Enabling Grids for E-sciencE

Experiment Dashboard for monitoring of the ATLAS computing activities

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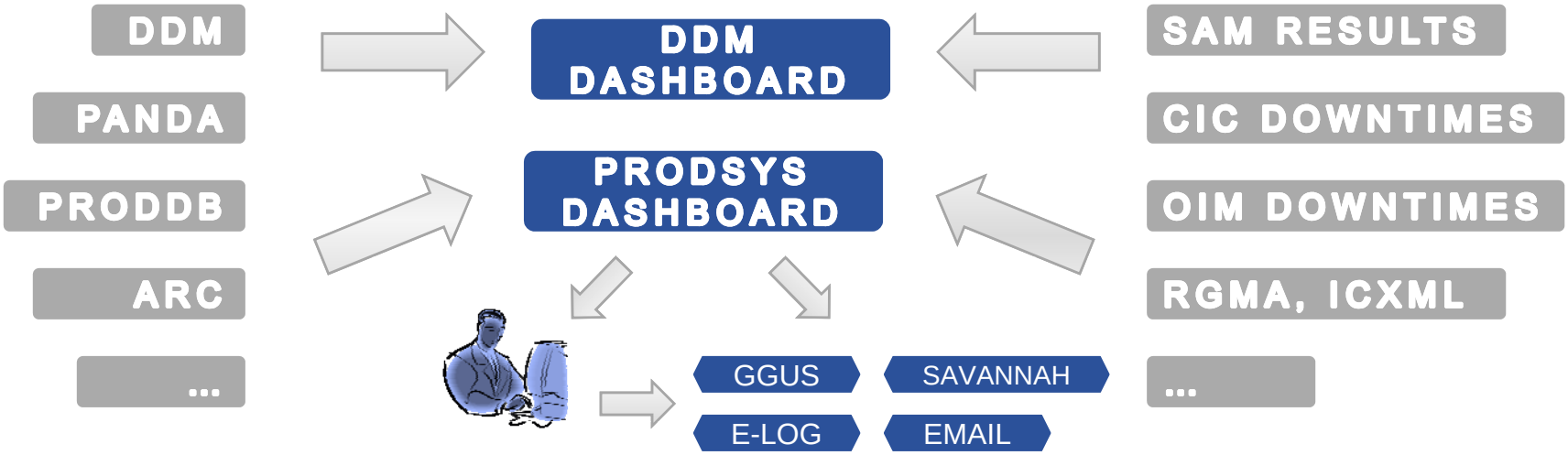
www.eu-egee.org

Dashboards in ATLAS

- **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

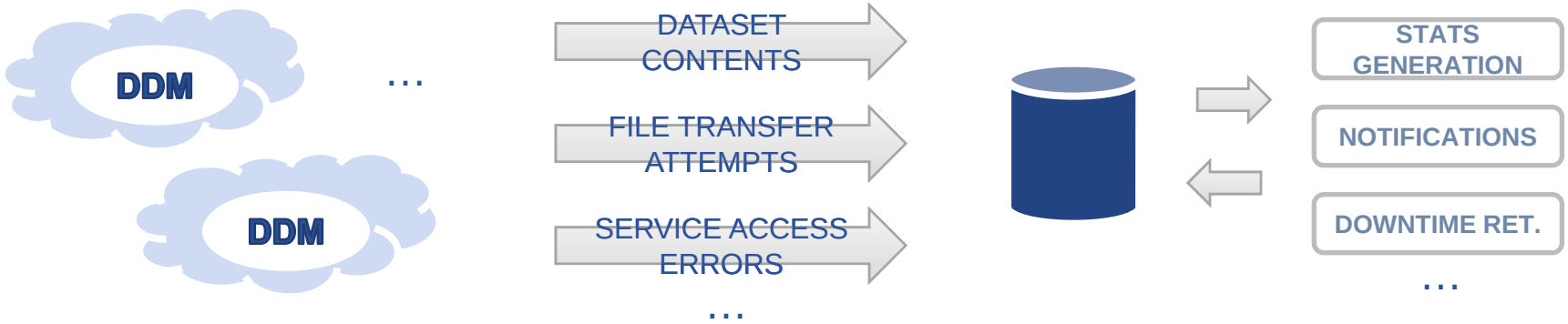
ATLAS Specific Dashboards

- **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)**



ATLAS DDM Dashboard

- **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 ☺

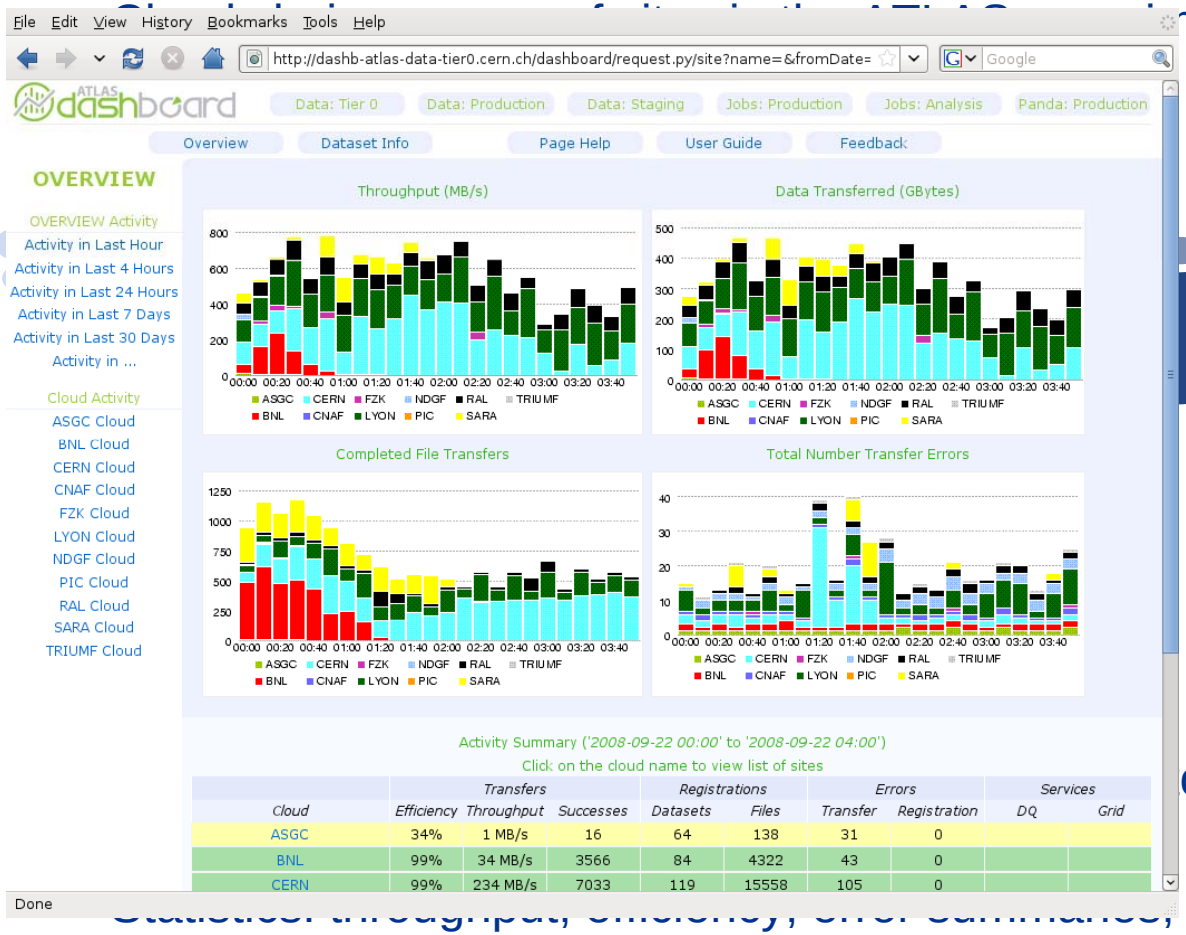


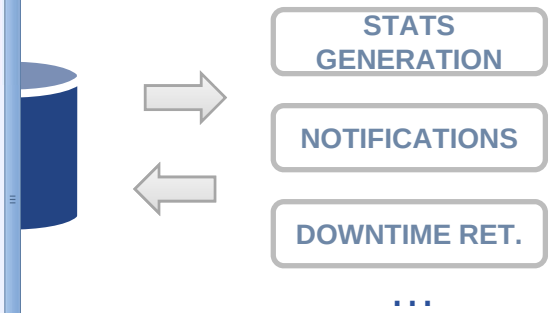
- **Available Data**
  - Topology: clouds, sites, services, storage space tokens
  - Dataset: content, location and completeness
  - File: transfer attempt history, location, details on storage (src/dest surl, checksum, …)
  - Statistics: throughput, efficiency, error summaries, avg transfer attempt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

ATLAS DDM Dashboard

- **Monitoring of data movement within clouds and individual sites**

  ment topology, not the





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ATLAS DDM Dashboard

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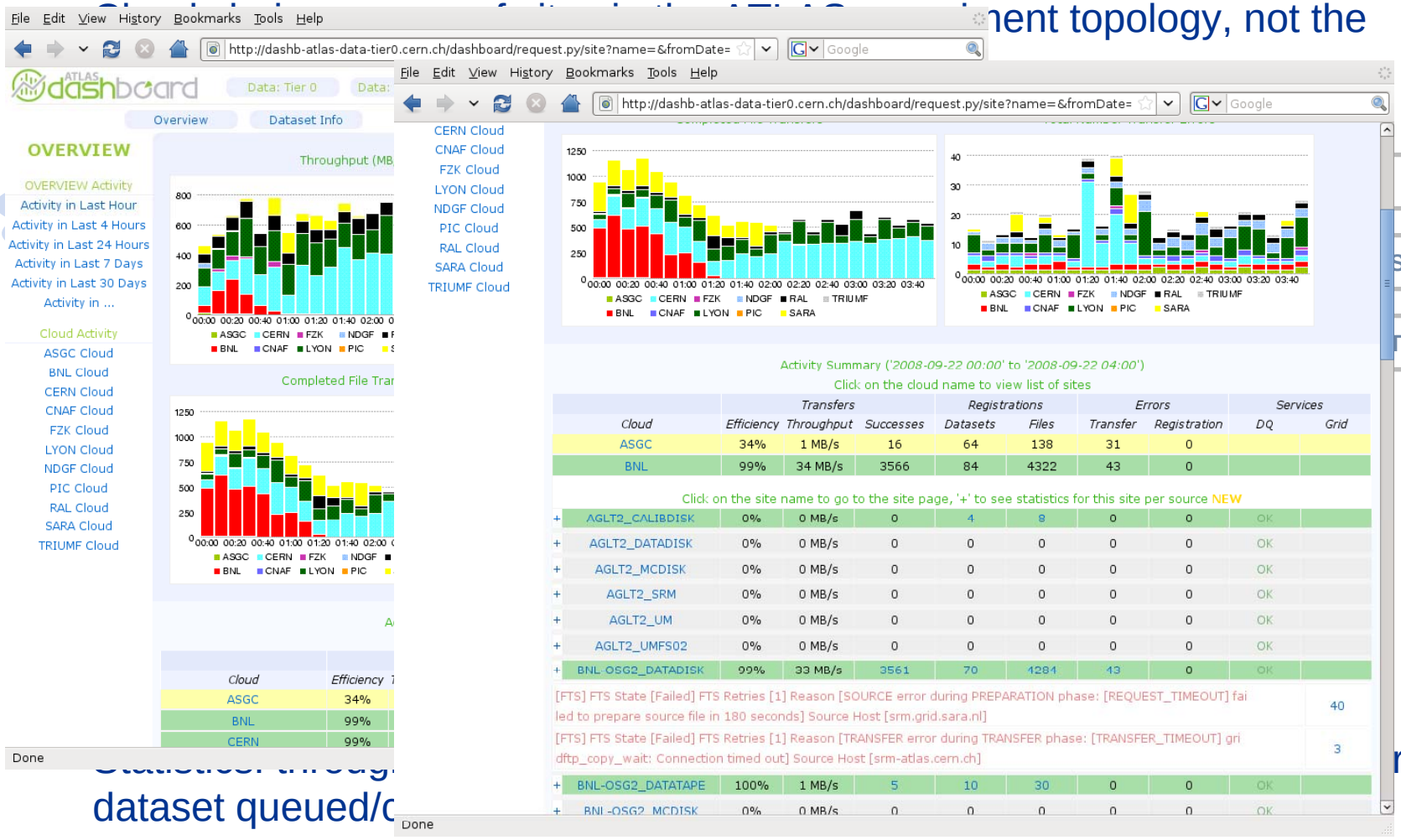

- dataset queued/c

ATLAS DDM Dashboard

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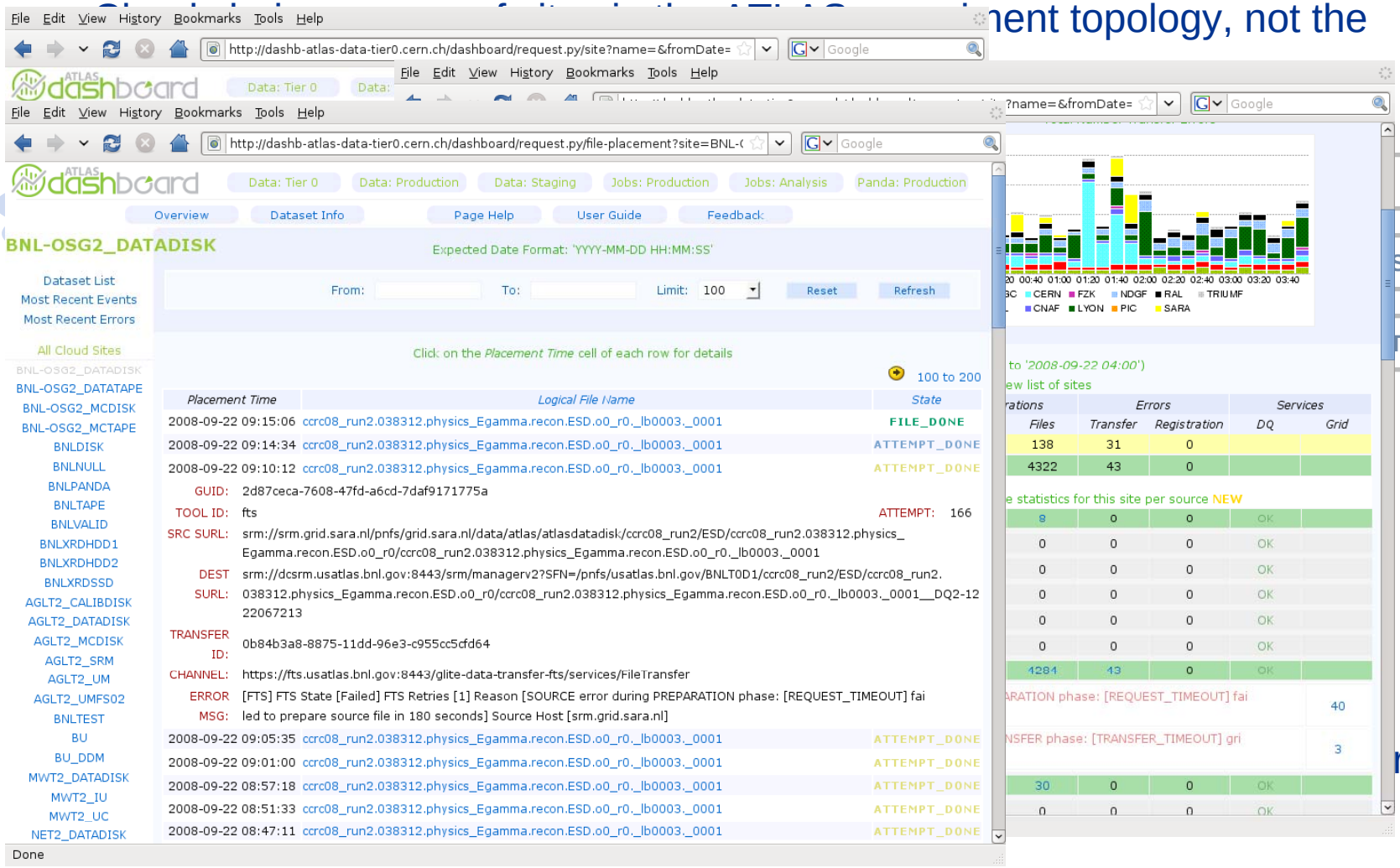
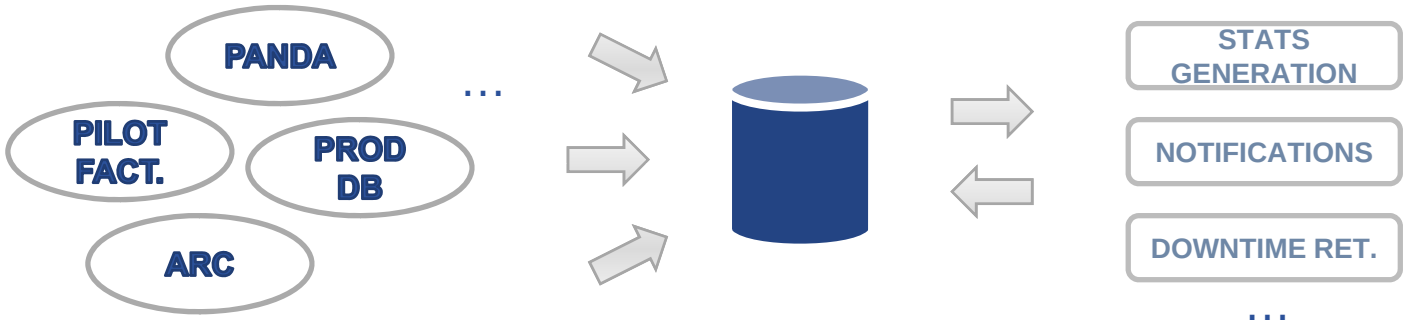


ATLAS Prodsys Dashboard

- **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

ATLAS Prodsys Dashboard

- Monitoring of production jobs in all ATLAS

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- work
-
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ATLAS Prodsys Dashboard

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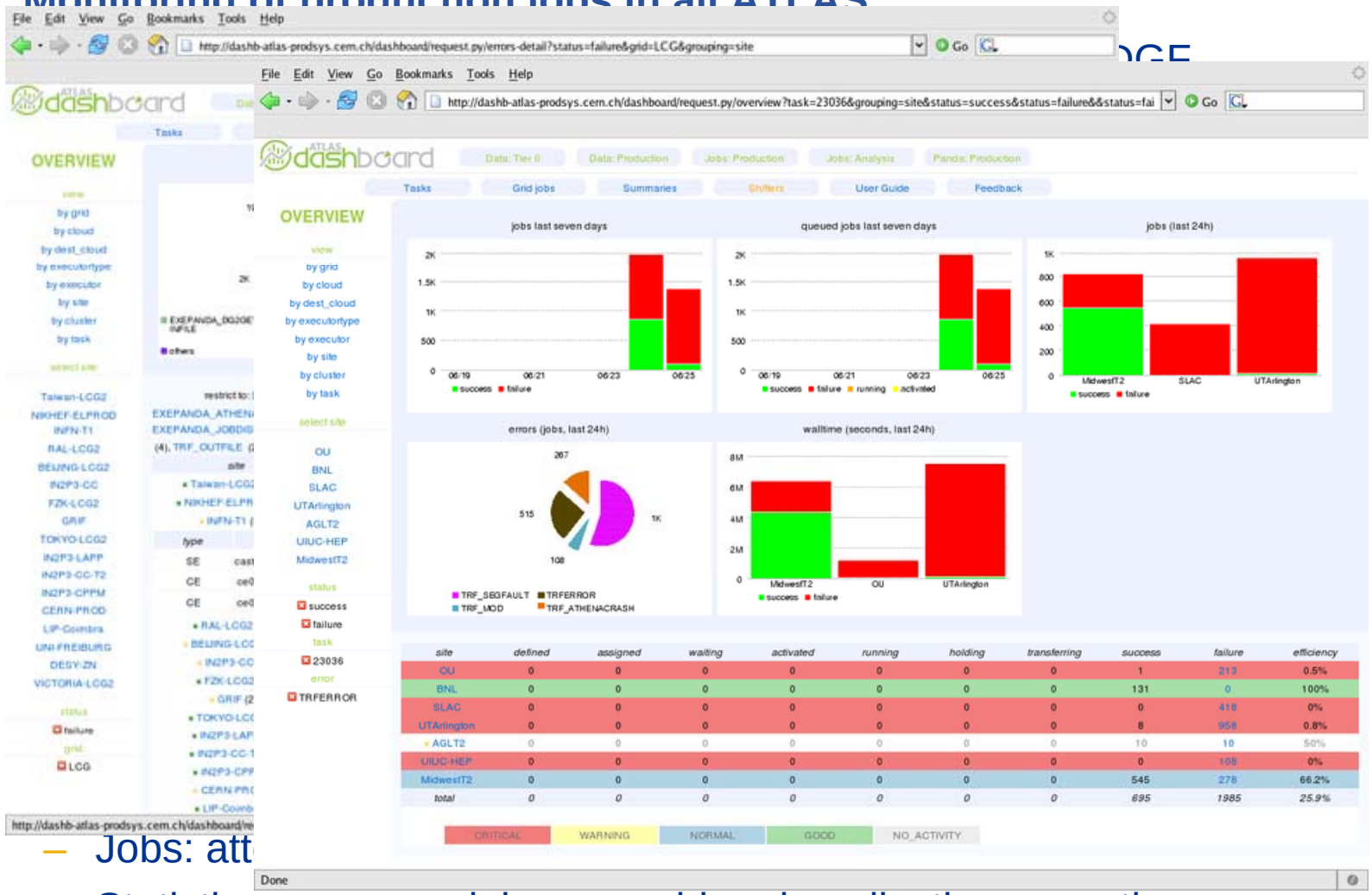
- Monitoring of production jobs in all ATLAS



- Jobs: att
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ATLAS Prodsys Dashboard

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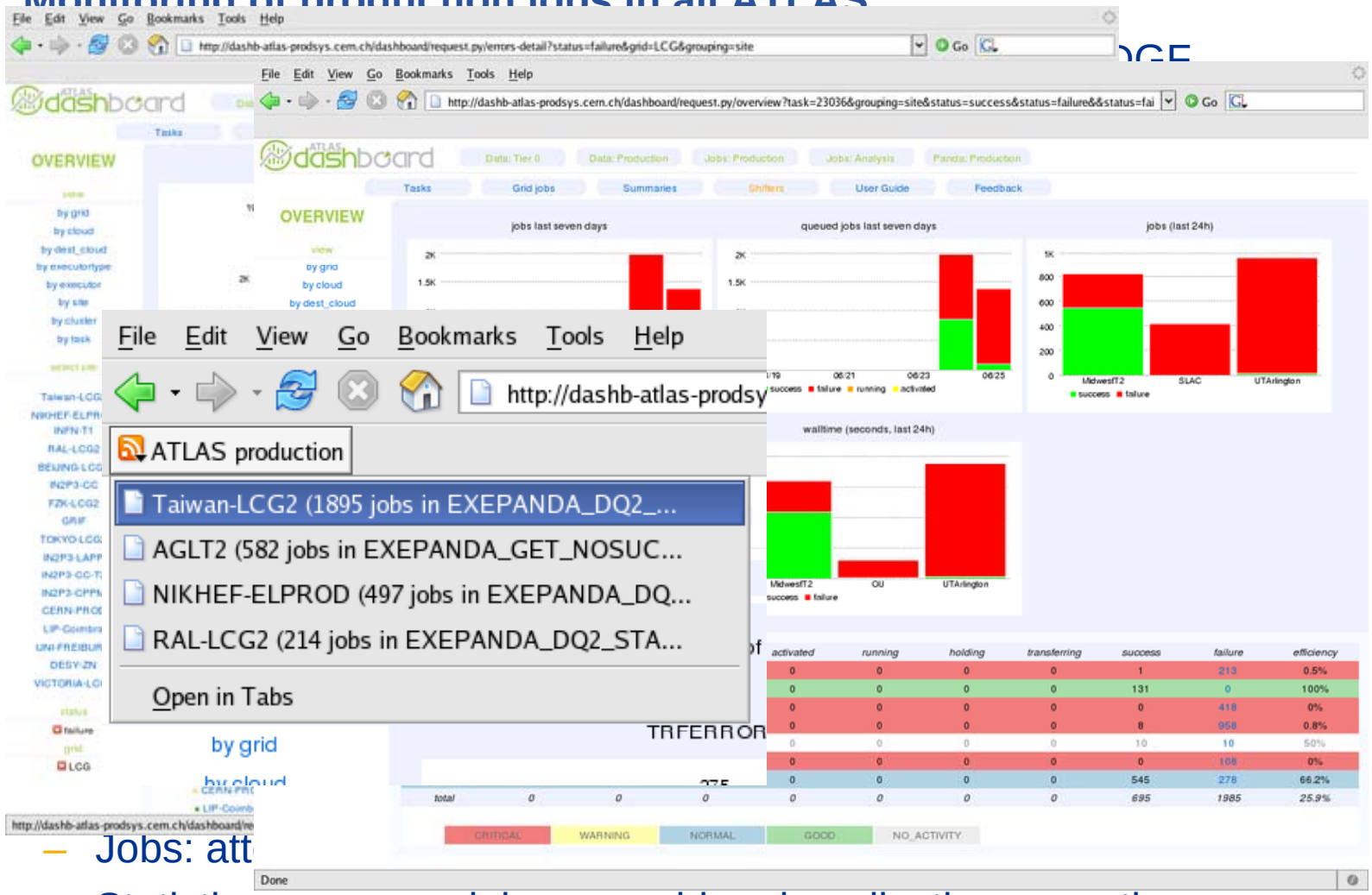

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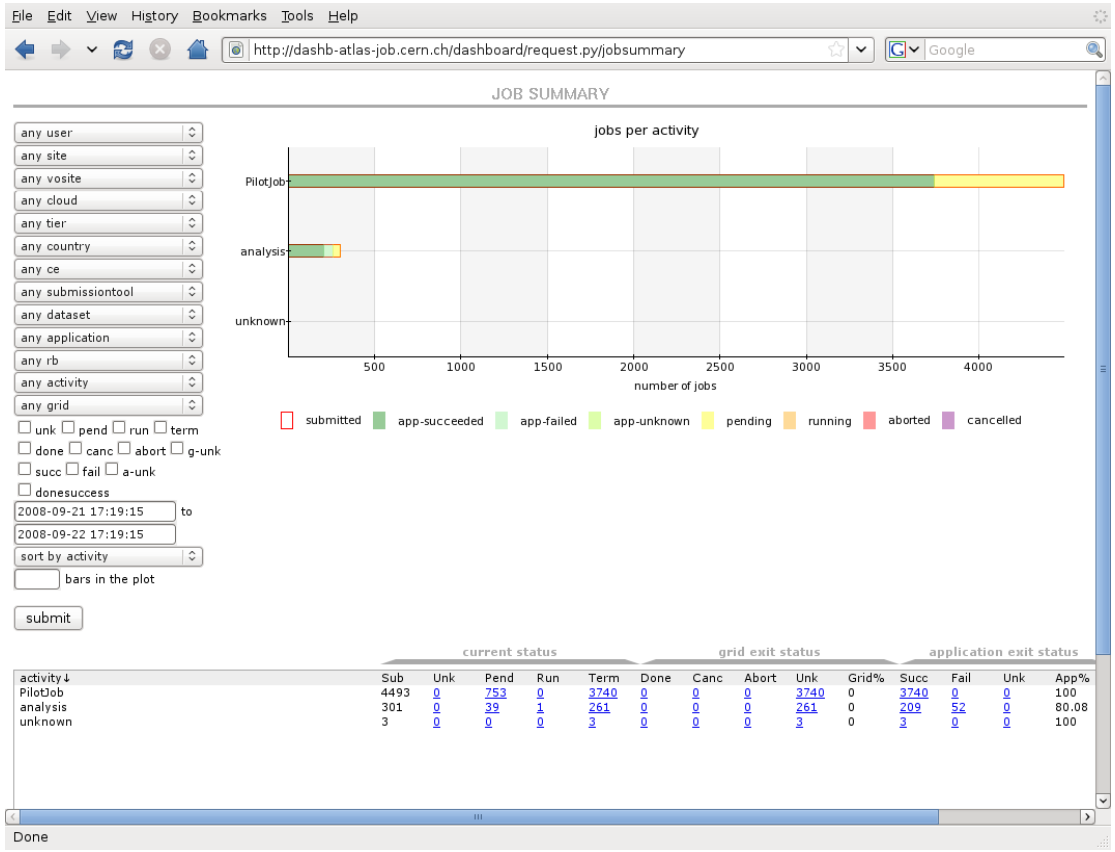
JOB MONITORING



Mostly analysis users

PANDA jobs collected directly from their db

GANGA jobs collected via the messaging API

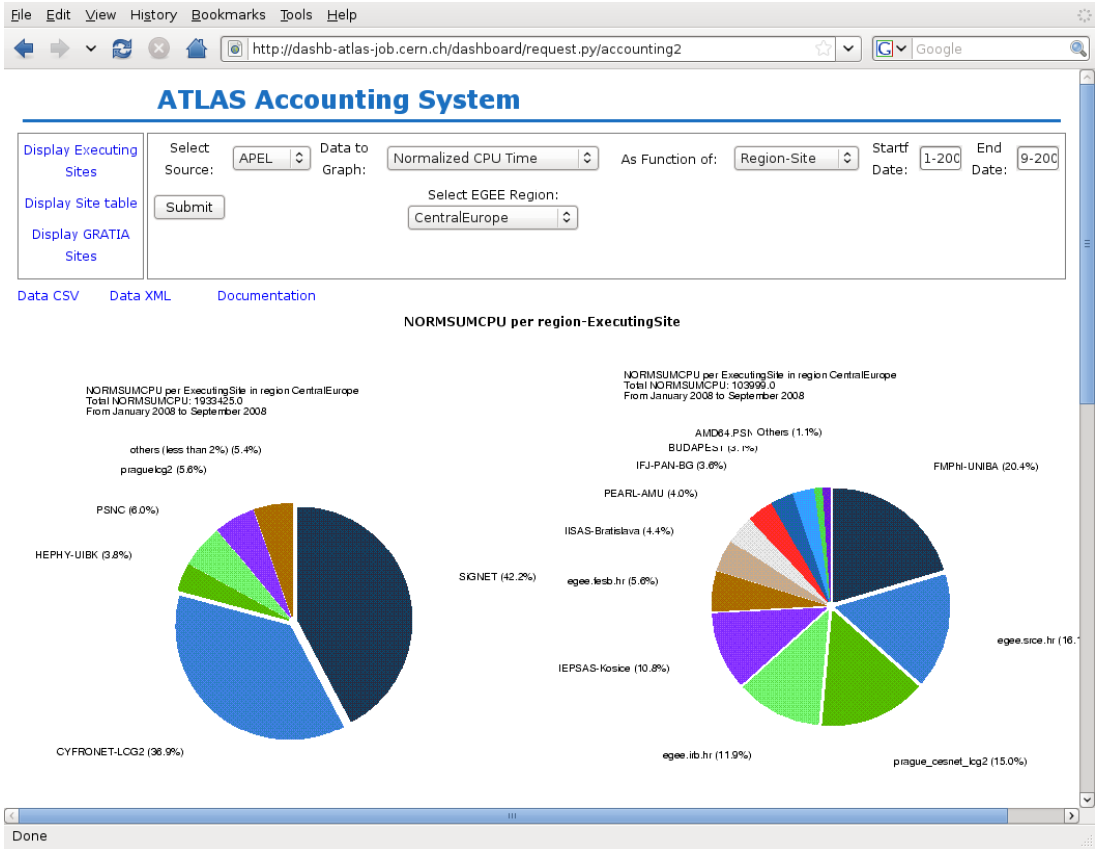
Generic Dashboards

ACCOUNTING

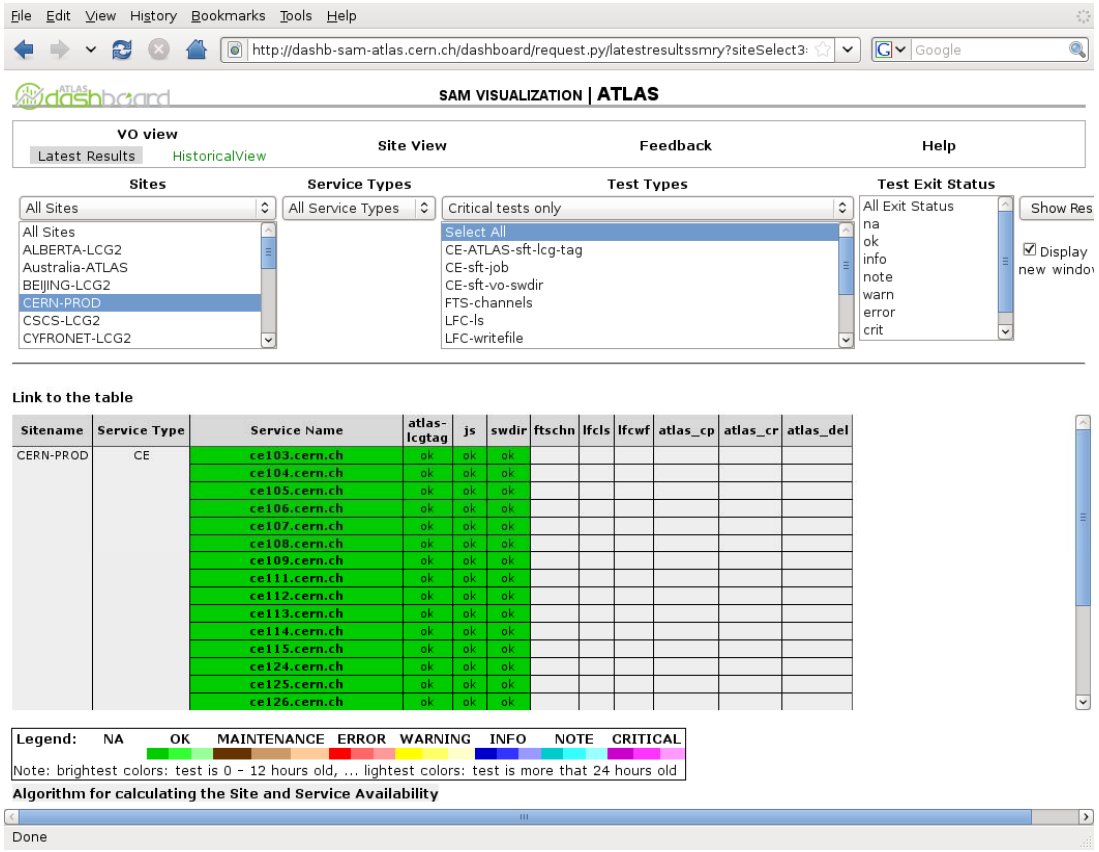
Developed by an ATLAS collaborator who joined the dashboard team

Contribution now available to all experiments

Data gathered via APEL and GRATIA



Service Availability and Monitoring



Initially effort targeting CMS requirements

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

Current focus / Ongoing work

- **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