

# Experiment Dashboard for monitoring of the ATLAS computing activities

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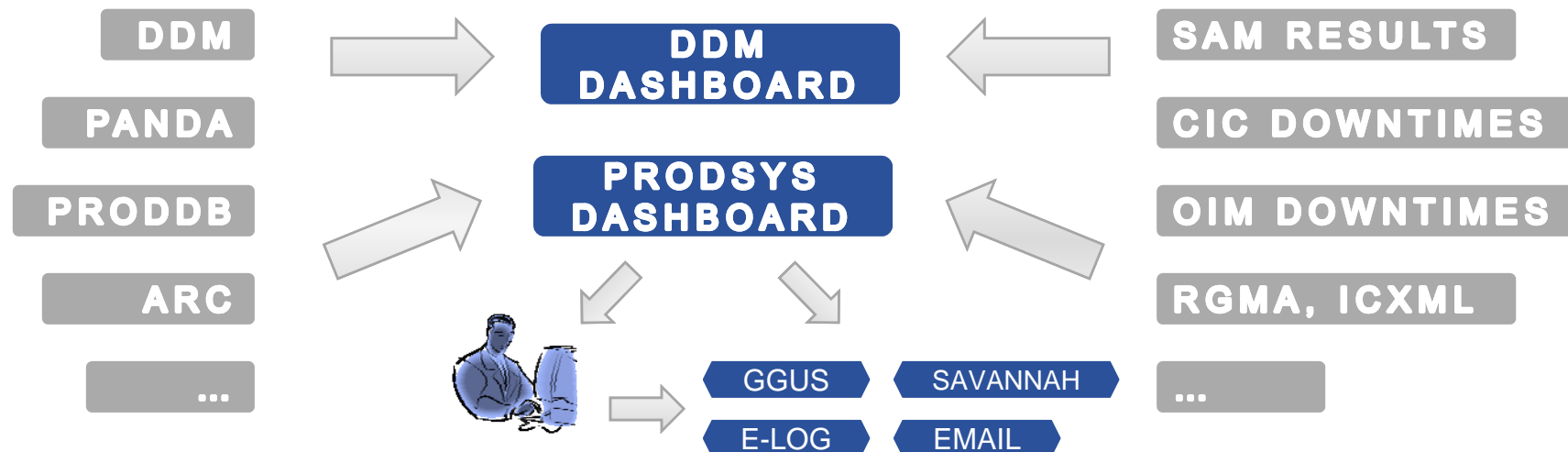
*EGEE'08, 22-26 September 2008, Istanbul, TURKEY*

[www.eu-egee.org](http://www.eu-egee.org)

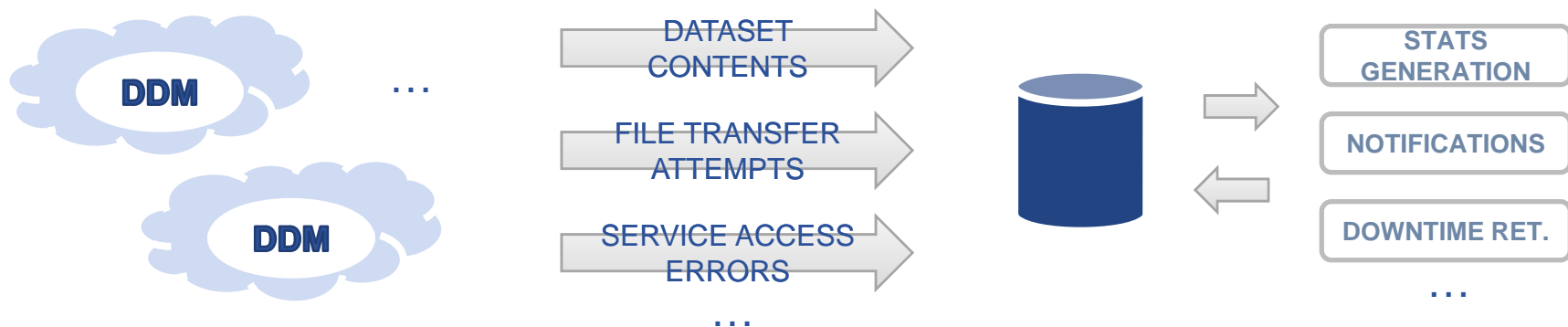
- **All applications built on top of the dashboard framework**
  - Build and testing environment, persistent data access, messaging APIs, command line tools, agent management, plotting libraries, multiple output formats (CSV / XML / RSS / ...)
  - Some of these packages have been taken in ATLAS for other uses (build, messaging APIs, cli tools, agent management)
- **Some are generic Experiment Dashboards**
  - As seen also in other experiments, with minor additions
- **But others are very much ATLAS specific**
  - Developed in close collaboration with ATLAS application providers

# ATLAS Specific Dashboards

- **Features mainly driven by shifter's needs**
  - With many additional features filling other use cases (e.g. overview plots for managers, many historic summaries)
- **Integration with ATLAS and GRID operations tools**
  - Both as input (CIC portal, SAM, BDII, ...) and output (GGUS, Savannah, e-Logs, ...)
- **Critical tools with extensive use in the ATLAS shifters effort (24/7)**



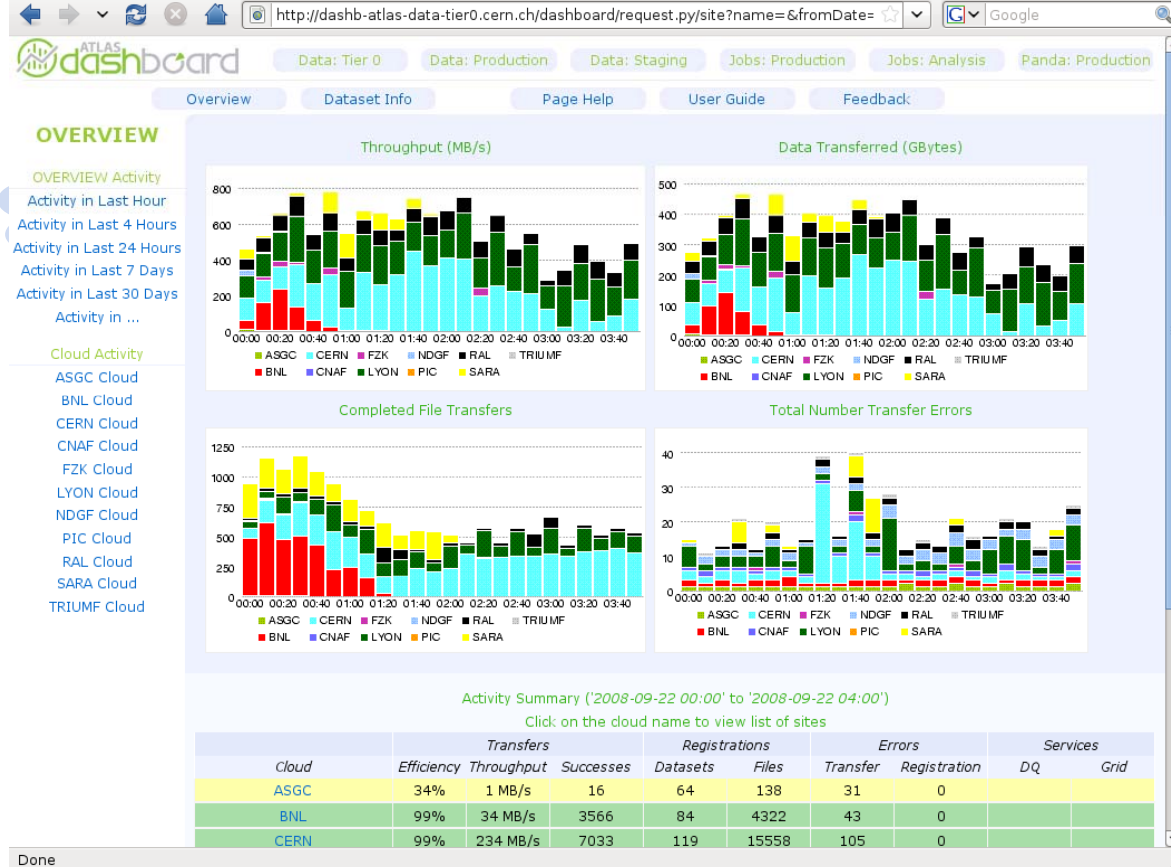
- **Monitoring of data movement within clouds and individual sites**
  - Clouds being groups of sites in the ATLAS experiment topology, not the computing clouds we've heard about this week ☺



- **Available Data**
  - Topology: clouds, sites, services, storage space tokens
  - Dataset: content, location and completeness
  - File: transfer attempt history, location, details on storage (src/dest surl, checksum, ...)
  - Statistics: throughput, efficiency, error summaries, avg transfer attempt number, dataset queued/completion time, ...)

- Monitoring of data movement within clouds and individual sites

ATLAS DDM Dashboard: Monitoring of data movement within clouds and individual sites, not the network topology, not the



STATS  
GENERATION

NOTIFICATIONS

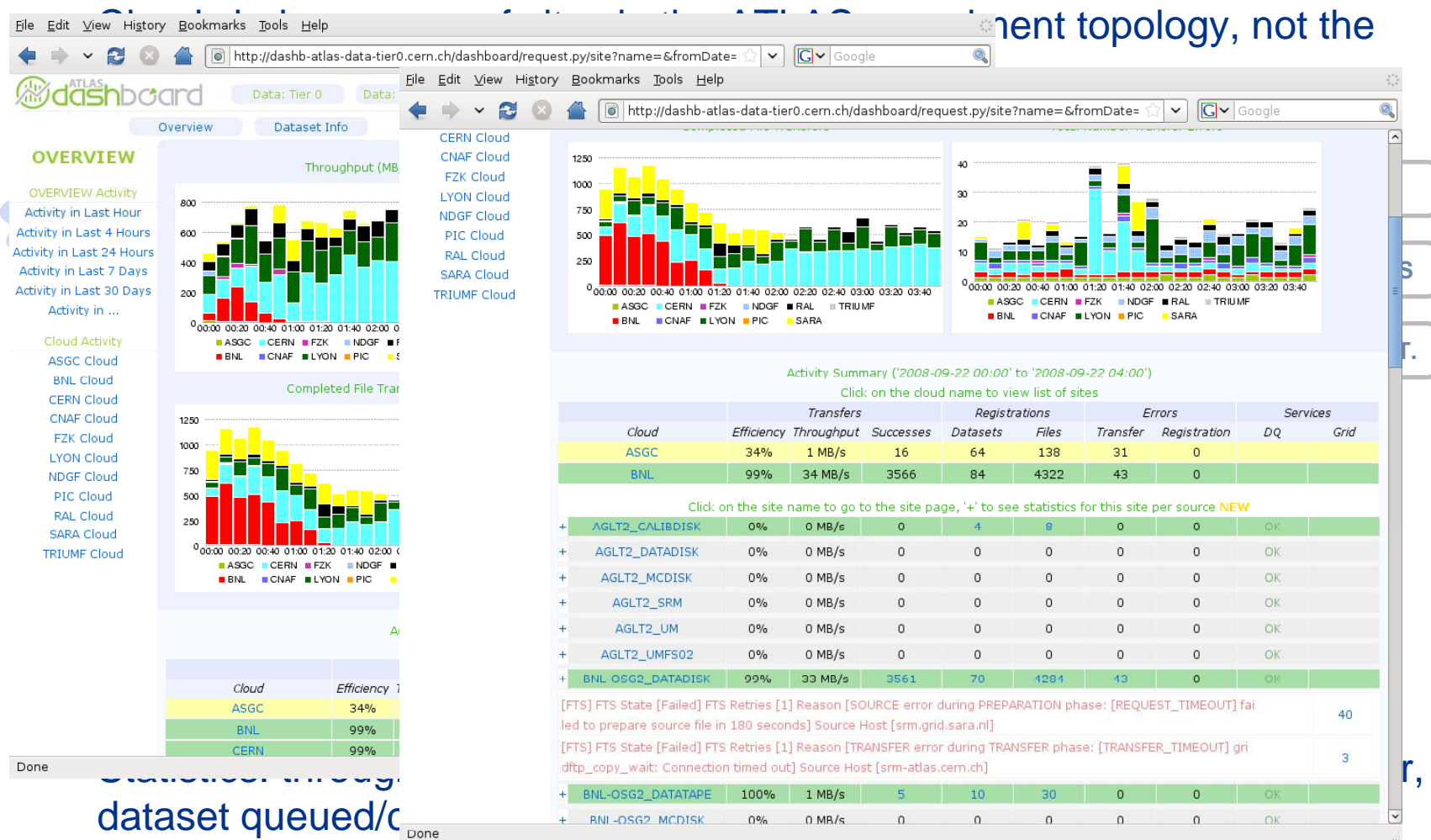
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Storage (src/dest url,

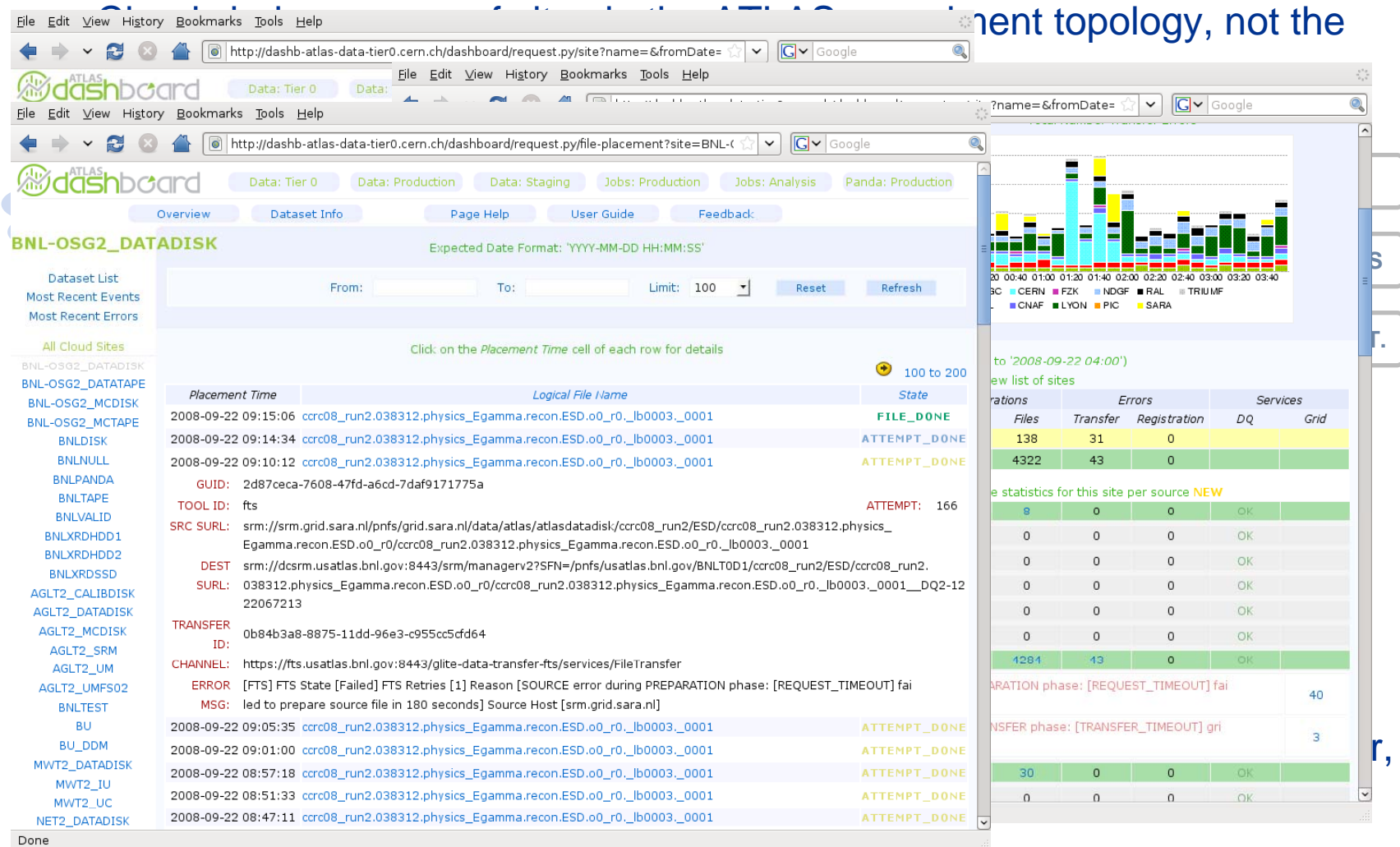
dataset queued/completion time, ...)

- Monitoring of data movement within clouds and individual sites

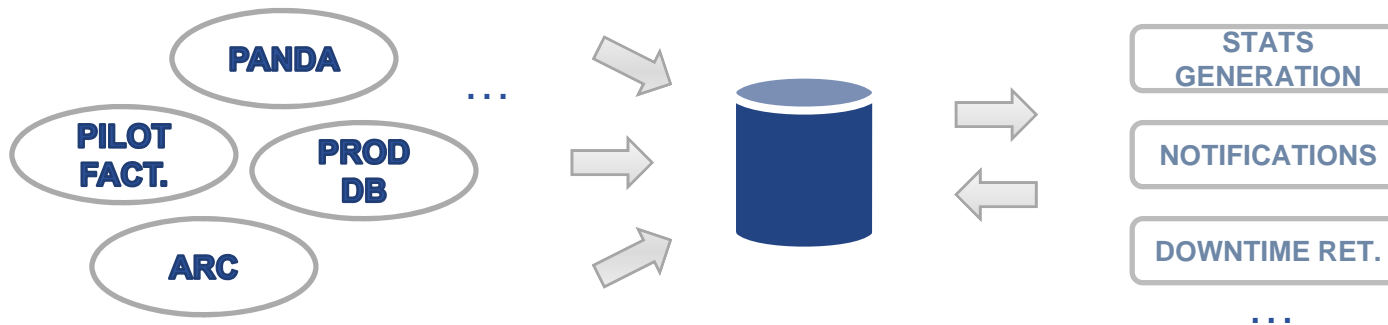




- Monitoring of data movement within clouds and individual sites



- **Monitoring of production jobs in all ATLAS grids**
  - Centralized repository for activity in EGEE, OSG and NDGF



- **Data sources**
  - More heterogeneous, multiplicity of systems required more work
    - Panda database, ProdDB database, ARC collection
- **Available Data**
  - Topology: clouds, sites, services, computing queues
  - Tasks: definition, contents, cloud assignment
  - Jobs: attempt history, definition details (application, dataset, ...)
  - Statistics: progress, jobs run, grid and application execution errors summaries



- Monitoring of production jobs in all ATLAS



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- Statistics: progress, jobs run, grid and application execution errors summaries

OGF

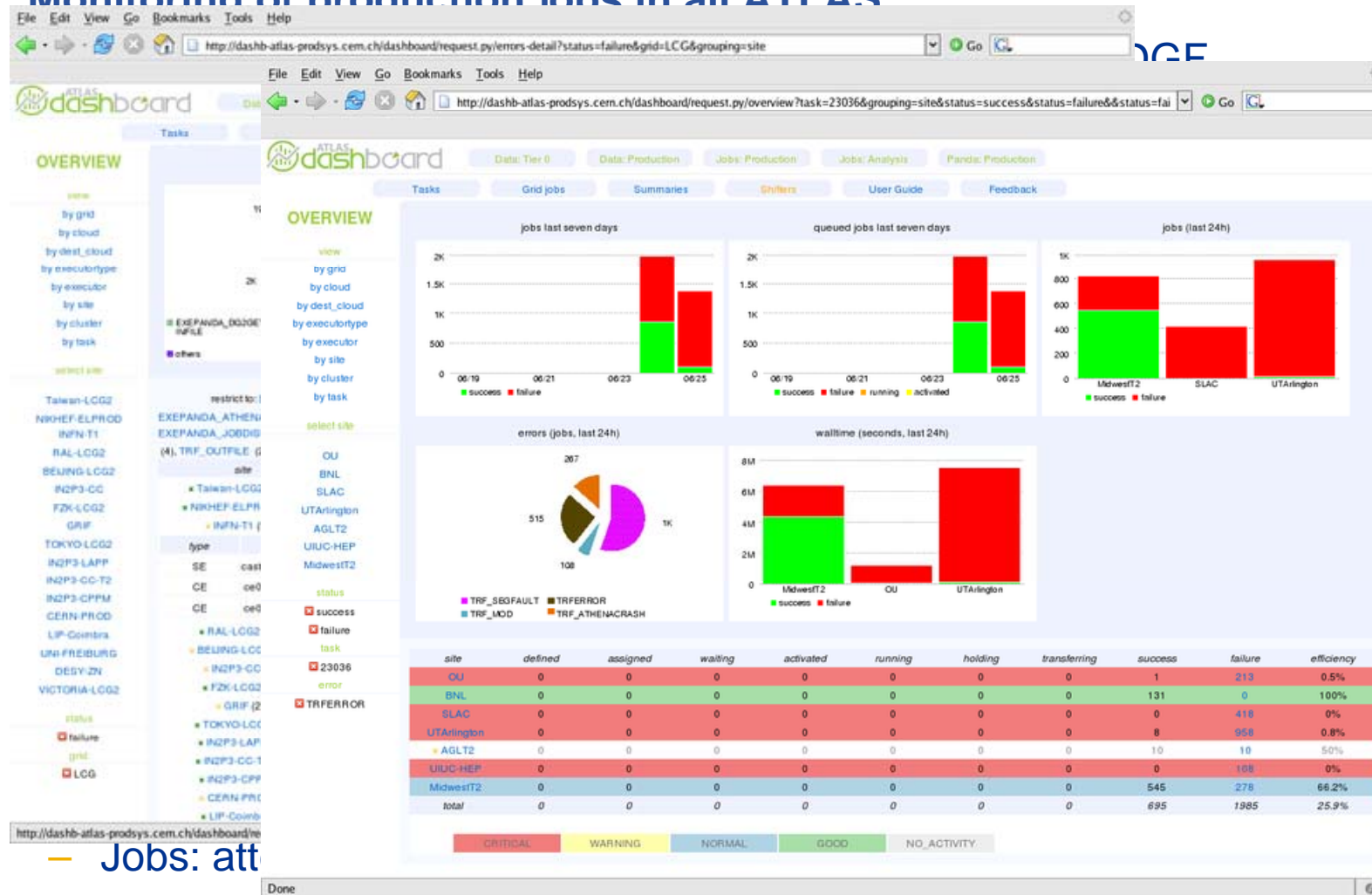
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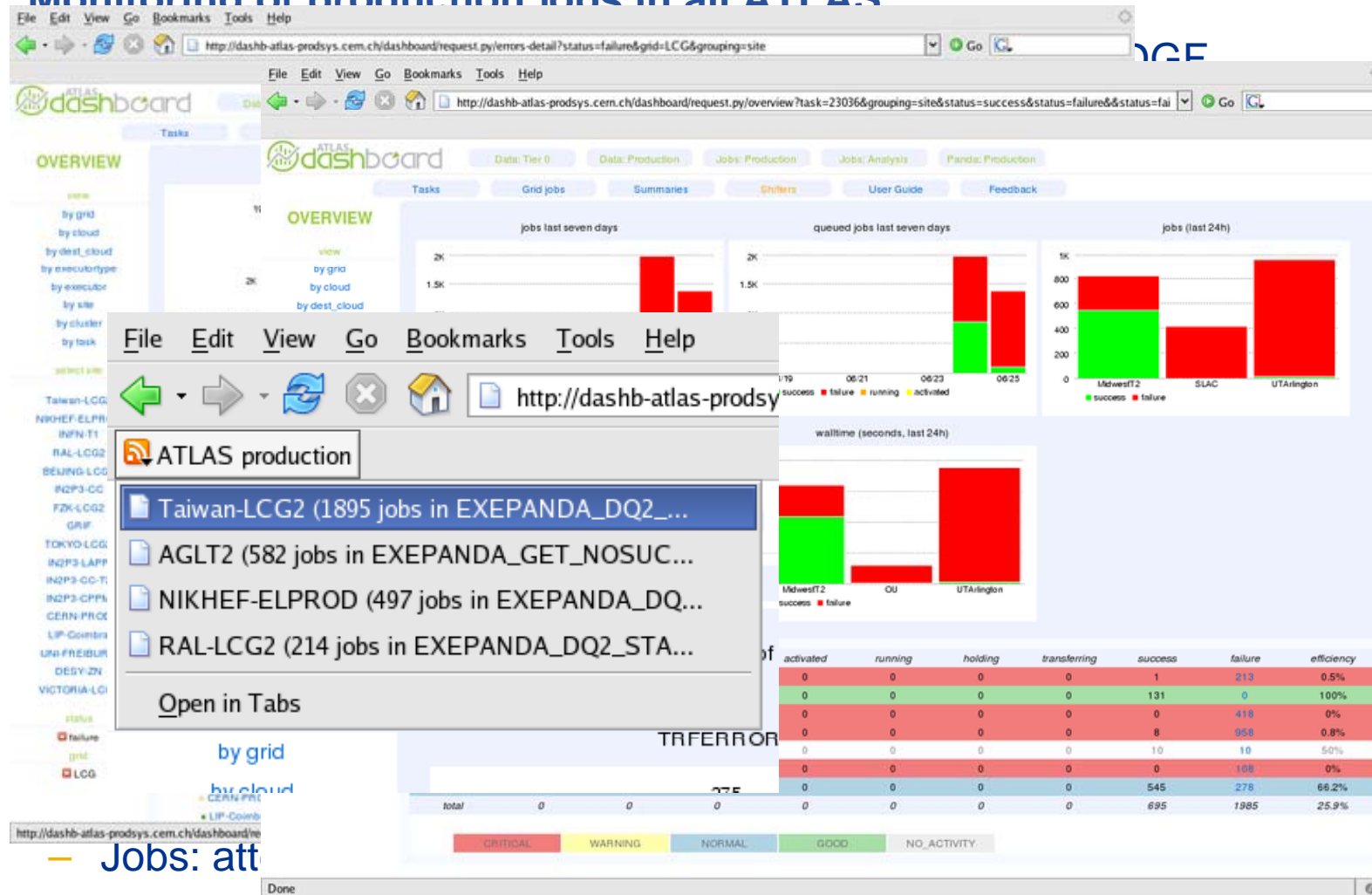
- Monitoring of production jobs in all ATLAS



- Jobs: att

- Statistics: progress, jobs run, grid and application execution errors summaries

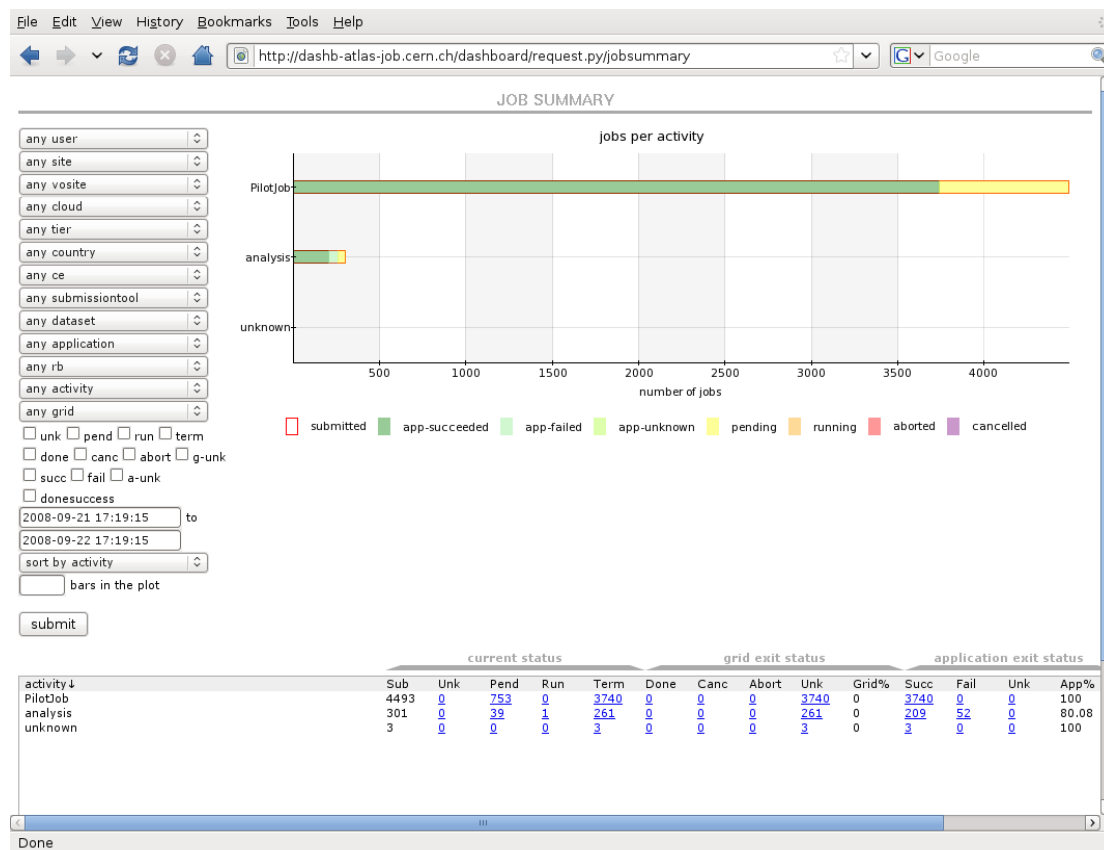
- Monitoring of production jobs in all ATLAS



- Jobs: att

- Statistics: progress, jobs run, grid and application execution errors summaries

## JOB MONITORING



Mostly analysis users

PANDA jobs collected directly from their db

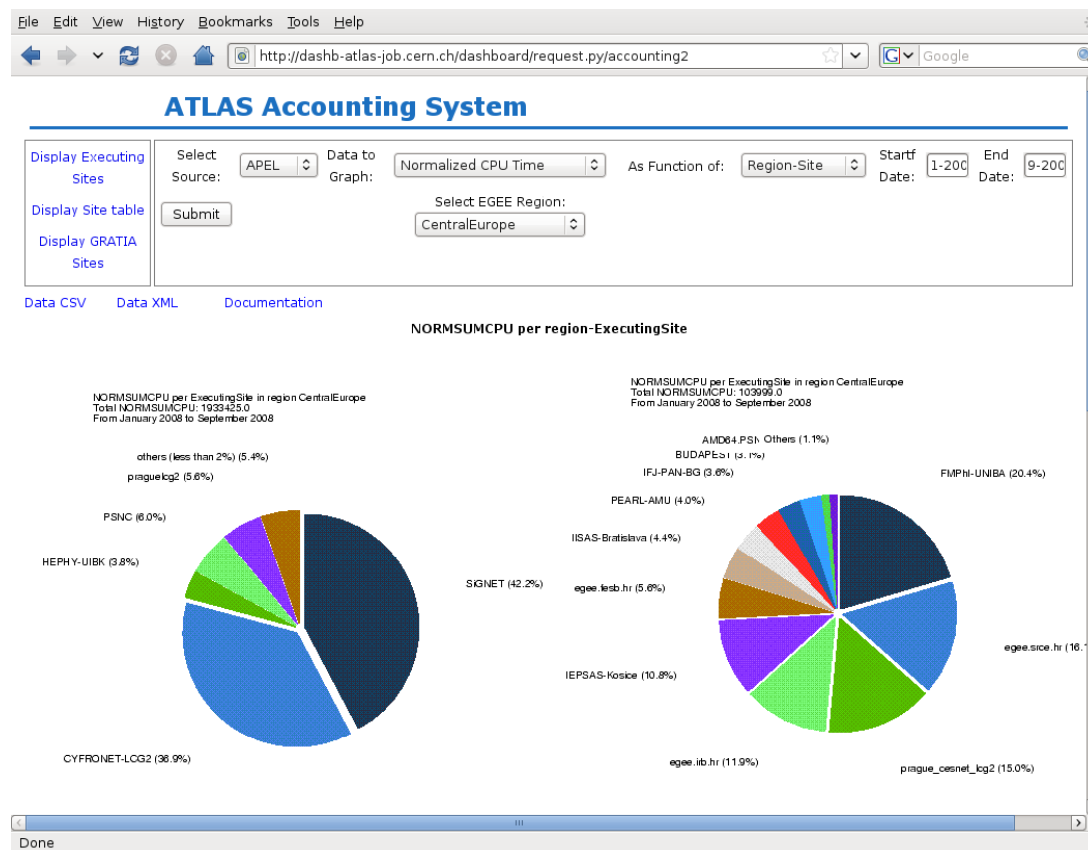
GANGA jobs collected via the messaging API

## ACCOUNTING

Developed by an ATLAS collaborator who joined the dashboard team

Contribution now available to all experiments

Data gathered via APEL and GRATIA



## Service Availability and Monitoring

File Edit View History Bookmarks Tools Help

http://dashb-sam-atlas.cern.ch/dashboard/request.py/latestresultssmry?siteSelect3: Google

**SAM VISUALIZATION | ATLAS**

VO view Site View Feedback Help

Latest Results HistoricalView

Sites Service Types Test Types Test Exit Status

All Sites All Service Types Critical tests only

Select All

CE-ATLAS-sft-lcg-tag

CE-sft-job

CE-sft-vo-swdir

FTS-channels

LFC-ls

LFC-writefile

All Exit Status

na

ok

info

note

warn

error

crit

Show Res

☒ Display new window

Link to the table

SiteName	Service Type	Service Name	atlas-lcgtag	js	swdir	ftschn	lfcls	lfcwf	atlas_cp	atlas_cr	atlas_del
CERN-PROD	CE	ce103.cern.ch	ok	ok	ok						
		ce104.cern.ch	ok	ok	ok						
		ce105.cern.ch	ok	ok	ok						
		ce106.cern.ch	ok	ok	ok						
		ce107.cern.ch	ok	ok	ok						
		ce108.cern.ch	ok	ok	ok						
		ce109.cern.ch	ok	ok	ok						
		ce111.cern.ch	ok	ok	ok						
		ce112.cern.ch	ok	ok	ok						
		ce113.cern.ch	ok	ok	ok						
		ce114.cern.ch	ok	ok	ok						
		ce115.cern.ch	ok	ok	ok						
		ce124.cern.ch	ok	ok	ok						
		ce125.cern.ch	ok	ok	ok						
		ce126.cern.ch	ok	ok	ok						

Legend: NA OK MAINTENANCE ERROR WARNING INFO NOTE CRITICAL

Note: brightest colors: test is 0 - 12 hours old, ... lightest colors: test is more than 24 hours old

Algorithm for calculating the Site and Service Availability

Done

Initially effort targeting CMS requirements

Later taken for use within ATLAS with some new requirements (e.g. different set of critical tests)



- **Shifter's will continue to be our main clients**
  - Making it easier to do shifts will mean more shifters
  - Constant improvements to the DDM and Prodsys Dashboards
  - Better integration of activity summary data
- **Physicists are already becoming more active**
  - New requirements will come regarding monitoring of individual user analysis jobs
  - Better usability of the interfaces
  - Better authentication / authorization
- **Additional developments**
  - Dashboard for Tier0 operations
  - AGIS (ATLAS Information System), using the same common software framework