HappyFace as a monitoring tool for the ATLAS experiment

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- HappyFace project is a monitoring tool to monitor grid sites. It aggregates, processes and stores information from different monitoring sources and from the grid system itself.
- HappyFace project is a joint collaboration within the DE cloud in terms of the module development. The core has been developed at KIT (CMS) and the Georg-August-Universtität Göttingen (ATLAS).

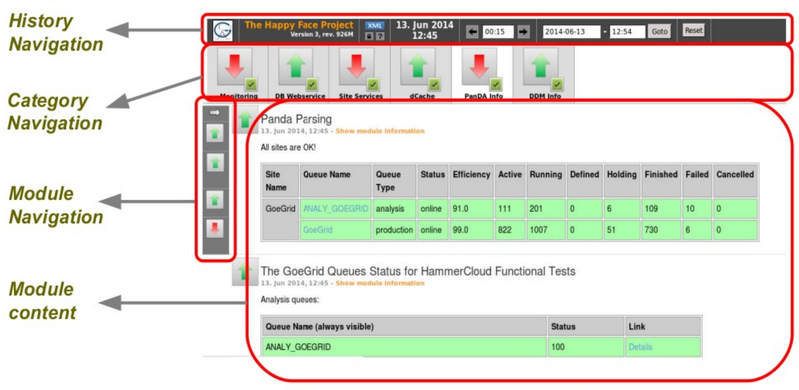
Features

- Allow real-time site monitoring
- Auto-refresh system
- Can be used as an effective tool for problem spotting by shifters
- Easily configurable and adjustable e.g. modular structure, certificate based access control

Main interface

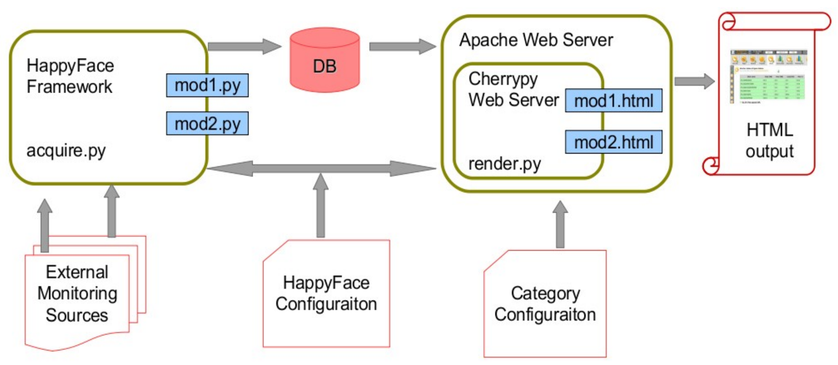
Requirements

- Single access point
- History functionality
- Fast accessibility
- Comfortable usage
- Modular structure
- Up-to-date monitoring information



Basic workflow

- Retrieve data from external sources
- Information is stored in SQLite database
- Output is processed by HappyCore as a HTML file

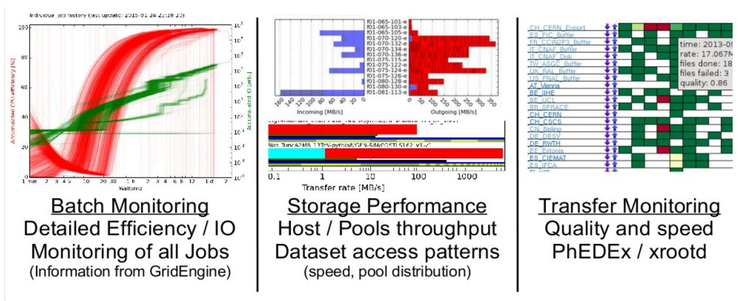


Current Activities at KIT

Current Core Development for HappyFace 3.1

- Infrastructure to support sharing of data sources between modules
- Pre-rendering of latest HappyFace state to increase responsiveness
- Improvements to the handling of time series data sources / modules

Module Development



Batch Monitoring
Detailed Efficiency / IO Monitoring of all Jobs
(Information from GridEngine)

Storage Performance
Host / Pools throughput
Dataset access patterns
(speed, pool distribution)

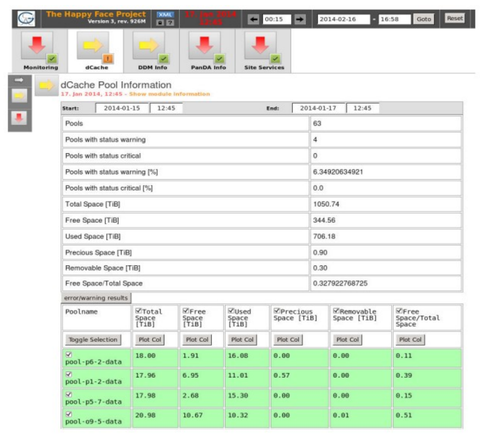
Transfer Monitoring
Quality and speed
PhEDEx / xrootd

Basic modules within WLCG

Non ATLAS modules

- HammerCloud Functional Tests
- Compute Node Information
- Ganglia
- GStat Panda
- CreamCE
- PBS
- Nagios
- SAM tests
- Apel Accounting
- dCache Dataset Restore Monitor
- dCache Pool Information

The modules are developed to gather information from WLCG Infrastructure.

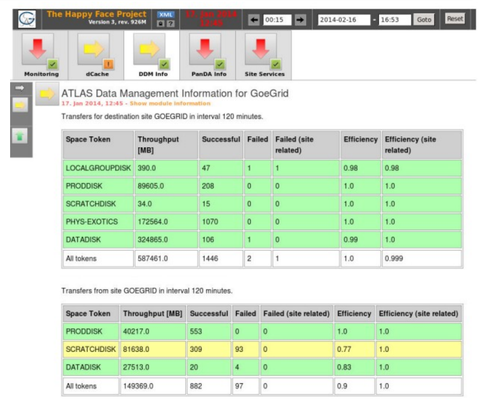


ATLAS modules

ATLAS modules

- Analysis Ganga Jobs
- Panda[1]
- DDM[2] Dashboard
- DDM Deletion

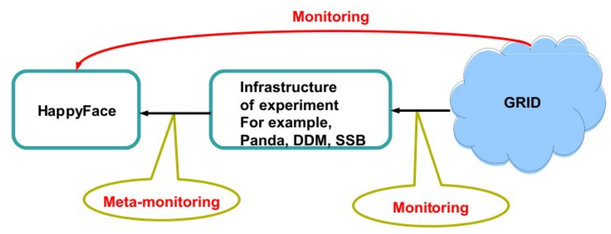
The modules are developed in the use of ATLAS Computing Model.



Grid-enabled extension

The new infrastructure of HF

- New component in HF
- Direct aggregation from Grid is allowed



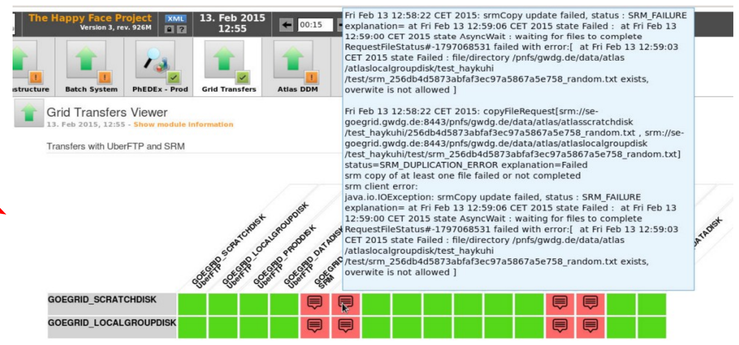
Requirements

- Proper X.509 certificate
- Grid environments and tools
- Not to redesign and touch HF Core system
- New Grid-enabled modules

Current Grid-enabled HF implementation

- Grid proxy handler
- HF is adopted to the CVMFS[3]
- New implementation as an extensible structure
- GridTransfer module

GridTransfer module



Future applications

- Independent from infrastructure of experiments monitoring system can be provided
- A Grid transfer performance tester within the cloud/site can be provided
- A Robot job manager can be provided

Reference

[1] Maeno, Tadashi, et al. "Overview of atlas panda workload management." Journal of Physics: Conference Series. Vol. 331. No. 7. IOP Publishing, 2011

[2] Megino, Fernando Harald Barreiro, et al. "DDM Site Services: A solution for global replication of HEP data." (2012)

[3] Blomer, J., et al. "Status and future perspectives of CernVM-FS." Journal of Physics: Conference Series. Vol. 396. No. 5. IOP Publishing, 2012

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