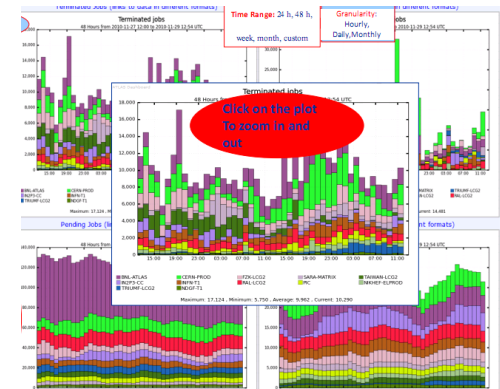


Conclusions on Monitoring

03.12.10 - CERN

SOURCES	DESTINATIONS											
	ALL	ASGC	BNL	CERN	CNAF	FZK	LYON	NDGF	PIC	RAL	SARA	TRIUMF
ALL	88%	99%	95%	89%	89%	94%	96%	96%	75%	90%	74%	56%
ASGC	16127	84	955	742	744	1930	791	65	1528	1323	5932	2033
BNL	99%	100%	100%	100%	100%	99%	100%	100%	31%	100%	100%	16%
CERN	99%	100%	100%	100%	100%	89%	100%	100%	69%	97%	100%	60%
CNAF	94%	100%	100%	100%	100%	100%	100%	100%	84%	18%	100%	54%
FZK	89%	97%	99%	99%	87%	98%	98%	97%	68%	95%	58%	34%
LYON	96%	100%	56%	100%	100%	97%	100%	100%	3%	63%	98%	8%
NDGF	87%	65%	67%	37%	89%	90%	96%	76%	21%	61%	87%	12%
PIC	1500	22	92	484	3	117	260	8	101	21	177	215
RAL	50%	84%	41%	12%	9%	44%	70%	100%	19%	9%	72%	23%
SARA	74%	61%	83%	96%	15%	79%	7%	29%	85%	16%	3%	12%
TRIUMF	94%	100%	100%	100%	100%	81%	99%	100%	37%	97%	99%	51%
	1046	1	1	0	0	239	8	0	174	297	2	324
	60%	100%	98%	100%	78%	74%	99%	100%	26%	100%	56%	54%
	5970	0	5	0	10	363	1	0	87	0	5293	211
	84%	98%	100%	100%	100%	96%	100%	100%	24%	97%	100%	74%
	686	4	0	0	45	0	0	0	52	3	0	582

A. Read



Outline

- Workshop overview
- Summaries of talks
- Conclusions

ADC Monitoring Workshop

- ½-day presentations, ½-day discussions
- Vision: Increase rate of improvement, consider all options
- Goals:
 - Consolidate current efforts
 - Consider possible rationalizations
 - Decide on priorities
- Presentations to:
 - Gain insight, inspiration from alternative projects (STAR/RHIC, Tier-0)
 - Sound out our activities, chart technology choices
 - Consider proposals (SSB in production, EGG interface to ADC)
 - Be informed about new challenges (Tier-3)

ADC Monitoring Workshop Summary

- Pandjango:
 - Panda classic monitor has served ATLAS well but technology is obsolete
 - Pursue full exploitation of "cocktail": Django interface to Panda DB, serving data in JSON format to jQuery client
 - Needs more effort (e.g. 0.8->1.8 FTE)
 - Separating business logic from old presentation
 - Implementing new presentation in jQuery etc
 - Many "applications" to re-implement

ADC Monitoring Workshop Summary

- Lessons from STAR:
 - Single infrastructure/framework a benefit
 - DB organization and schema essential to performance and functionality
 - Don't be afraid to lose a little information to gain rapid feedback
- Tier-0:
 - Dashboard on server side, rich jQuery client, data served in JSON (very close to ADC Monitoring "technology cocktail")
 - Elegant, flexible presentation of Tier-0 status
 - Overview, tasks and jobs, datasets all with same look and feel
 - Shifters can dynamically construct their own monitoring pages
 - Statistics aggregation
 - Dynamic charts and plots of up to 11 variables, any time period

ADC Monitoring Workshop Summary

- Global ADC job monitoring
 - Adapted from CMS user job monitoring, supported by IT, based on Dashboard DB service
 - Imports from Panda DB and ActiveMQ messages from instrumented jobs (e.g. Ganga/WMS)
 - Job schema is subset of Panda plus aggregates for history: optimized for monitoring
 - Impressive recent progress for user-centric monitoring and especially historical views (accounting) 😊
 - Will add views for ADCoS shifts (prodsys-oriented) Q1-2011

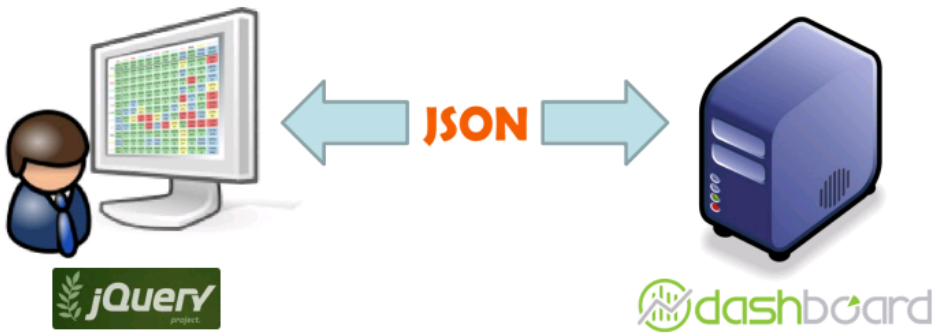
ADC Monitoring Workshop Summary

- DDM Dashboard 2.0
 - Uses similar cocktail to ADC GJM
 - Prototype with long-awaited view by source (source/dest matrix) produced in short time, new cocktail praised
- EGG – Proposal for coherent view of ADC
 - Elegant solution enabling to probe any correlation
 - Would require additional development and optimization effort both on core software and ADC component backends as well as integration in a presentation scheme
- Tier-3
 - Re-use as much existing monitoring SW as possible
 - Xrootd a new element
 - Avoid impact on T1/T2-ops
 - CERN IT and Dubna working on plan
 - Effort more tightly coupled to Tier-3 working group than Monitoring activity
 - Still defining Tier-3 types, collecting requirements

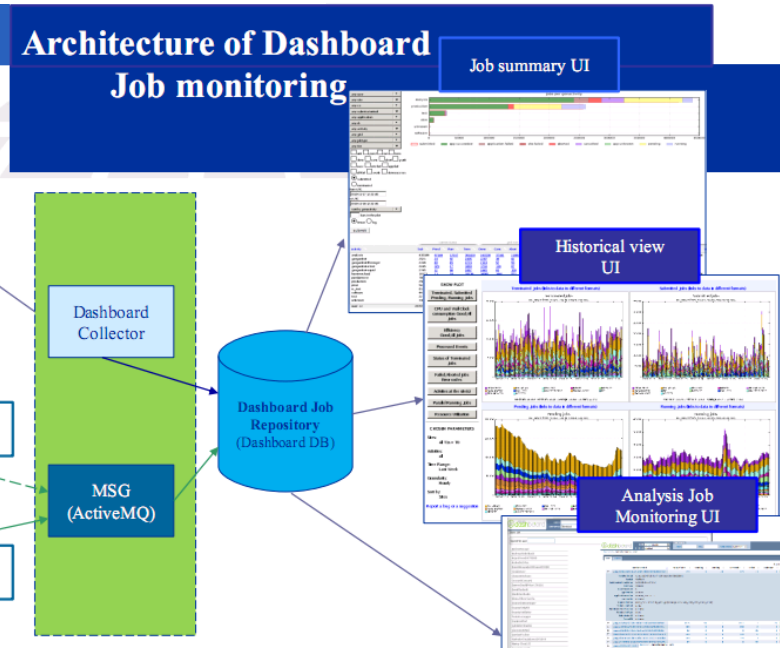
ADC Monitoring Workshop Summary

- AGIS
 - API is in production
- SSB
 - Unique aggregation of status of ADC services
 - Intended to deliver state of Site Exclusion Policy
 - Interesting for shifters, sites, potentially Tier-3's as well
 - Good feedback from Italian shifters
 - Some development needed (e.g. cloud view, spacetoken granularity)
 - Effort is small fraction of several people, additional manpower requested
 - Request for ADC to put SSB in production

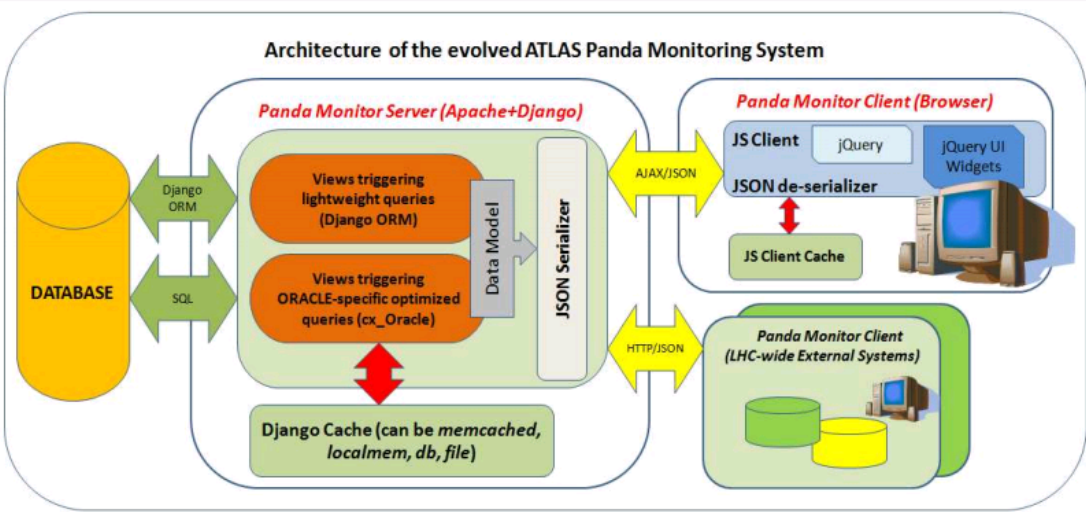
- 4/5 projects Dashboard-based
- All serve JSON data, present w/rich jQuery clients



DDM Dashboard 2.0 PROTOTYPE - 8

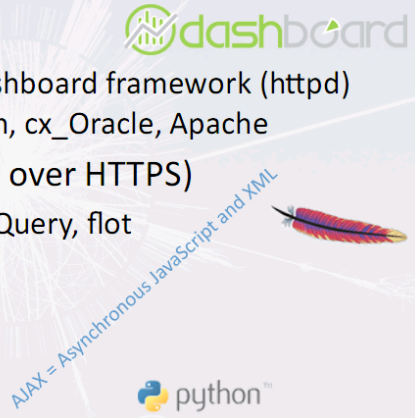


Pandjango Architecture



conTZole Technology

- Server
 - Built using ARDA Dashboard framework (httpd Python, mod_python, cx_Oracle, Apache)
- Client (Web Browser over HTTPS)
 - XHTML, JavaScript, jQuery, flot (Data presentation)
- Data Collector
 - Python, cx_Oracle



Conclusions

- Propose to retire Prodsys Dashboard in few months time
 - ProdSys Task info in Classic Panda Monitor
 - Prodsys views (especially task-oriented) to be reproduced in ADC Global Job Monitor
 - Small working groups already identified
- Propose that expert ADCoS shifters and UK site admins evaluate SSB and report at ADC Retreat
- Propose NOT to embark on EGG-integration
- Propose to continue very promising development on DDM Dashboard 2
- Color and abbrev. scheme for clouds, tiers datatypes re-proposed by Graeme, let's converge and approve it

Conclusions

- Propose to pursue tighter integration of Panda Monitor migration and Dashboard-based ADC Global Job Monitor
 - Use same technology and infrastructure for database backend
 - Both Django and Dashboard backends serve data in JSON format and presentation clients are jQuery-based
 - Dashboard infrastructure supported by CERN-IT
 - Investigate reduction of number of databases (Panda is authoritative source)
 - Insure that Panda-specific information is not lost in new schema
 - Small working group identified, will report early Feb 2011
 - Clients are decoupled in both schemes, plenty of Panda client "applications" to be ported
 - Requirement that Final version will not throw user back to Panda Classic Monitor!

Other news

- Very interesting Job Execution Monitoring (remote multilevel debugging of grid jobs in situ) presented in weekly
 - Scaling issue of ActiveMQ and ≥ 0.5 M jobs/day to be tested "offline"
 - Some integration with Panda server and pilots needed, discussions started
- <http://adc-monitoring.cern.ch> exists but unused – will set up top-level entry to ADC Monitoring
- Need to reconsider prototyped plotting service
 - single point of failure
 - enforce the color and abbreviation scheme by other means (e.g. plotting library, AGIS object attributes)