access ( how get the data to your site)
  - Some Tier 3's use site services at a nearby Tier 2  
(there will be talks on this subject today)
  - Tomorrow there will be talk on Site services in a virtual machine
- Database Access at Tier 3's (see IU talk)

# Tier 3 issues (cont)

- Networking
  - We often take networking for granted – yet it needs to be optimized for efficient transfers. - implies interaction with Campus Network admin.
  - Internet 2 has agreed to help us (Thanks!)
  - Talk tomorrow on Networking for Tier 3's
- Support
  - (goal – maintain a Tier 3 w/ < 0.25 FTE Postdoc/grad stud.)
  - (less than 1 week Full time to setup a Tier 3)
  - OSG would like to help - see talk tomorrow
  - Atlas Canada - will explain how they solve the problem



# Plans/Conclusion

- We hope that you will find this meeting useful
- your feedback is needed to understand the issues
- Need solutions that we all can use with some standardization
- This meeting is the start of the process
- Tier 3's are important to Atlas. So let's all make them work.
- Thanks for coming