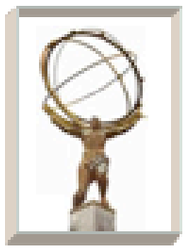
US ATLAS
OSG Activity & Plans

OSG Ops Meeting April 2, 2007

Outline

- Rather miscellaneous collection of recent slides on
  - US facilities status and plans
  - Panda status and OSG production status
  - Panda plans

Revised 2008 Capacities



- Centrally Managed

Aggregate ATLAS Capacities for 2008
(Revised LHC Schedule, etc.)

Oct '06

	CPU (MSI2K)	Disk (PB)	Tape (PB)
CERN Tier 0	3.7	0.15	2.4
CERN AF	2.1	1.0	0.4
Sum of Tier 1's	18.1	9.9	7.7
Sum of Tier 2's	17.7	7.7	-
TOTAL	41.6	18.8	10.4

- ATLAS Computing Model specifically anticipates additional locally controlled regional or national resources beyond those described above
- The US must have such additional resources
  - … in order to … maintain reasonable autonomy in analyses
    … play a leadership role in getting ATLAS physics results out
  - Scale of additional US resources set to maintain full ESD copy, support dCache operations model, and allow ~ X 2 acceleration of analysis of one 20% data stream
  - This implies an additional 50% for disk & CPU, 100% for tape (relative to per physicist centrally controlled resources) and results in ~13% Tier 1 cost increase)
  - Actual allocation of these resource will be done by US ATLAS Resource Allocation Committee

US ATLAS Capacities

- US ATLAS Required Capacity Profile
  - US requirements scaled directly to overall ATLAS projections
  - Includes internationally managed ATLAS resources and capacity retained under US ATLAS control to support US physicists as described on previous slide
  - Continued steep ramp in out years reflects cumulative need to reprocess data taken in earlier years

Total US ATLAS Target Installed Capacities

	2007	2008	2009	2010	2011
Tier 1					
CPU (kSI2k)	2,834	7,140	11,598	18,838	26,875
Disk (TB)	1,556	4,610	8,921	17,262	24,427
Tape (TB)	993	3,284	6,276	11,996	18,781
WAN	2 x _				
Tier 2					
CPU (kSI2k)	794	5,948	9,171	17,525	23,504
Disk (TB)	428	2,633	4,458	7,525	10,571

Tier 1 Utilization

- BNL Tier 1 is largest ATLAS Tier 1 and is delivering capacities consistent with this role

WLCG Accounting: ATLAS Tier-1's + CERN Apr - Oct 2006

	CPU use		disk occupancy		tape occupancy	
	KSI2K-days	% of total	TB at end of period	% of total	TB at end of period	% of total
CERN Tier-0 + CAF	95,858	28%	182	48%	469	35%
ASGC	13,413	4%	20	5%	13	1%
BNL	88,184	26%	48	13%	357	27%
CC-IN2P3	24,264	7%	15	4%	153	12%
CNAF	20,108	6%	18	5%	95	7%
FNAL	4,619	1%	-	0%	-	0%
FZK-GridKA	23,195	7%	26	7%	115	9%
NDGF	18,761	6%	28	7%	-	0%
NL LHC/Tier-1	14,574	4%	10	3%	18	1%
PIC	6,207	2%	8	2%	54	4%
RAL	27,672	8%	14	4%	54	4%
TRIUMF	1,876	1%	7	2%	-	0%
TOTAL	**338,731**	**100%**	**376**	**100%**	**1,328**	**100%**

Tier 2 Facilities

- Tier 2 Functions
  - Primary ATLAS resource for simulation
  - Primary ATLAS location for final analyses
  - Of particular interest to the US for empowering individual institutions and small groups to do relatively autonomous analyses using more directly accessible and locally managed resources
- 5 US Tier 2's
  - Boston Univ. & Harvard Univ.
  - Great Lakes (Univ. Michigan & Michigan State Univ.)
  - Midwest (Univ. of Chicago & Indiana Univ.)
  - SLAC
  - Southwest (Univ. of Texas at Arlington, Oklahoma Univ., Univ. of New Mexico, Langston Univ.)

Capacity Projections for US Tier 2's

- Totals include dedicated capacities committed to international ATLAS plus those retained under US control for US physicists
  - Capacities are ~adequate through 2009 but within the accuracy of the need and delivered capacity projections there are shortfalls beyond that point

Projected US ATLAS Tier 2 Capacities

		2007	2008	2009	2010	2011
Northeast T2	***CPU (kSI2k)***	1,020	1,410	2,350	3,290	4,700
	Disk (TB)	310	540	900	1,260	1,800
Great Lakes T2	***CPU (kSI2k)***	685	1,165	1,716	2,087	2,540
	Disk (TB)	194	403	678	886	1,142
Midwest T2	***CPU (kSI2k)***	1,032	1,390	1,222	1,578	2,231
	Disk (TB)	287	400	520	565	800
SLAC T2	***CPU (kSI2k)***	648	1,031	1,227	1,690	2,390
	Disk (TB)	193	368	562	775	1,096
Southwest T2	***CPU (kSI2k)***	1,164	1,658	2,088	2,540	3,290
	Disk (TB)	296	611	853	1,158	1,594
TOTAL US Tier 2's						
	CPU (kSI2k)	4,549	6,654	8,603	11,185	15,151
	Disk (TB)	1,280	2,322	3,513	4,644	6,432
Target Capacities						
	CPU (kSI2k)	794	5,948	9,171	17,525	23,504
	Disk (TB)	428	2,633	4,458	7,525	10,571

More development in 2007

Given the LHC/ATLAS Milestones

- This year is all about moving from development/deployment into stable and continuous operations
  - Deployment of full-scale hardware by 7/1/08
  - Still more work to do on performance
    - Did we make good choices in site architecture? Can we do better?
    - Does it all scale? >75% use of resources through Grid Interfaces
    - Data Transfer has been/is always an issue
    - Storage System performance, including demonstrating higher data-serving rates to applications

More development in 2007

Both OSG and ATLAS software and services continue to evolve

- OSG continues to develop
  - Deploy OSG 0.6.0 by 4/1 (it's out now)
  - Deploy OSG 0.8.0 by 9/15 (?)
- DDM/DQ2 - New versions being developed and deployed
- Continuing advancements of ATLAS S/W, PanDA etc.

Need to consider the impact of this evolution on our sites and Workloads. But this will have to reach a point of stability by the time data taking starts

Transition to Operations

We need to run our sites without killing ourselves! Are we prepared for that? Stability is important, maybe more than performance

- Need to define milestones for uptime, success rates as measured by Site Availability Monitoring tests and DDM data replication exercises
- Tier-2's soon to act more like the Tier-2's of the Computing Model
  - Carrying the load of production MC
  - Hosting datasets for analysis
  - Hosting the work of various analysis groups
  - Supporting "local communities"
  - The effort to produce physics results and FDR will be important tests of our readiness
- One interesting issue is how we will handle the great diversity of datasets that we will be hosting – centrally dispatched, analysis group-owned, user-owned …

Issues (1/2)

- On the Critical Path
  - While (PanDA managed) Production is coming along very nicely Data Transfer (and Storage?) and Data Replication is on the critical path
  - DDM/DQ2 vulnerable and apparently not up to the performance level required
  - Data Management and Transfers least transparent component / functionality
    - Dashboard monitoring informative to some extent but not really helpful in case of problems
      - No transfers, or slowly moving – why?
      - Trouble at source or destination?
      - Nature / reason of trouble?

➢ Very complex situation – Diagnosis almost impossible and requires expert-level knowledge in multiple areas

- Currently limited to few experts (Alexei, Kaushik, Hiro et al) – not scalable and does not allow site admins to assess how their site is doing
- Often requires access to distributed log files

Purpose and Goals (2/2)

- (Still) On the Critical Path
  - Storage Systems and Tier-1 / Tier-2 Sites
    - No technology baseline in U.S. ATLAS
    - Impact on operational readiness and interoperability unclear
    - Huge number of technical problems at all levels (FTS, DDM/DQ2, SRM/dCache)
    - Some sites are far from where they are supposed to be
      - Functionality (i.e. SRM interface)
      - Capacity

What we need / should do – A proposal

- Towards ATLAS Milestones
  - Put an Integration Program in place which aims at building the computing system we need to support LHC Analysis in the US
  - With exercises designed to verify sites' readiness, stability and performance
- Should exploit commonality and establish (technology) baseline whenever possible
  - Synergy allows to bundle resources
- Site Certification
  - Site admins will be asked to install well defined software packages and to make needed capacities available to the Collaboration
  - We will continuously run use-case oriented exercises and will document and archive the results
    - Heartbeat – Data Transfers on a basic level, e.g. SrmCopy w/ and w/o FTS
    - Dataset replication based on high-level functionality (DDM/DQ2)
    - Processing (Analysis job profile)
      - Grid Job submission (PanDA) – distribution based on data affinity
      - Local data access (from SE)
    - Monitor and archive results from exercises

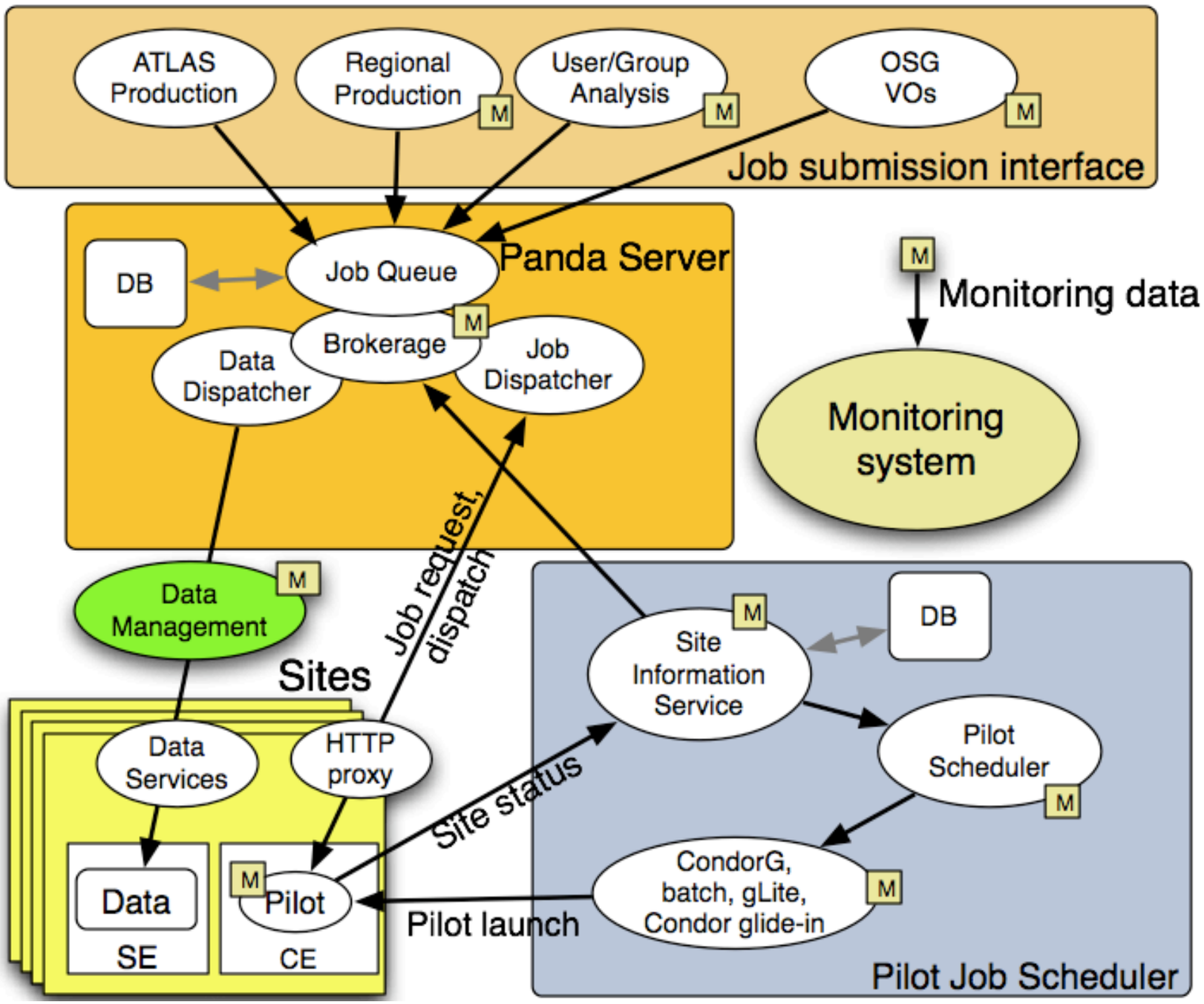
Coordination & Communication

- U.S. Production Operations and Deployment Manager
  - Coordinate Production activities on U.S ATLAS sites
  - Coordinate deployment of ATLAS Software
- Weekly Integration Meetings
  - Use Wednesday slot with activity driven agenda
    - Integration News – a summary of issues and upcoming activities
    - Reports from Production & DDM operations (technical)
    - Site issues – summaries
      - Move details to site help sessions (people call in and help with particular issues)
    - Standing items
      - Development status of tools & aids

Panda Basics

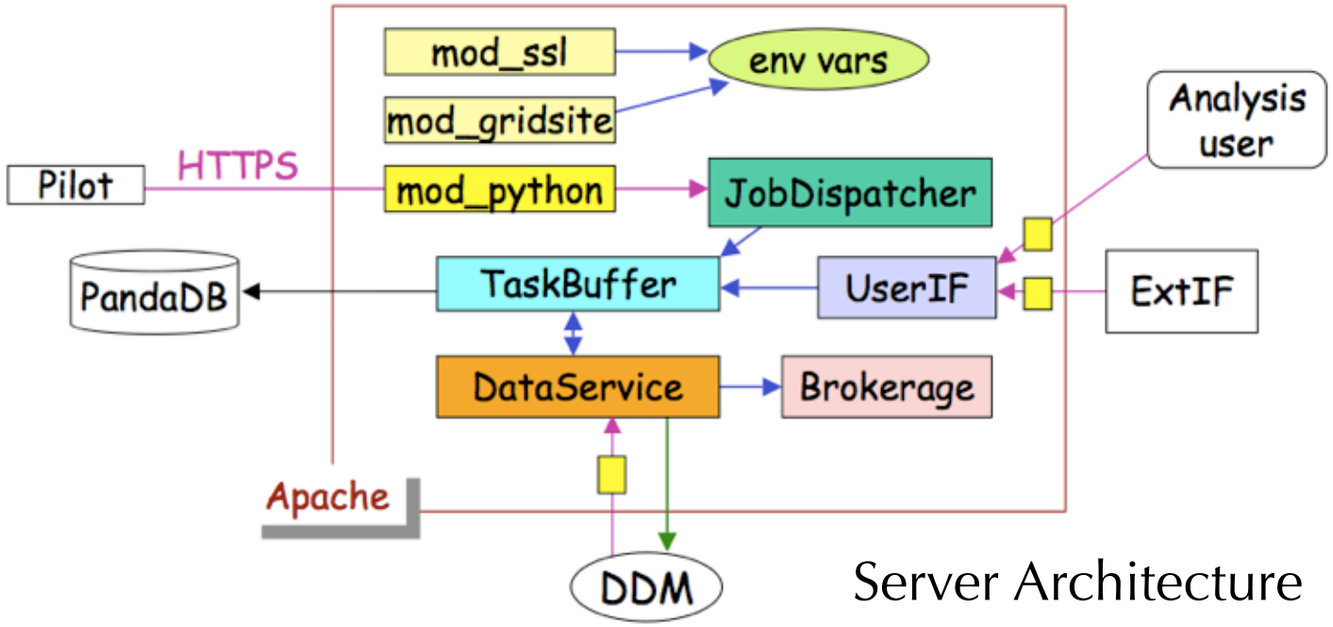
Workload management system for Production ANd Distributed Analysis

Panda team @ BNL, UT Arlington, U Chicago



- Launched 8/05 to achieve scalable data-driven workload management
  - Prototype 9/05
  - Production 12/05
- Tightly integrated with DDM
- Pilot-based 'CPU harvesting'
- Designed for analysis as well as production
- Designed for high automation, comprehensive monitoring, low ops manpower
- Cautious in its dependencies
  - Proven components
  - Support alternates, evolution

Panda Operation



Server Architecture

Panda Status Overview

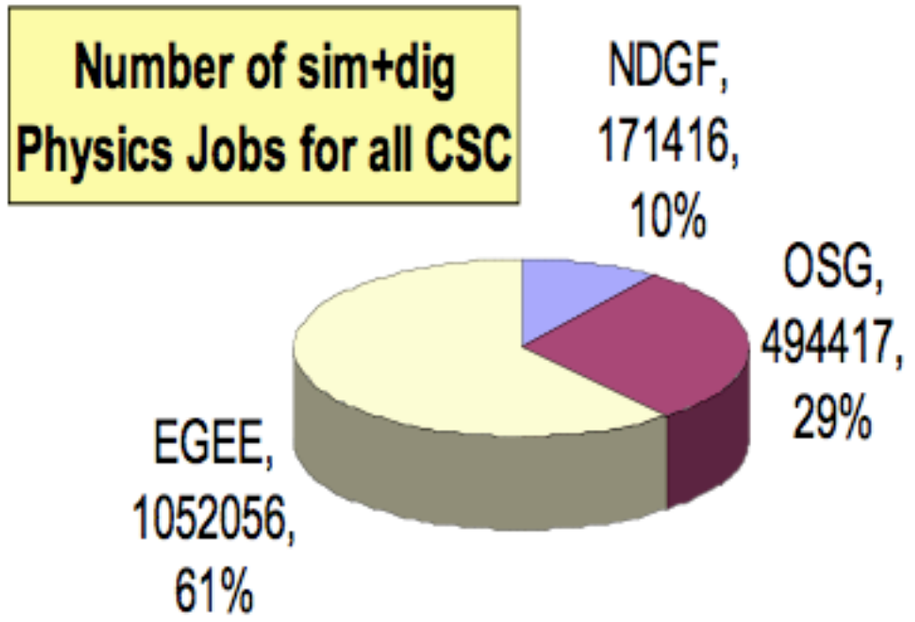
- All US ATLAS production, 29% of overall ATLAS production with Panda (50% above official US share)
  - Single shifter, spends <10% of time operating Panda (*not* a Panda expert)
  - Excellent job completion & resource utilization efficiency
    - Dividends of a year working on hardening, robustness, monitoring, automation
    - New job recovery mechanism improves efficiency further
- Distributed analysis for ATLAS, >100 users, ~50 regulars
- Extended to full LCG, OSG
  - >300 queues at >200 sites (gatekeepers), ~200 queues operational
  - ATLAS production pilot deployed, pathena operational @CERN, extending to Lyon... and anyone interested
  - New scheduler/pilot system and monitor to support scale-up
- OSG effort on 'just-in-time' workload mgmt, 2 FTEs @BNL, to integrate efforts in an OSG WMS: Generic Panda
  - ATLAS Panda, CMS glide-in factory, **Condor**
  - Integrating glide-ins in Panda, including new schedd 'pilot factory'
  - First non-ATLAS OSG Panda user in production: CHARMM

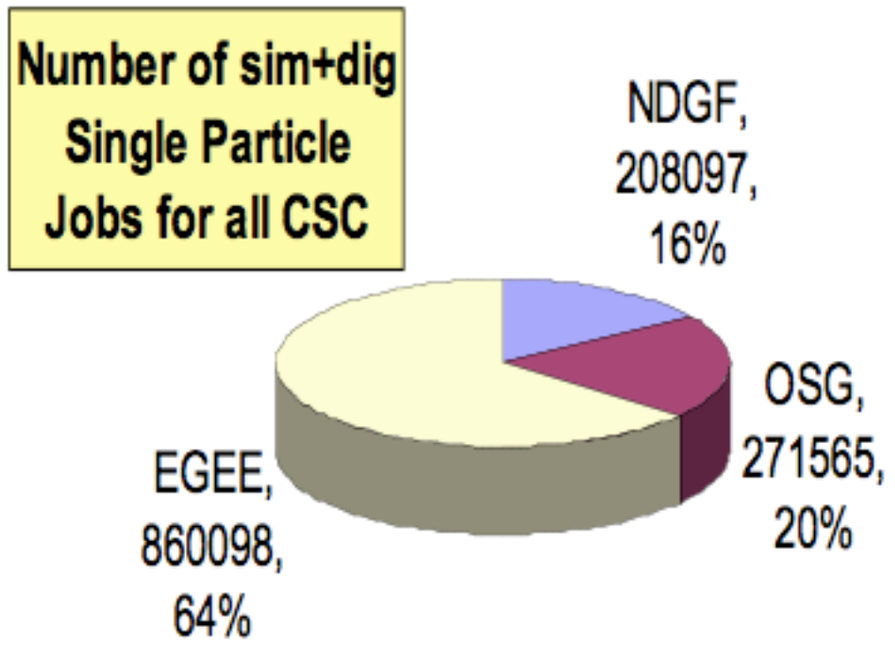
OSG Production Overview

- Production stable since last software week
  - Slowly increasing available CPU's (average ~1600 CPU's now)
  - Small team (~2 FTE) running Panda production
    - Nurcan Ozturk, Yuri Smirnov (Shift captain, phased out from taking shifts due to other responsibilities at BNL), Mark Sosebee, Barry Spurlock (new – phasing in), Tomasz Wlodek
  - Each person on shift for 2 consecutive days
  - Shift team also provides support for user analysis jobs (submitted through pathena)
  - Most of shift time is spent filing Savannah bug reports
  - Monitoring, reporting site problems … are other shift activities - everything else is automated

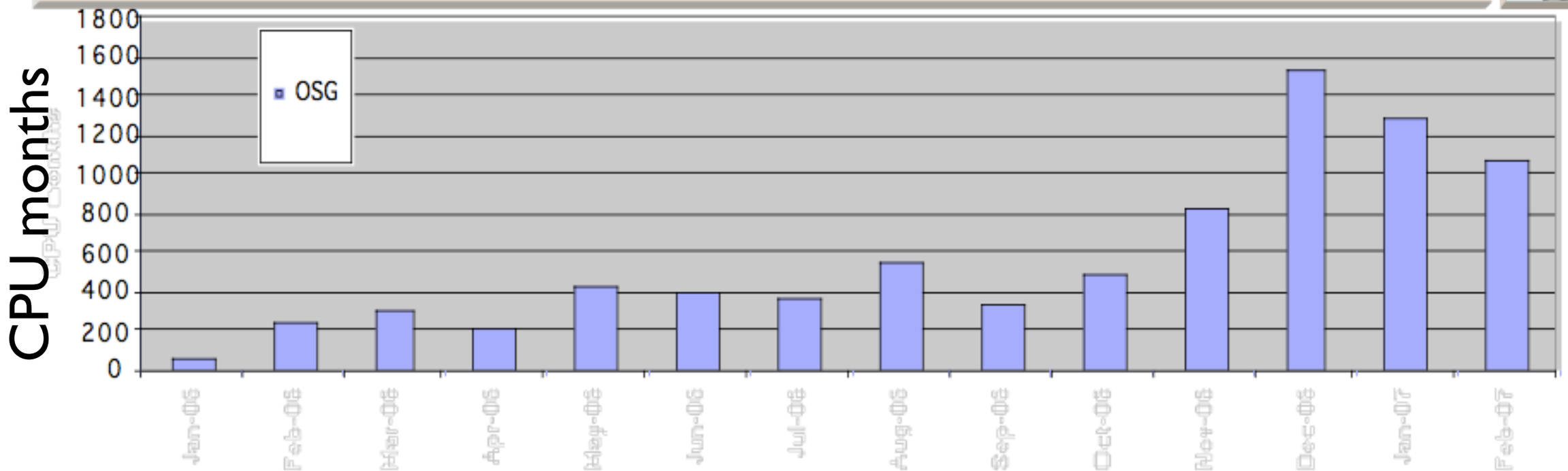
OSG Production Statistics

- OSG has successfully completed ~25M fully simulated physics events (simul+digit step) – 29% of total central production
- Also successfully completed >14M single particle events
- Since November, all available CPU's occupied (ran out of jobs only for few days, plus few days of service outages)
- About 380 TB of original data stored at BNL T1 (includes data generated on other grids)
- Additional ~100 TB of replicas kept at ATLAS Tier 2 sites on OSG

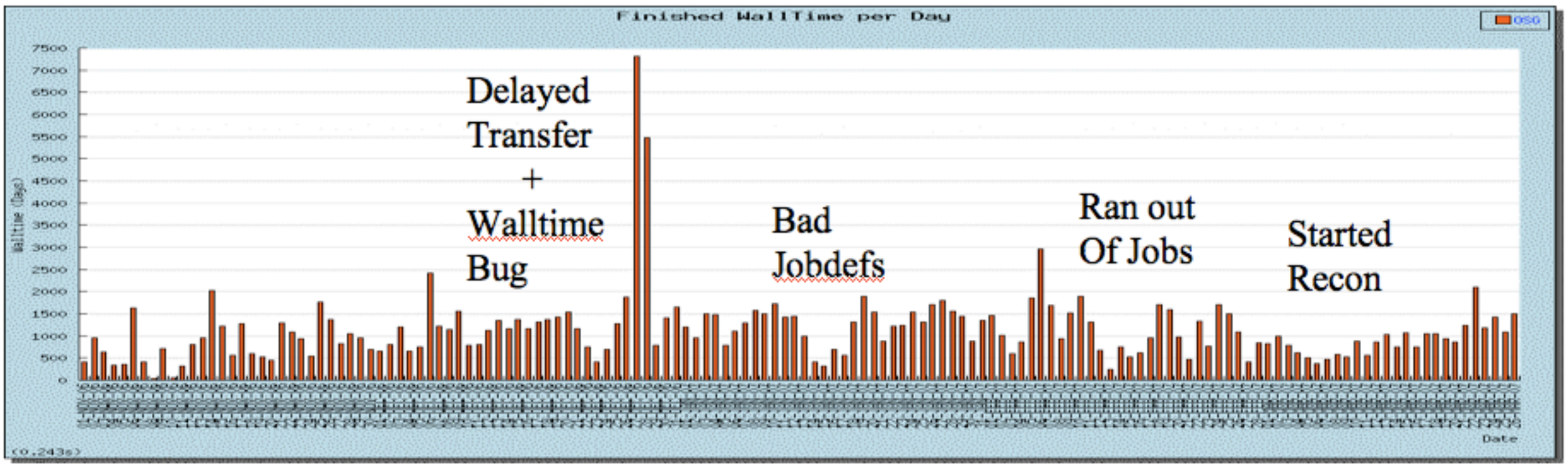




Walltime Usage - Successful Jobs

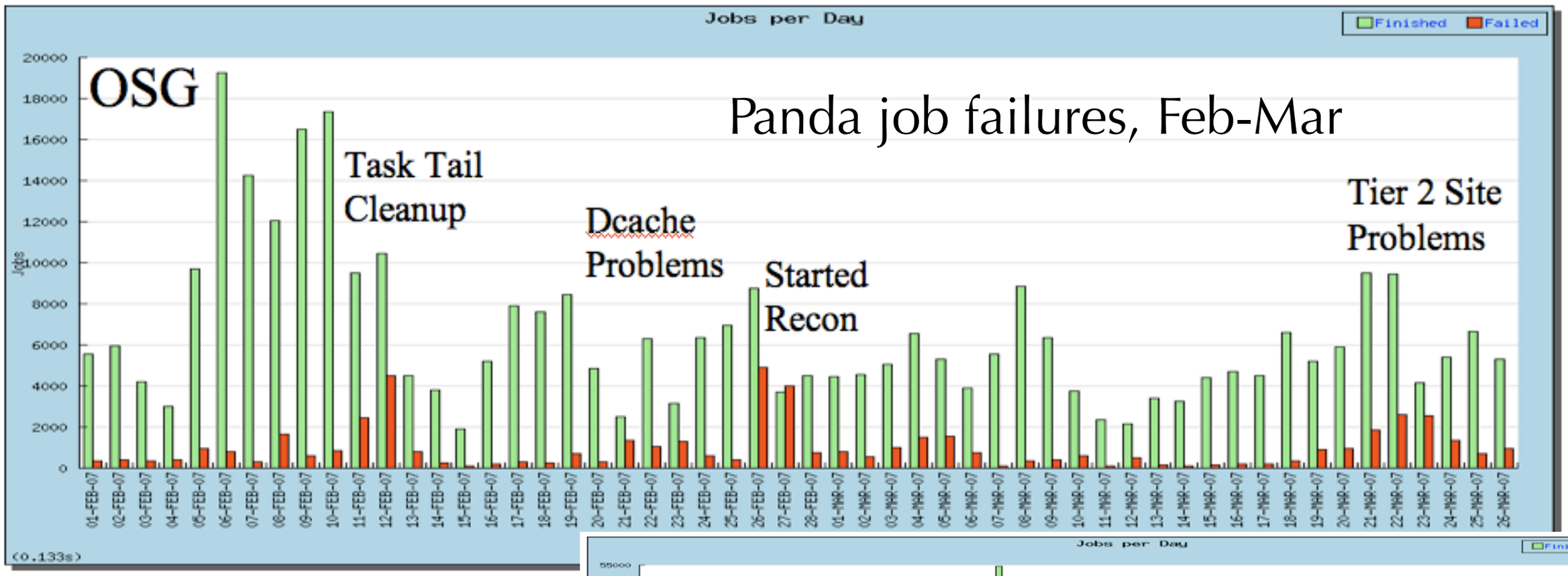


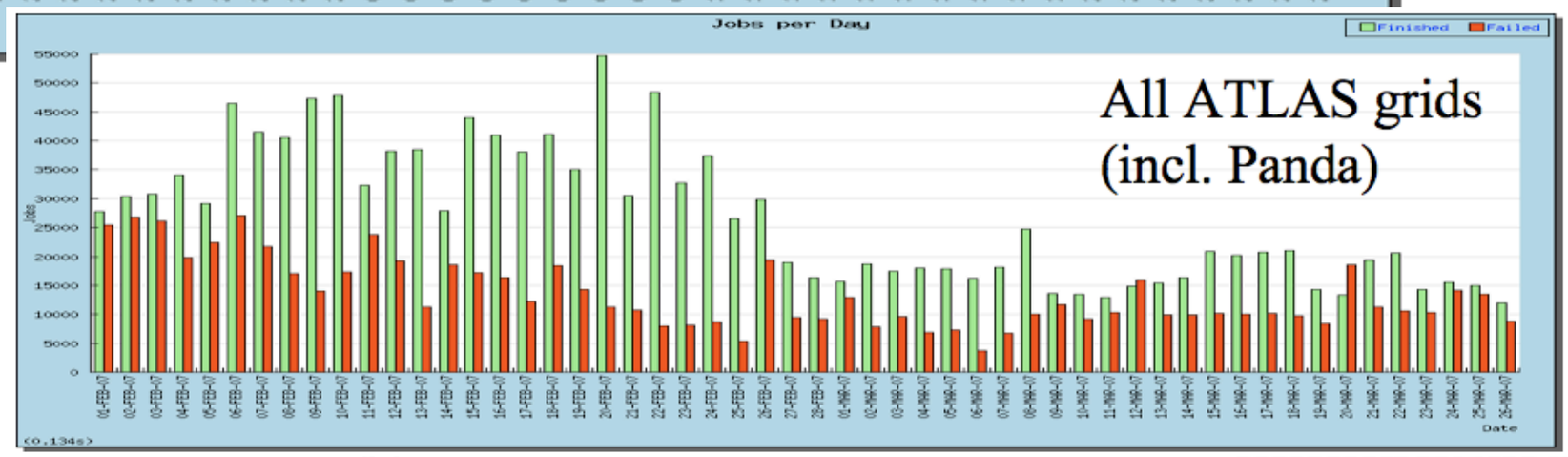
Walltime Usage (successful



Panda Job Failure Rates

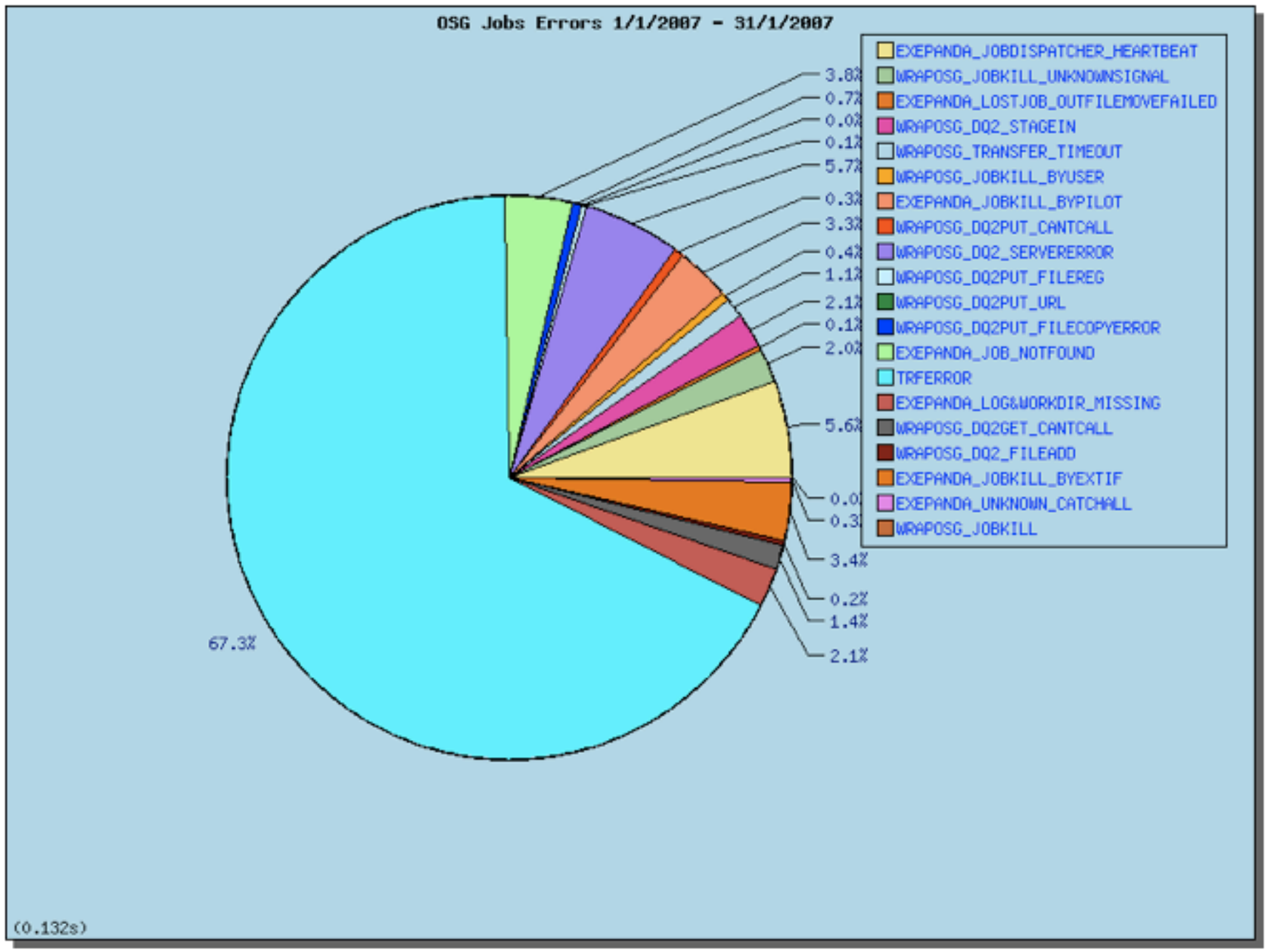
- Job failure rate very low from Panda
- Most failures related to problems with tasks, site services





Failure Causes – During Simul

- January, 2007
- Mostly 68% TRFERROR
- Next 5.7% DQ2 Server not available (typically job lost before starting)
- Next 5.6% lost heartbeat (typically site outage)
- All problems are followed up by people on shift



OSG Production Conclusions

- Panda production on OSG going very well
- We keep all available CPU's busy
- We have very good integration with DQ2 in workflow
- Many different storage systems supported
- Many different pilot delivery mechanism supported
- No scaling limits found yet in Panda (some scaling limits in external software and services have been found)
- Expanding to other sites
- Ready to scale up (easily!) by factor of 10

Panda OSG-wide and on LCG

- Extensions of scheduling, monitoring and pilot infrastructure to support LCG and OSG developed since Sep (AutoPilot)
  - Brings scheduler and pilot automation/monitoring to level of rest of Panda; operations has full view down to the CondorG pilot
    - Keeps operational load very low despite broader deployment
    - Very useful for rapid diagnostics of site, submission problems
    - Operating stably on OSG and LCG for several months; currently 160 gatekeepers, 221 queues, 188 working right now
- pathena (analysis) on LCG now operational over this layer
  - Deployed and operational at CERN, deploying now to Lyon
  - Other sites configured (RAL, FZK, CNAF, PIC, ...) and can follow, if there's interest
- Using BNL Panda instance; no performance/latency issues so far
- OSG opportunistic usage: production (coming), non-ATLAS use (CHARMM, now)

AutoPilot

AutoPilot pilot/scheduler system

Times are in UTC. Time now: 2007-03-28 04:10

Jobs - search
Recent running, activated, waiting, assigned, defined, finished, failed jobs
Select analysis, production, test jobs
Quick search
Job
Dataset
Task
File

Summaries
Blocks: days
Errors: days
Nodes: days
Daily usage

Tasks - search
Generic Task Req
EvGen Task Req
CTBsim Task Req
Task list
Task browser

Datasets - search
Dataset browser
New datasets
Panda subscriptions
All subscriptions

Datasets Distribution
AODs
RDOs
DB Releases

Sites - see all
BNL BU IU OU SLAC UC UMICH UTA LCG NG

Applications
CHARMM

Logging monitor

Show recent pilots: All CHARMM(4876) TestPilot(8321) TPPROD(17313) UMESHTEST(4)
Show pilot error summary

Recently active services

ID	Service	Host	Configuration	User	PID	URL	Status	Latest	TCycle
95	Pilot monitor	condor-g-1	pilotScheduler.py --monitor	wenaus	31423	logs	running	2' ago	7.3'
98	Job scheduler	condor-g-1	pilotScheduler.py --tag=charmm --pandasite=CHARMM	tim	28365	logs	running	0' ago	0.4'
99	Job scheduler	condor-g-1	pilotScheduler.py --tag=charmm --pandasite=CHARMM --nqueue=1	wenaus	28367	logs	running	1' ago	0.4'
102	Pilot monitor	gridui03.usatlas.bnl.gov	pilotScheduler.py --monitor	wenaus	8442	logs	running	0' ago	0.2'
146	Job scheduler	condor-g-1	pilotScheduler.py --tag=pathena --pilot=atlasProd --pandasite=TPPROD --nqueue=1	wenaus	31589	logs	running	5' ago	4.4'

Queues

Gatekeepers: 212 Queues: 299 Working queues: 227 Not working (authorization or job failures): 47 Abort after timeout (3hr wait in scheduled state): 32

Queue tags:

broken:28	charmm:11	condor:2	has_worked:229	itb:15	lcg:6	lcg-cg:194
lsf:3	never_worked:47	noauth:7	no_atlas:0	offline:15	osg:67	pathena:23
pbs:1	prod-atlas:10	prod-usatlas:10	timeout:34	tpprod:5	working:216	

	Queue name	Region: Site	System	Que	Run	Fin	Fail	Abort	Latest	TJob	
pilots	Australia-UNIMELB-LCG2-lcg-compute-atlas-lcgpbs	Australia: Australia-UNIMELB-LCG2	lcg-cg			17			03-27 07:20	4'	
			TestPilot:			17			03-27 23:18	4'	
pilots	HEPHY-UIBK-grid-atlas-lcgpbs	Austria: HEPHY-UIBK	lcg-cg			22			03-27 07:20	4'	
			TestPilot:			22			03-27 23:14	4'	
pilots	BG04-ACAD-ce02-atlas-pbs	Bulgaria: BG04-ACAD	lcg-cg			18		4	03-27 07:20	40'	
			TestPilot:			18		4	03-27 23:10	40'	
pilots	BG05-SUGrid-ce001-atlas-lcgpbs	Bulgaria: BG05-SUGrid	lcg-cg			21	1		03-27 07:20	4'	
			TestPilot:			21	1		03-27 23:13	4'	an authorization operation fa
pilots	SFU-LCG2-snowpatch-atlas-lcgpbs	Canada: SFU-LCG2	lcg-cg			21	1		03-27 07:20	5'	
			TestPilot:			21	1		03-27 23:19	5'	Empty output file

Pilot Monitoring

Configuration | **Dashboards:** Production DDM AutoPilot Sites & Grids Analysis Physics data Usage & Quotas Plots ArdaDash

Update | Show my page users groups | Torre Wenaus Log out

Panda monitor

Recent pilots

Quick guide, twiki | Times are in UTC | ATLAS BDII GridView GSTAT VORS SFT GOC GridCat

AutoPilot main page

Jobs - search
Recent running, activated, waiting, assigned, defined, finished, failed jobs
Select analysis, production, test jobs
Quick search
Job
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Task
File

Summaries
Blocks: days
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EvGen Task Req
CTBsim Task Req
Task list
Task browser

Datasets - search
Dataset browser
New datasets
Panda subscriptions
All subscriptions

Datasets Distribution
AODs
RDOs
DB Releases

Sites - see all
BNL BU IU OU SLAC UC UMICH UTA LCG NG

Applications
CHARMM

Logging monitor

Selection: Accepting type=TestPilot

Listing limited to most recent 200 pilots

PilotID	Type	Accepts	Queue	Tstart	Tstate	State	Status	Err	ErrorInfo	Tjob	Tcheck
tp_gridui03_20070327-230805_281 jdl script submit log out err	default	TestPilot	INFN-FRASCATI-atlasce-atlas-lcgpbs	03-27 23:08	282' ago	done	finished		Dispatcher has no jobs	23'	282' ago
tp_gridui03_20070327-230804_279 jdl script submit log out err	default	TestPilot	IFIC-LCG2-ce01-short-pbs	03-27 23:08	300' ago	done	finished		Dispatcher has no jobs	5'	300' ago
tp_gridui03_20070327-230804_280 jdl script submit log out err	default	TestPilot	osg-gw-2.t2.ucsd.edu-osg-gw-2-atlas-condor	03-27 23:08	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230803_277 jdl script submit log out err	default	TestPilot	RO-07-NIPNE-tbit01-atlas-lcgpbs	03-27 23:08	299' ago	done	finished		Dispatcher has no jobs	6'	299' ago
tp_gridui03_20070327-230803_278 jdl script submit log out err	default	TestPilot	UKI-LT2-IC-LeSC-mars-ce2-72hr-sge	03-27 23:08	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230802_276 jdl script submit log out err	default	TestPilot	HG-06-EKT-ce01-atlas-pbs	03-27 23:08	303' ago	done	finished		Dispatcher has no jobs	2'	303' ago
tp_gridui03_20070327-230801_275 jdl script submit log out err	default	TestPilot	INFN-FIRENZE-grid001-atlas-lcgpbs	03-27 23:08	256' ago	done	finished		Dispatcher has no jobs	49'	256' ago
tp_gridui03_20070327-230800_272 jdl script submit log out err	default	TestPilot	UC_ATLAS_MWT2-condor	03-27 23:08	301' ago	done	finished		Dispatcher has no jobs	3'	301' ago
tp_gridui03_20070327-230800_273 jdl script submit log out err	default	TestPilot	MIT_CMS-condor	03-27 23:08	302' ago	done	finished		Dispatcher has no jobs	3'	302' ago
tp_gridui03_20070327-230800_274 jdl script submit log out err	default	TestPilot	JINR-LCG2-lgdce01-atlas-lcgpbs	03-27 23:08	300' ago	done	failed	2999	Empty output file	5'	300' ago
tp_gridui03_20070327-230758_271 jdl script submit log out err	default	TestPilot	INFN-BARI-gridba2-infinite-lcgpbs	03-27 23:07	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230757_270 jdl script submit log out err	default	TestPilot	wuppertalprod-grid-ce-dg_short-lcgpbs	03-27 23:07	282' ago	done	finished		Dispatcher has no jobs	22'	282' ago
tp_gridui03_20070327-230756_269 jdl script submit log out err	default	TestPilot	UKI-LT2-IC-HEP-ce00-30min-sge	03-27 23:07	302' ago	done	finished		Dispatcher has no jobs	3'	302' ago
tp_gridui03_20070327-230755_268 jdl script submit log out err	default	TestPilot	CERN-PROD-ce113-grid_atlas-lcglsf	03-27 23:07	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230754_267 jdl script submit log out err	default	TestPilot	INFN-BARI-gridba2-short-lcgpbs	03-27 23:07	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230753_264 jdl script submit log out err	default	TestPilot	HEPHY-UIBK-grid-atlas-lcgpbs	03-27 23:07	299' ago	done	finished		Dispatcher has no jobs	6'	299' ago
tp_gridui03_20070327-230753_265 jdl script submit log out err	default	TestPilot	DARTMOUTH-condor	03-27 23:07	125' ago	done aborted	aborted			180'	125' ago
tp_gridui03_20070327-230753_266 jdl script submit log out err	default	TestPilot	FZK-LCG2-a01-004-128-atlasXS-pbspro	03-27 23:07	300' ago	done	finished		Dispatcher has no jobs	5'	300' ago

Site (Queue) Information DB

Show my page users groups

Queue CERN-PROD-ce107-grid_2nh_atlas-lcglsf details

AutoPilot main page

Queue CERN-PROD-ce107-grid_2nh_atlas-lcglsf

Look for pilot jobs on this queue

Look for grid status page

Queue recent activity summary:

Panda site	Nqueued	Nrunning	Nfinished	Nfailed	Naborted
Total	0	0	20	0	2
TestPilot	0	0	20	0	2
TPPROD	1	0	56	22	0

Queue configuration:

nickname = CERN-PROD-ce107-grid_2nh_atlas-lcglsf
queue = ce107.cern.ch/jobmanager-lcglsf
localqueue = grid_2nh_atlas
gatekeeper = ce107.cern.ch
jobmanager = lcglsf
system = lcg-cg
sysconfig =
region = CERN
site = CERN
tags = has_worked pathena working lcg-cg
releases = 11.0.42|11.0.5|11.3.0|12.0.3|12.0.31|12.0.4|12.0.5|12.0.6
ddm = CERNCAF
se = srm://srm-durable-atlas.cern.ch:8443
sepath = /castor/cern.ch/grid/atlas/dq2/pathena
copytool = rfcp
copysetup =
envsetup = source /afs/cern.ch/project/gd/LCG-share/current/etc/profile.d/grid_env.sh
name = default
version =
environ =
appdir =
datadir =
tmpdir =
wntmpdir =
dq2url =
special_par =
nodes = 0
status =
lastmod = 2007-03-28 00:08:08
queue = ce107.cern.ch/jobmanager-lcglsf
nqueue = 1
cmd = condor_submit -verbose %s
jdl = ce107.cern.ch/jobmanager-lcglsf
jdltext =

- MySQL DB of site status, config info
- Auto-loading of current queue status from BDII
- Pilots scan the site itself to extract info, load to DB (eg available releases)
- Easy dynamic reconfiguration immediately visible to pilot submission system
- Use of tags to dynamically establish queue groupings for different purposes
- Site performance statistics gathering, the basis of dynamic brokerage decisions based on actual pilot availability
- Associated DDM config matches ToA by default, but reconfigurable
  - eg temporary SE redirection

User, Group DBs

Users

Jobs - search
Recent running, activated, waiting, assigned, defined, finished, failed jobs
Select analysis, production, test jobs
Quick search
Job
Dataset
Task
File
Summaries
Blocks: days
Errors: days
Nodes: days
Daily usage

Tasks - search
Generic Task Req
EvGen Task Req
CTBsim Task Req
Task list
Task browser

Datasets - search
Dataset browser
New datasets
Panda subscriptions
All subscriptions

Datasets Distribution
AODs
RDOs
DB Releases

Sites - see all
BNL BU IU OU SLAC UC UMICH UTA LCG NG

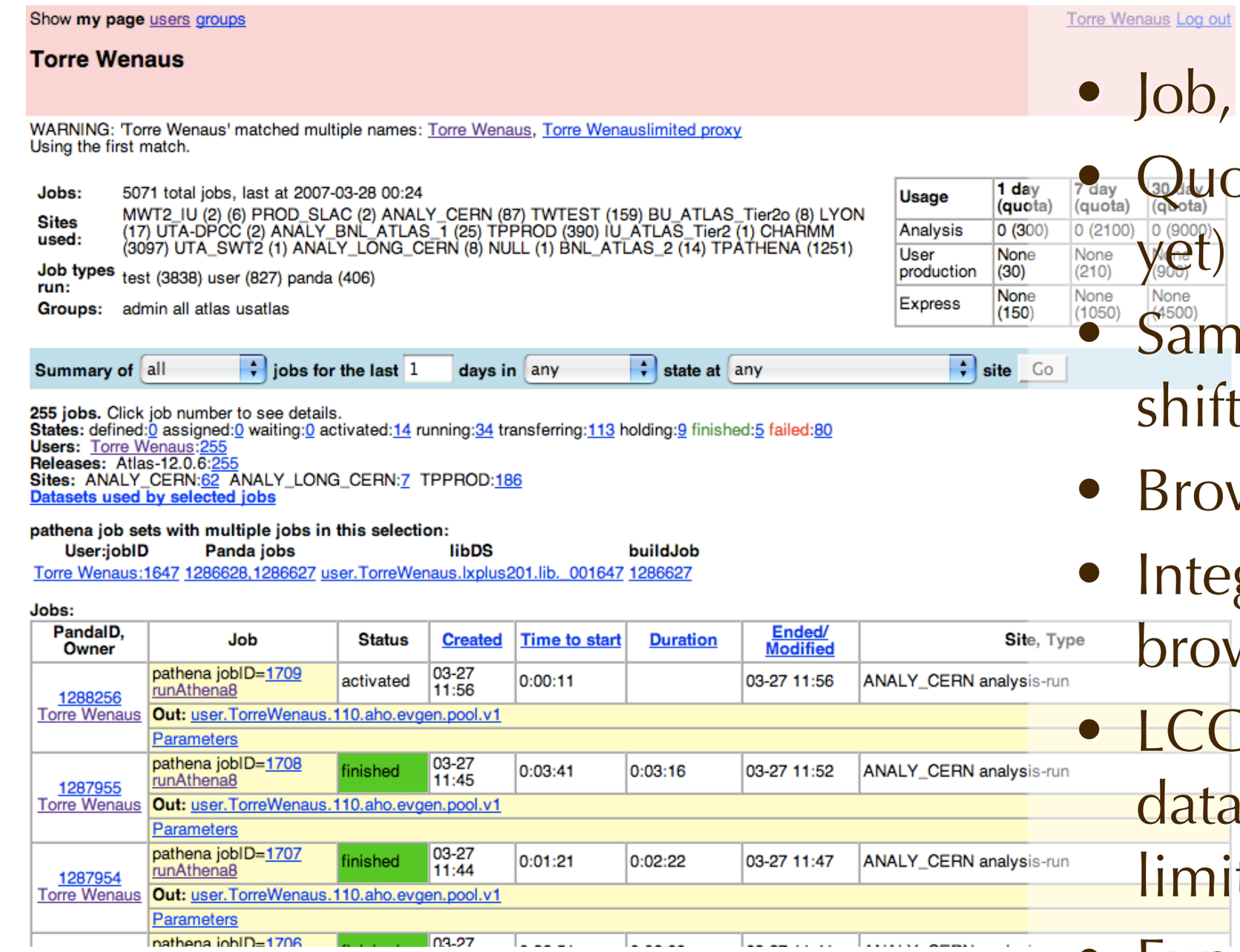
Applications
CHARMM

Logging monitor

Users: 123
Job count: 87785
Listed by most recent Panda usage

User	Jobs	Latest	Sites used	Job types run	Groups
Torre Wenaus	5072	2007-03-28 03:27	MWT2_IU (2) (6) PROD_SLAC (2) ANALY_CERN (87) TWTEST (159) BU_ATLAS_Tier2o (8) LYON (17) UTA-DPCC (2) ANALY_BNL_ATLAS_1 (25) TPPROD (391) IU_ATLAS_Tier2 (1) CHARMM (3097) UTA_SWT2 (1) ANALY_LONG_CERN (8) NULL (1) BNL_ATLAS_2 (14) TPATHENA (1251)	test (3838) user (828) panda (406)	admin all atlas usatlas
Moustapha Thioye	109	2007-03-28 03:17	ANALY_BNL_ATLAS_1 (76) ANALY_LONG_BNL_ATLAS (33)	panda (53) user (56)	all atlas usatlas
Alex Harvey	273	2007-03-28 03:13	ANALY_BNL_ATLAS_1 (161) ANALY_LONG_BNL_ATLAS (112)	user (137) panda (136)	all atlas usatlas
Ana Damjanovic	750	2007-03-28 03:07	CHARMM (750)	test (750)	all atlas usatlas
Paul Nilsson	955	2007-03-28 02:16	UMATLAS (3) MWT2_IU (2) PROD_SLAC (31) SLAC_PAUL_TEST (73) ANALY_LONG_BNL_ATLAS (34) BU_ATLAS_Tier2o (4) UC_ATLAS_MWT2 (5) MWT2_UC (6) ANALY_BNL_ATLAS_1 (148) OU_PAUL_TEST (52) UTA-DPCC (2) UTA_SWT2 (5) UTA_PAUL_TEST (529) BNL_ATLAS_2 (6) OU_OCHEP_SW	test (774) user (106) panda (75)	all atlas usatlas
Sandrine Laplace	4192	2007-03-28 01:27	ANALY_BNL_ATLAS_1 (182) ANALY_LONG_BNL_ATLAS (4010)	user (4180) panda (12)	all atlas
Nurcan Ozturk	3220	2007-03-28 00:16	OUHEP_ITB (2) BU_ATLAS_Tier2o (5) BNL_ATLAS_test (175) ANALY_BNL_ATLAS_1 (695) IU_ATLAS_Tier2 (37) BNL_test (32) UTA_PAUL_TEST (4) NULL (24) OU_OCHEP_SWT2 (26) MWT2_IU (14) UC_ATLAS_test (16) ANALY_UTA-DPCC (330) UTA-DPCC-test (6) OUHEP_OSG (2) BNL_A	test (1531) panda (205) user (1484)	all atlas shift usatlas
Jeremiah Goodson	2	2007-03-28 00:10	ANALY_BNL_ATLAS_1 (2)	panda (1) user (1)	all atlas usatlas
Robert Harrington	6	2007-03-27 19:58	ANALY_BNL_ATLAS_1 (6)	panda (1) user (5)	all atlas usatlas
akira shibata	14873	2007-03-27 18:47	ANALY_BNL_ATLAS_1 (1290) ANALY_LONG_BNL_ATLAS (13338) BNL_ATLAS_1 (245)	panda (1026) user (13847)	all atlas
Dimitris Fassouliotis	3	2007-03-27 15:47	ANALY_BNL_ATLAS_1 (3)	panda (1) user (2)	all atlas
Frank E. Paige	64	2007-03-27 15:12	ANALY_BNL_ATLAS_1 (44) ANALY_LONG_BNL_ATLAS (20)	panda (3) user (61)	all atlas usatlas
Vikas Bansal	1322	2007-03-27 10:25	ANALY_BNL_ATLAS_1 (91) ANALY_LONG_BNL_ATLAS (1231)	panda (31) user (1291)	all atlas usatlas
			ANALY_CERN (4) TPATHENA (19) ANALY_LONG_BNL_ATLAS (31)	test (86)	admin all

Personal Pages



Show **my page** users groups

Torre Wenaus Log out

Torre Wenaus

WARNING: 'Torre Wenaus' matched multiple names: Torre Wenaus, Torre Wenauslimited proxy
Using the first match.

Jobs: 5071 total jobs, last at 2007-03-28 00:24

Sites used: MWT2_IU (2) (6) PROD_SLAC (2) ANALY_CERN (87) TWTEST (159) BU_ATLAS_Tier2o (8) LYON (17) UTA-DPCC (2) ANALY_BNL_ATLAS_1 (25) TPPROD (390) IU_ATLAS_Tier2 (1) CHARMM (3097) UTA_SWT2 (1) ANALY_LONG_CERN (8) NULL (1) BNL_ATLAS_2 (14) TPATHENA (1251)

Job types run: test (3838) user (827) panda (406)

Groups: admin all atlas usatlas

Usage	1 day (quota)	7 day (quota)	30 day (quota)
Analysis	0 (300)	0 (2100)	0 (9000)
User production	None (30)	None (210)	None (900)
Express	None (150)	None (1050)	None (4500)

Summary of all **jobs for the last** 1 **days in** any **state at** any **site** Go

255 jobs. Click job number to see details.
States: defined:0 assigned:0 waiting:0 activated:14 running:34 transferring:113 holding:9 finished:5 failed:80
Users: Torre Wenaus:255
Releases: Atlas-12.0.6:255
Sites: ANALY_CERN:62 ANALY_LONG_CERN:7 TPPROD:186
Datasets used by selected jobs

pathena job sets with multiple jobs in this selection:

User:jobID	Panda jobs	libDS	buildJob
Torre Wenaus:1647	1286628,1286627	user.TorreWenaus.lxplus201.lib._001647	1286627

Jobs:

PandaID, Owner	Job	Status	Created	Time to start	Duration	Ended/ Modified	Site, Type
1288256 Torre Wenaus	pathena jobID=1709 runAthena8	activated	03-27 11:56	0:00:11		03-27 11:56	ANALY_CERN analysis-run
	Out: user.TorreWenaus.110.aho.evgen.pool.v1						
	Parameters						
1287955 Torre Wenaus	pathena jobID=1708 runAthena8	finished	03-27 11:45	0:03:41	0:03:16	03-27 11:52	ANALY_CERN analysis-run
	Out: user.TorreWenaus.110.aho.evgen.pool.v1						
	Parameters						
1287954 Torre Wenaus	pathena jobID=1707 runAthena8	finished	03-27 11:44	0:01:21	0:02:22	03-27 11:47	ANALY_CERN analysis-run
	Out: user.TorreWenaus.110.aho.evgen.pool.v1						
	Parameters						
	pathena jobID=1706		03-27				

- Job, dataset access
- Quota info (quotas not active yet)
- Same diagnostic access as shifters, down to pilot level
- Browser access to logfiles
- Integrated with dataset browser
- LCG sites supported in dataset/file browser (within limits of LFC capability)
- Functions like initiating replications to be added

Panda and Condor Glide-ins

- Use of glide-ins in Panda has been in the plans since Oct '05 meeting with Miron Livny and actively pursued since Sep '06 (when we gained manpower to work on it, a UTA student at BNL)
  - Initial target is a new capability for Condor: schedd glide-ins to support site-level pilot factory.
    - Working directly with Condor team
    - Condor only supports startd ('pilot' type) glide-ins at present
- In OSG we are collaborating with CMS (Igor Sfligoi, FNAL) on startd glide-in; Igor has a generic 'glide-in factory' system
  - Well documented, code available, extensive security and monitoring features, welcomes collaboration
- Panda can easily use Condor startd glide-in pools (whether called 'cronus' or something else) to submit jobs, while also retaining the benefit of the 80% of Panda that lies above this level

Panda Near-Term Timeline

- end March: ATLAS apps on AutoPilot
  - pathena on LCG (done)
  - AutoPilot-based US ATLAS production jobs working (done)
  - AutoPilot-based ATLAS production jobs on LCG (pending)
- April: production ATLAS apps on AutoPilot
  - migrate US production to AutoPilot
  - complete and broadly deploy ATLAS production on LCG
  - broaden pathena deployment on LCG based on interest
- May: executor 'shoot-out'
  - lcg-cg/cronus, Lexor, Panda comparison (to what purpose, not clear)
  - *Cancelled at last week's ATLAS computing week. Instead: ATLAS will try out Panda on LCG*
- June: official milestone for 'OSG works for US ATLAS'

Panda Summary

- Panda performing very well for ATLAS production, analysis
  - As both an executor and a low-maintenance end-to-end system
  - Work on hardening, robustness, automation, monitoring over last year has all paid off
- Ready to provide stable and robust service when datataking starts
  - Further development ongoing, but incremental
  - We're ready to start turning LAMP stack scaling knobs, but no need yet
- New efforts are extending the scope of Panda and integrating it further with Condor
  - ATLAS analysis: Panda/pathena running on LCG; offer ATLAS wide to interested people; integration with Ganga
  - ATLAS production: Production pilot deployed to LCG
  - ATLAS decided last week to try Panda as potential ATLAS-wide system
  - OSG: first non-ATLAS Panda user is in production
  - Condor,CMS: OSG Extensions collaboration on WM
    - Conventional ('pilot') and schedd ('pilot factory') glideins