

# NuComp News

(and FY11 Spending Plan)

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May 18, 2011

# Outline

- ▶ Maintenance day stuff
- ▶ Computing Resource Summary
- ▶ Plan for FY11 spending

# Maintenance Day:

- ▶ Tomorrow 5/19: MINOS specific work
  - ▶ Main MySQL DB will be moved back to minos-mysql2
  - ▶ Farm replica DB will be moved to minos54.
  - ▶ Upgrade minos51 and minos52 to SLF 5 (?)
- ▶ GP GRID work
  - ▶ Accessibility will be limited because half of the gatekeepers will be down.
  - ▶ These dates are currently scheduled for
    - ▶ May 24 2011 when the first rack moves to FCC2 ( which will take out gatekeepers fnpcosg1 and fnpcfg2) and
    - ▶ June 7, 2011 when the second rack moves to GCC. (which will take out gatekeeper fnpcfg1).
  - ▶ Regular grid should be subscribed to the fermigrid-announce E-mail list.
- ▶ Next Month 6/16: IF/GPCF/MINOS/MB reboots for new kernel

# IFront Computing Resource Summary

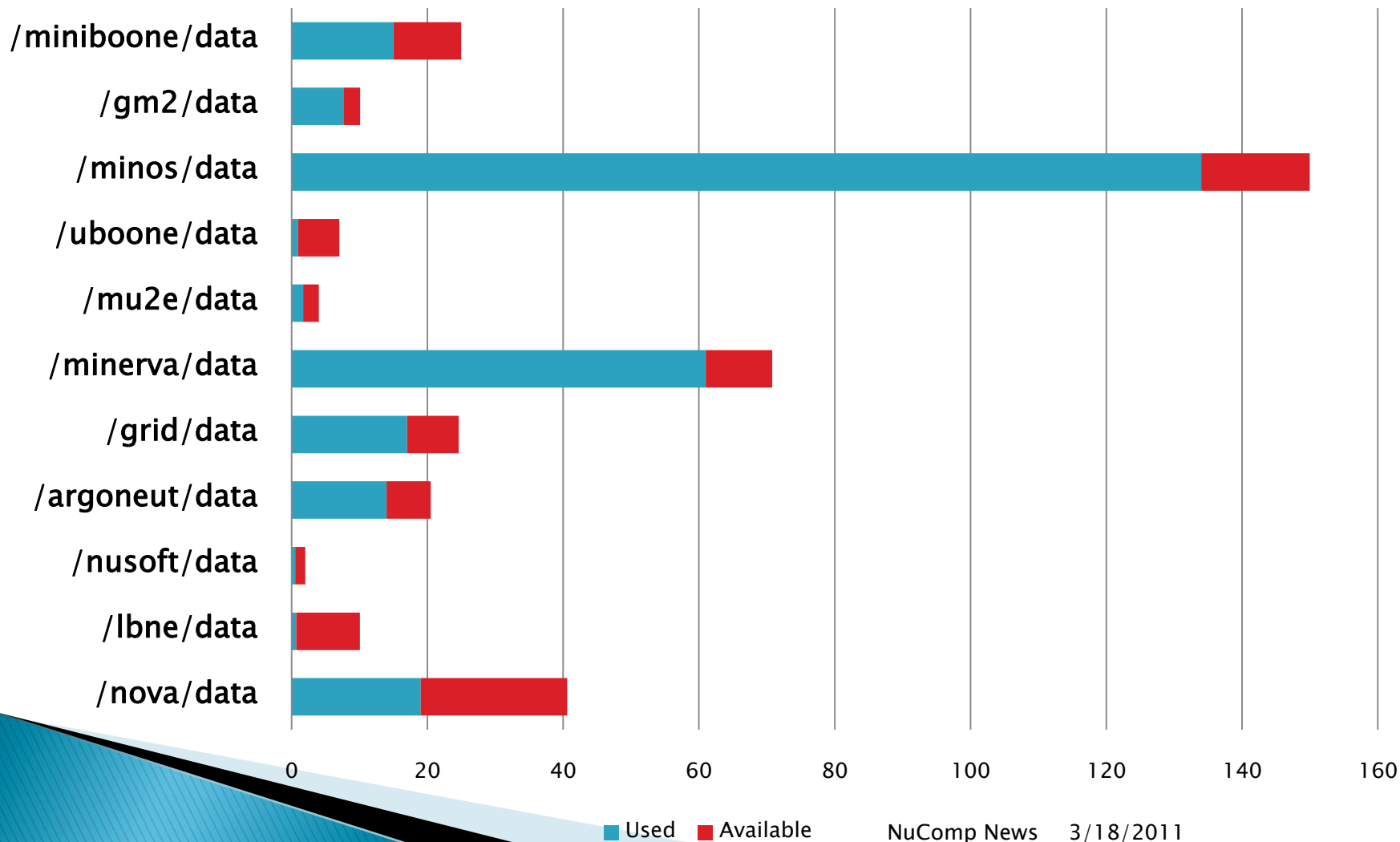
# Central Disk (BlueArc) Allocations

	2009	2010	2011 (replace)	2012 request
MiniBooNE	✓80	30	✓25 (+13)	0
MINOS	✓90	✓30	✓30 (✓30+30)	30
MINERvA	✓10	✓20	✓40	40
Argoneut	✓20	0	0	0
NOvA	✓4	✓26	✓10+✓20	100
MicroBooNE	✓2	0	✓5	30
LBNE (all)	0	✓2	✓10+✓10	0
Mu2e	0	✓2	✓2	0
g minus 2	0	0	✓10	0

✓ satisfied  
✓ in-hand

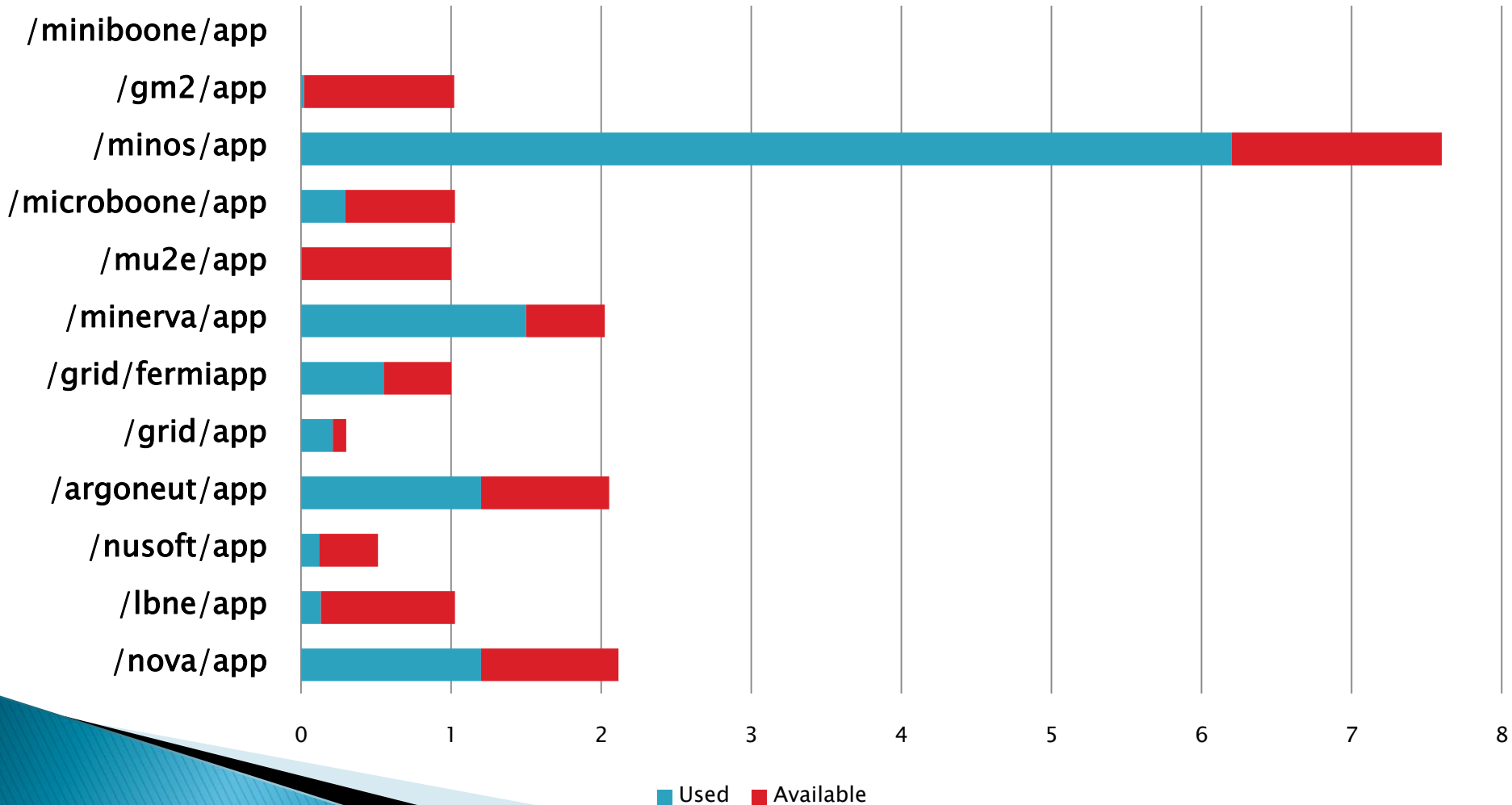
# BlueArc Data Areas

/<Exp>/data (TB)



# BlueArc App Areas

/<Exp>/app BlueArc (TB)



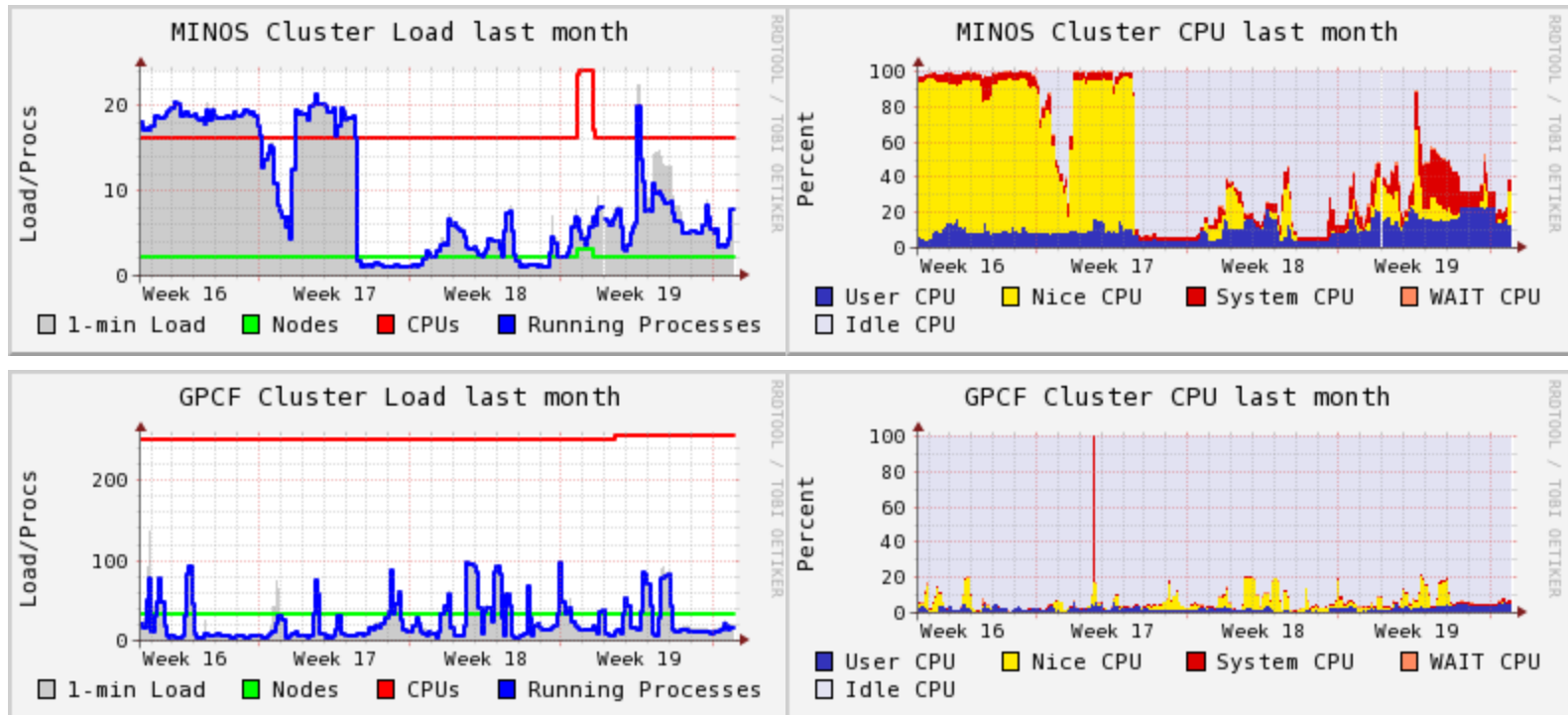
# GPCF Status

	Int. Login status	Comments	Local Batch
ArgoNeuT	1 VM ✓		Jobs submitted through gpsn01  Currently 84 job slots: 7 worker nodes with 12 slots on each (limited by memory, plan to purchase).
LBNE	2 VMs ✓		
MicroBooNE	1 VM ✓		
MINERvA	If01-if05 2 VM's ✓		
MiniBooNE	(not assigned)		
MINOS	Minos50-54 ✓ 1VM (for testing)		
Mu2e	1 VM ✓ + 1 VM (for testing)		
NOvA	5 VM's ✓ + 2 x gpcf nodes temporarily	Gpcf028+29 until VM I/O issues resolved	



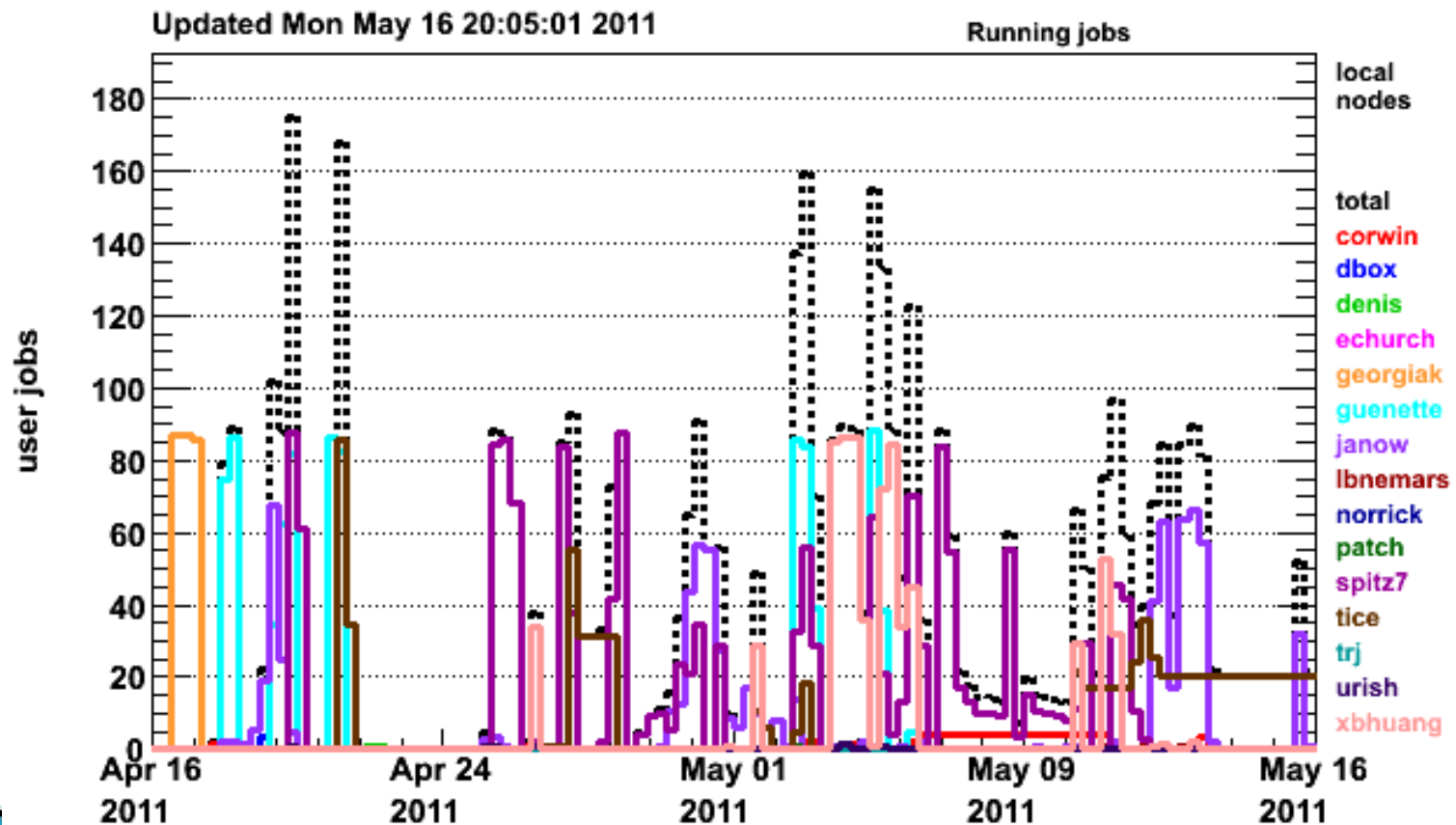
# Ganglia Stats

- ▶ Linked from [https://cdcv.s.fnal.gov/redmine/projects/ifront/wiki/Monitoring\\_Stats](https://cdcv.s.fnal.gov/redmine/projects/ifront/wiki/Monitoring_Stats)



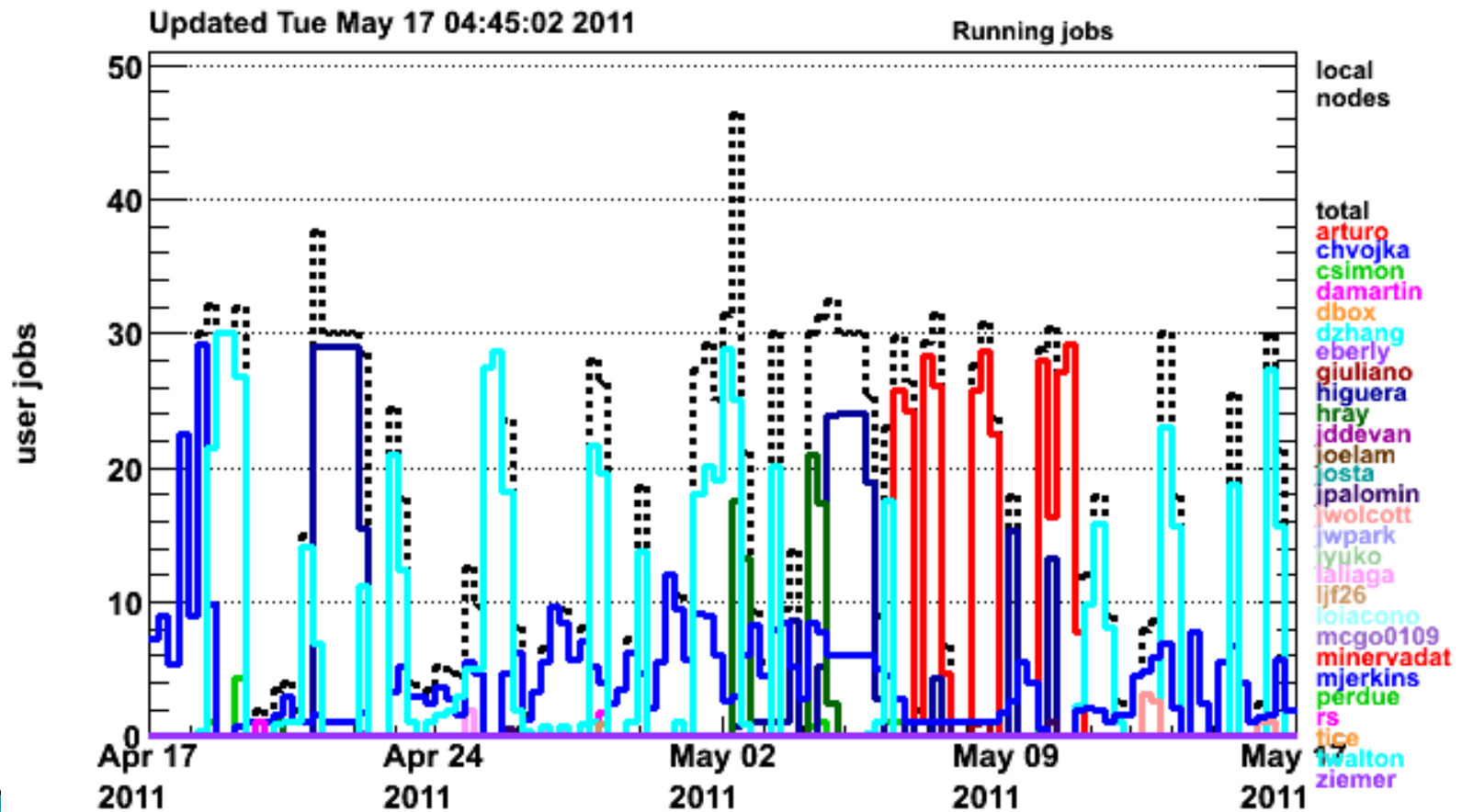
# Batch Jobs gpsn01 Cluster

- ▶ [http://gpsn01.fnal.gov/condor\\_monitor/index\\_month\\_grid.html](http://gpsn01.fnal.gov/condor_monitor/index_month_grid.html)



# Batch Jobs on if01 Cluster

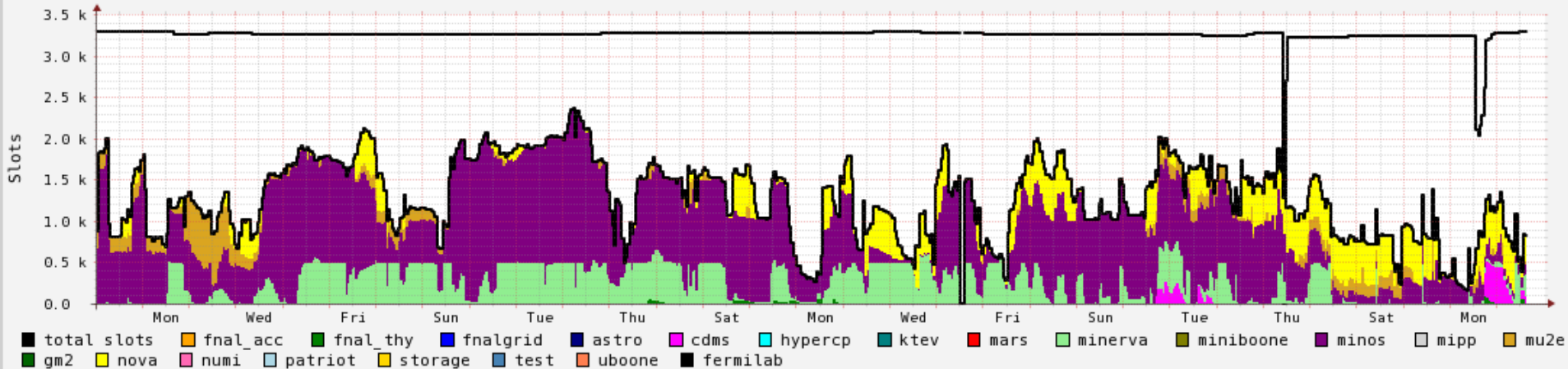
[http://if01.fnal.gov:8080/condor\\_monitoring/index\\_month\\_local.html](http://if01.fnal.gov:8080/condor_monitoring/index_month_local.html)



24 total users

# FermiGrid GP Cluster Last Month

fnpc4x2 - fermilab V0 Usage by group - Last Month



	Maximum	Average	Minimum	LastVal
total slots	3291	3248.79	2	3283
fermilab	2358	1278.87	0	814
fnal_acc	0	0.00	0	0
fnal_thy	96	2.52	0	0
fnalgrid	1	0.00	0	0
astro	0	0.00	0	0
cdms	442	11.77	0	99
hypercp	0	0.00	0	0
ktev	0	0.00	0	0
mars	0	0.00	0	0
minerva	628	246.65	0	251
miniboone	1	0.01	0	0
minos	1850	769.46	0	124
mipp	0	0.00	0	0
mu2e	626	68.36	0	30
gm2	0	0.00	0	0
nova	553	180.10	0	310
numi	0	0.00	0	0
patriot	0	0.00	0	0
storage	0	0.00	0	0
test	0	0.00	0	0
uboone	0	0.00	0	0

# Plans for FY11 Purchases

## Executive Summary

258TB BlueArc

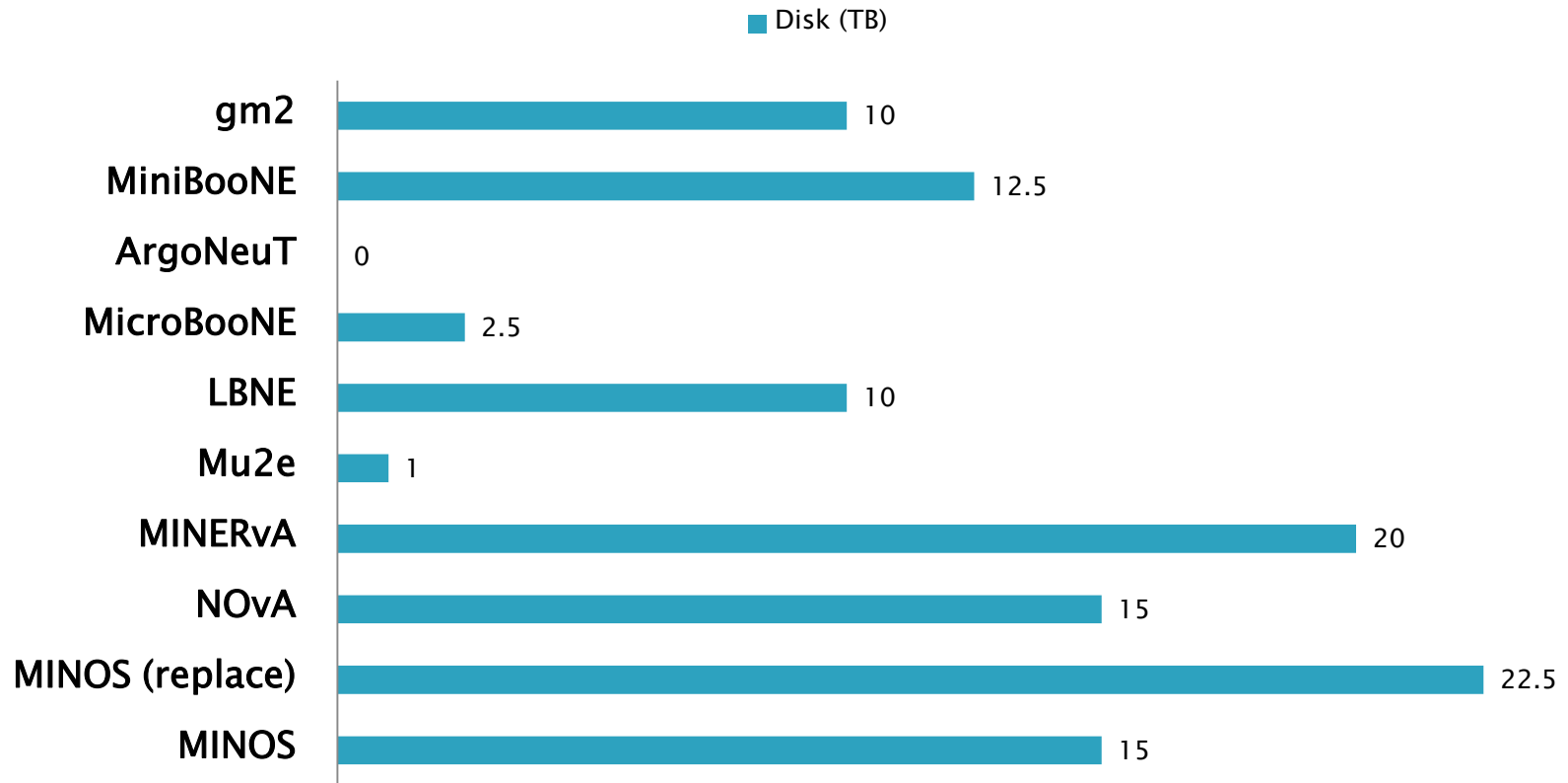
340 TB tape archive

740 GP Farm worker slots

3 DB Servers, 2 other server machines

# Disk Purchases

## FY11 BlueArc Purchases

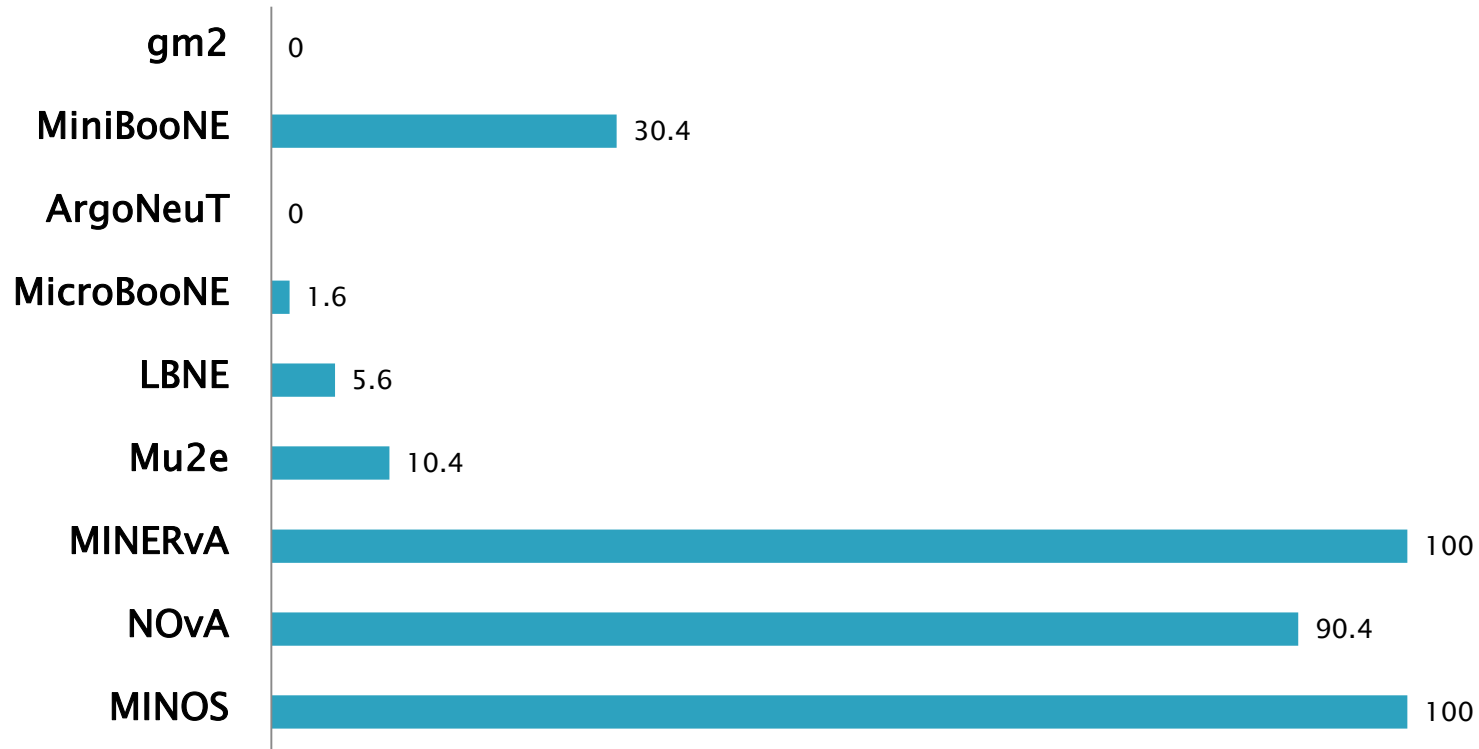


- ▶ 108 TB total “per experiment” purchases (chart)
- ▶ 150 TB additional pre-purchase for FY12

# Tape Purchases

Storage (TB)

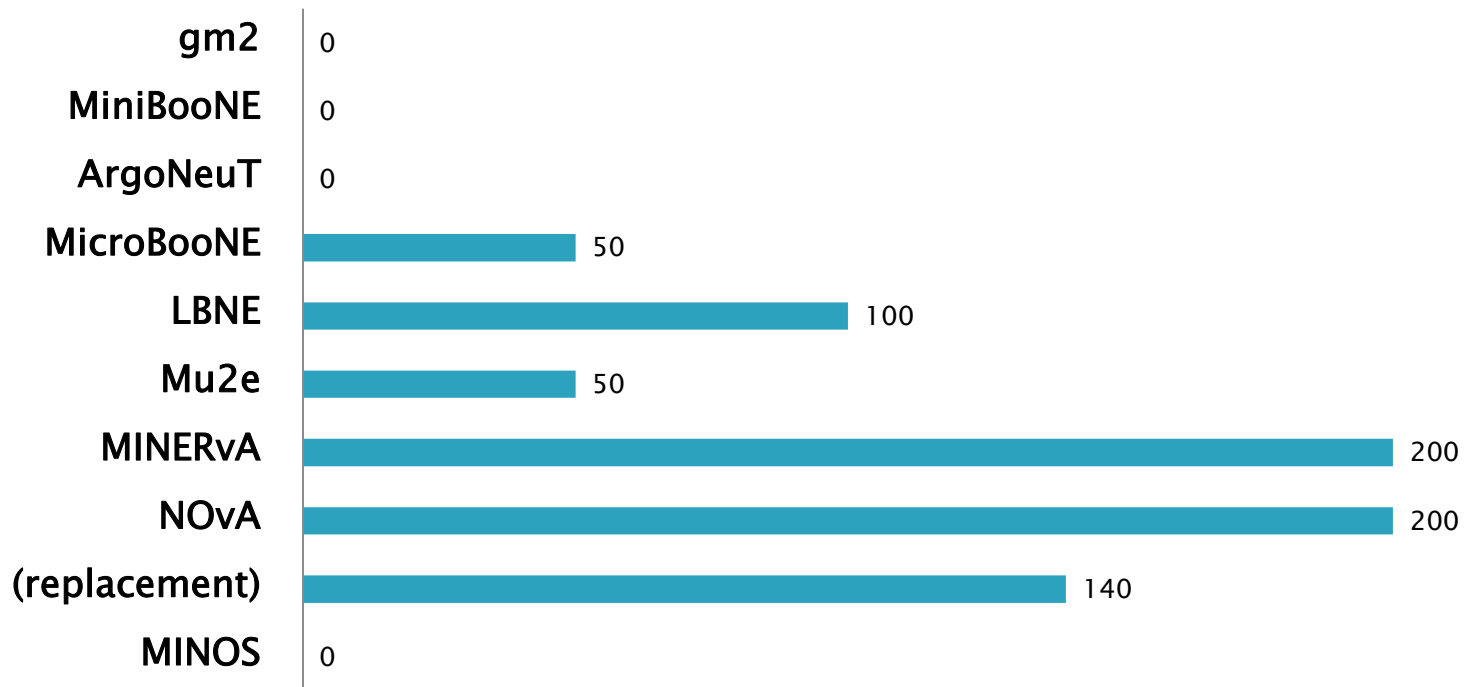
■ Storage (TB)



# GP Grid worker cores

## Grid Cores

■ Grid Cores





# GPCF

- ▶ Replace existing worker nodes (7 nodes) with “farm” type nodes. Increase number of WN’s as needed.
- ▶ Increase number of VM host nodes with existing (7 worker + 4 unused) gpcf nodes.

# Miscellaneous Servers

- ▶ **General-IF-DB server plan**
  - General purpose for conditions data, ECL, etc.
  - Three large, 16 core, 64GB Memory, 2TB data disk
    - Dev: Develop and test applications
    - Prod: Production service
    - Farm Replica: Replica for scaling to farm clients.
  - Both MySQL and PostgreSQL instances
  - Independent “clusters” for each experiment
- ▶ **MINERvA: One event display machine, one VM server.**

**finish**