

NuComp Turns One

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NuComp Steering Meeting



Joint Computing for Neutrino Experiments Workshop (March 12-13, 2009)

- Purpose: bring present and future neutrino experiments at Fermilab together to share information on infrastructure and offline computing.
- Format: reports from experiments interleaved with overviews of specific topics by experts from the Computing Division.
- There were approximately 50 participants, including representatives from the experiments and CD.
- The experiments represented were Minos, MiniBooNE, SciBooNE, MINERvA, NOvA, Argoneut, MicroBooNE, Mu to e, and Daya Bay (and a guest from LBNE).
- The CD services represented included SAM, Networking, Mass storage, and Central disk storage, Experiment Facilities, Central Facilities, Grid and Databases.
- The full agenda and presentations are available at the following url:
<http://indico.fnal.gov/conferenceOtherViews.py?view=standard&confId=2414>

Significant Issues List (1/3)

Then

- Concern over support for tools like SoftRelTools and UPS/UPD. Are there alternatives?
- CD supported database technologies
- Lead times for procuring and commissioning hardware like CPU, disk storage, ...
- Service Levels: CD always provides 9-5 x 5, but for special circumstances can provide extended service levels to 9-5 x 7, or 24/7.

Now

- Some groups are using CMT. Alternatives are being explored in ADSS/CET group. UPS/UPD stable.
- NOvA using PostgreSQL, MINERvA transitioned to CD supported FNALMYSQLPRD. Oracle COOL instance available for MINARvA. NOvA using PostgreSQL
- Working to improve planning to accommodate.
- 9(8)-5 x 7 requires 24/7 hardware maint. contracts, redundancy needs to be built in.

Significant Issues List (2/3)

Then

- Shared analysis cluster for all Neutrino groups:
 - Batch system
 - Environment setups
 - Resource partitioning
- Support for desktop cluster machines
- Small file (<~1GB) archiving to Enstore tape needs some form of concatenating and/or taring
- SAM data file catalog: Sharing backend DB. Features needed by various groups.

Now

- Experience w/ IF cluster valuable. Expect new cluster in May/June (report today)
- Not resolved for MINERvA. Follow MINOS model no official desktop support needed.
- MINERvA has procedures, plan to share w/ NOvA.
- Each group will have their own instances, but on shared server hardware.

Significant Issues List (3/3)

Then

- Sharing database services by all Neutrino groups (calibration, construction, ...) .
- The relative use of dCache vs. BlueArc storage
- Common neutrino CVS repository in which shared code

Now

- Fnalmysqlprod/dev for small applications. Still under review, need to understand loads better.
- BlueArc is favored.
- NuSoft cvs established. Also SVN and GIT repositories enabled with web-based Redmine UI.

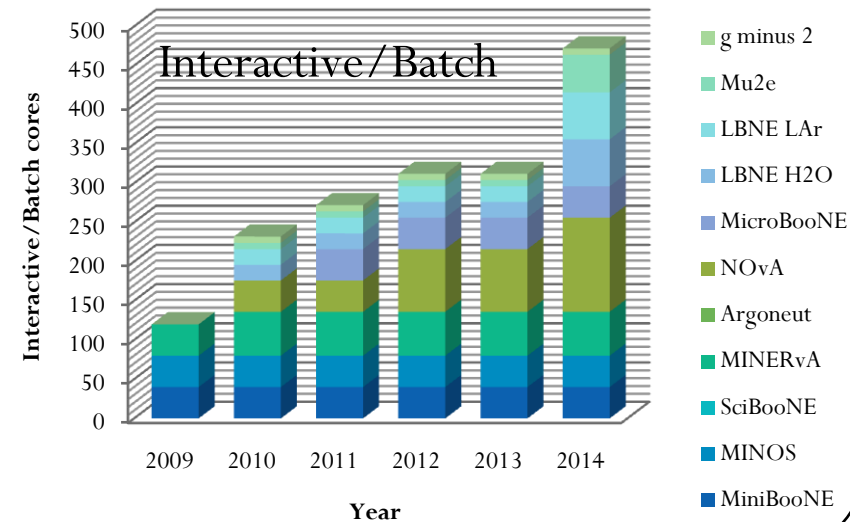
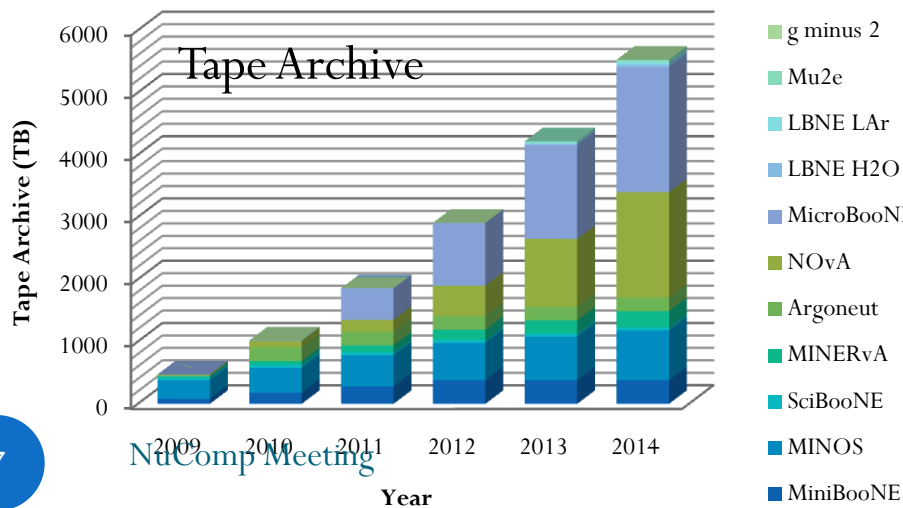
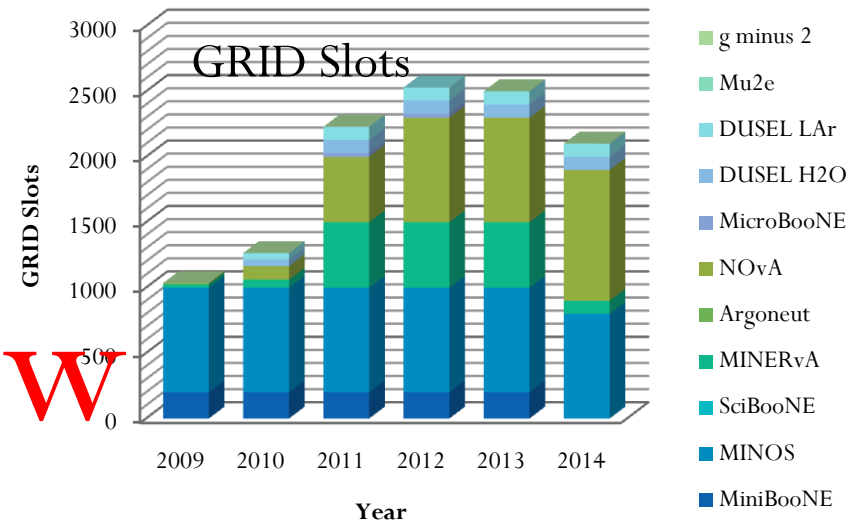
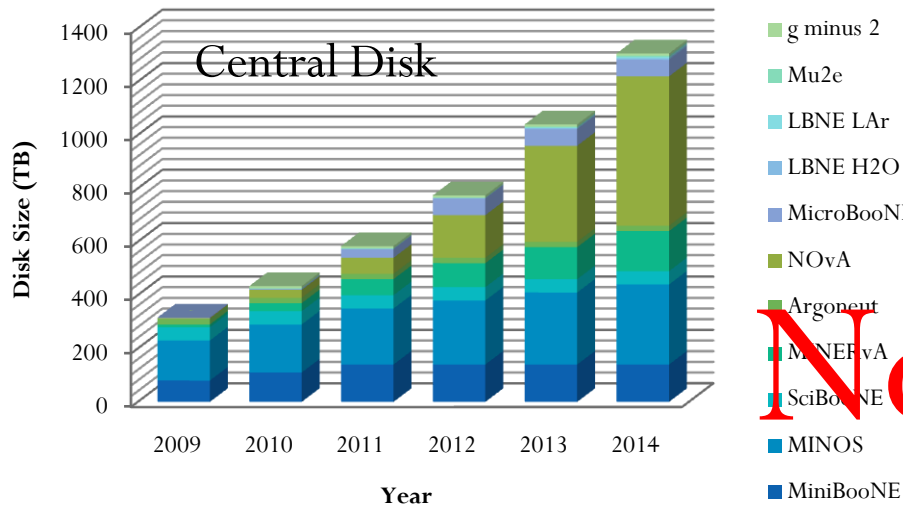
Resource Requests FY09 (FY10)

Resource/ Exp.	Interactive CPU	GRID CPU	Disk Storage (BlueArc)	Disk Storage (afs)	Disk Storage (dCache)	Tape (Enstore)
Minos						
MiniBooNE						
SciBooNE						
NOvA						
MicroBooNE						
ArgoNeut						
Mu → e						
MINERvA	40 cores (same)	20 CPU-yrs (60 CPU-yrs)	10TB (+20TB)	100 GB (same)	10 TB (+10 TB)	

Then

Computing Resource Projections

Used for FY2010 budget planning. Will revise and refine yearly.



Now

Conclusions and Plans

Then

- Mailing list “nucomp”
- working group to meet monthly or bi-weekly. Reps from Exp’s + CD.
 - collect requirements
 - coordinate common services
 - prepare for collective hardware purchases
 - mitigate resource contention issues
 - monitor resource usage trends
 - plan for future needs.
- Future workshop in March 2010 to get a broad view of progress and needs.

Now

- Done, also “nuspokes”
- Issues addressed
 - Needs projections
 - 2010 budget planning
 - GPCF purchase
 - BlueArc Purchase
 - Resource allocations
- For the most part, decided to use monthly meetings as mini-workshops. Joint Neutrino functions are tough.

What's Next?

- CD Budget planning for next year (FY2011) begins soon.
 - CD budgets will be submitted in May
 - Margaret is collection input from the experiments now.
 - NuComp will discuss at the April 14 meeting.
- Hope to get ahead of the needs to avoid anxieties 😊
- Working on additional manpower, and using what CD is now providing effectively.
- Several reports today on ongoing activities...
- **Announcement:** Maintenance day is tomorrow, no reboots needed. Some Fermi Grid nodes are being updated so number of slots will be smaller than usual.

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