The Grid Observatory: Status and Issues

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A collection of data for Computer Science and Engineering

2003 NSF Blue-Ribbon Advisory Panel on Cyberinfrastructure Report : Revolutionizing Science and Engineering through Cyberinfrastructure

- Grids of computational centers
- Comprehensive libraries of digital objects
- **Well-curated collections of scientific data**
- Online instruments and vast sensor arrays
- Convenient software toolkits

Goals

Grid digital assets curation

- Collecting verifiable digital assets
- Providing digital asset search and retrieval
- Certification of the trustworthiness and integrity
- Semantic and ontological continuity and comparability

Building the domain knowledge

- Answering operational issues
- Descriptive/generative/predictive models
- Design and validation of model-free policies

Support and collaborations

The Grid Observatory Portal

Cécile
Germain-Renaud, for
the GO team

Grid Observatory Search for Traces - Windows Internet Explorer

http://query.grid-observatory.org/

Grid Observatory

Grid Observatory
About
Data
Presentation
Query
Documents
Registration
Related news

Contact
Site map
Admin

Latest news
News Events

eGee
Enabling Grids
for E-sciencE

Design by HealthGrid
W3C XHTML 1.0 | W3C CSS 2.0

My Profile Logout Search

Search for Traces

Filters Hide

Site: GRIF-LAL
Service: Information System
From... To...: 2008-06-23 2008-09-09
Search

Documentation about the traces Display

Query results Hide

Affiliation	Service	Period	Download?
GRIF-LAL	Information System	2008-07-28 2008-08-03	Download (288 MB)
GRIF-LAL	Information System	2008-08-11 2008-08-17	Download (198 MB)
GRIF-LAL	Information System	2008-08-18 2008-08-24	Download (295 MB)
GRIF-LAL	Information System	2008-08-25 2008-08-31	Download (306 MB)
GRIF-LAL	Information System	2008-09-01 2008-09-07	Download (408 MB)
GRIF-LAL	Information System	2008-09-08 2008-09-14	Download (299 MB)

Displaying **all 6** traces

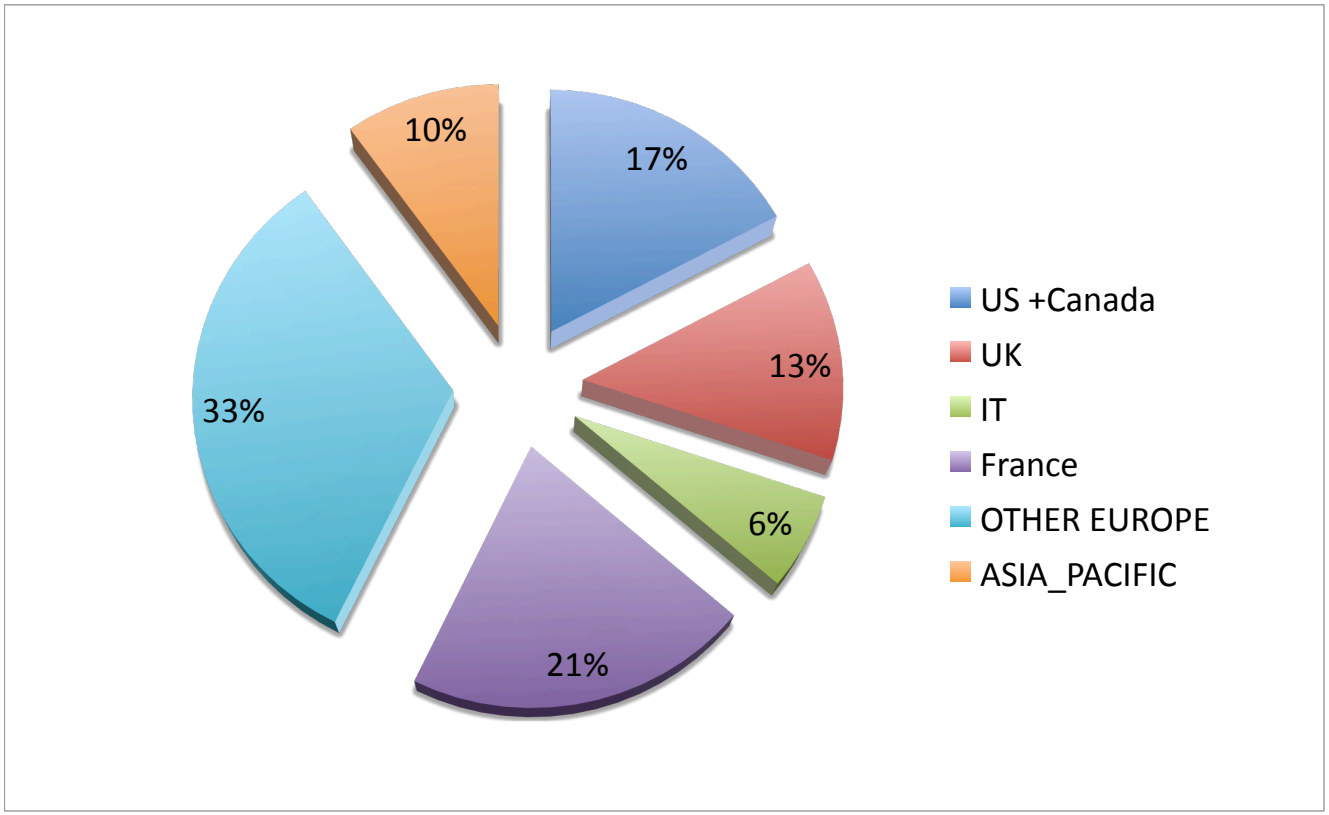
In order to use our website, please ensure that both JavaScript and cookies are allowed.

démarrer | Gestionnaire des tâch... | Connexion réseau sa... | Logos | Mulberry (Connected) | Grid Observatory sta... | Grid Observatory Sea... | FR | 22:56

Grid Observatory

egi

Audience


10%
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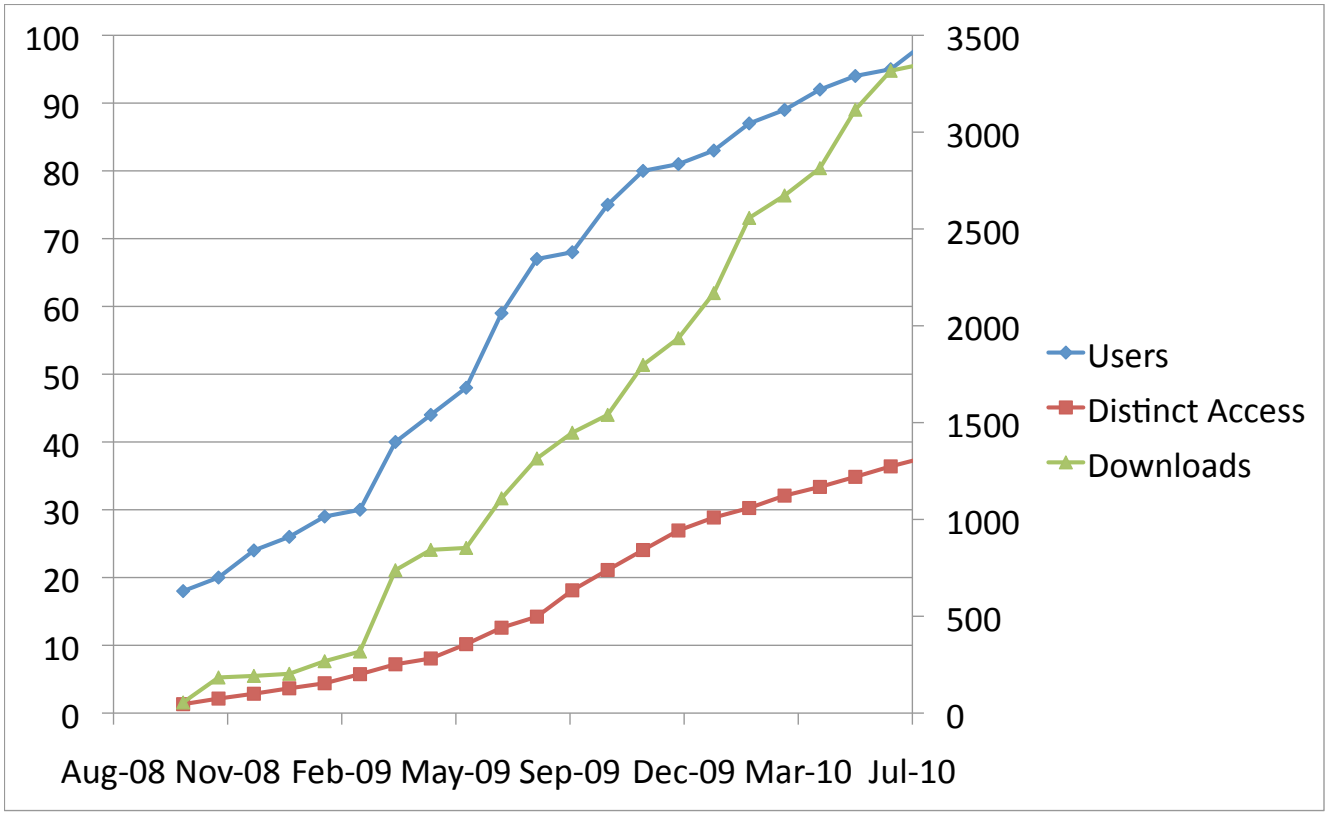
OTHER EUROPE
ASIA_PACIFIC

Activity



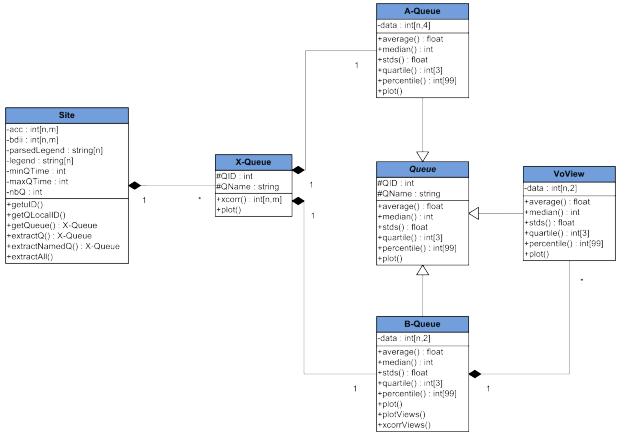
$\sim$ 20 peer-reviewed papers that we know of, latest M. Parashar et al. *Energy-Efficient Application-Aware Online Provisioning for Virtualized Clouds and Data Centers* Proceedings of the 1st IEEE International Green Computing Conference.

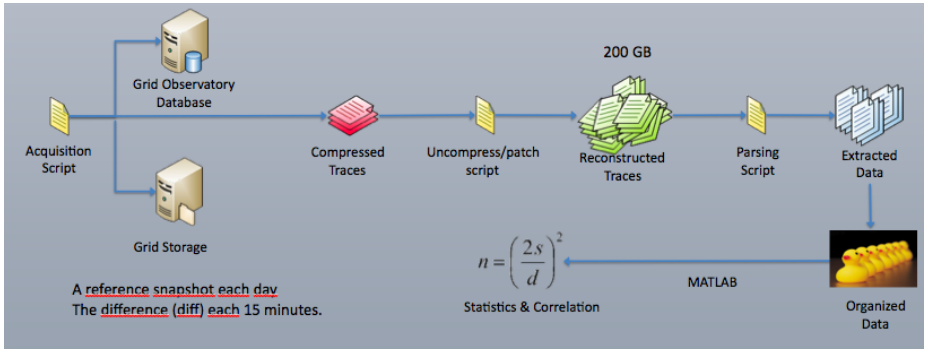
Example of use: is the ERT a good predictor for ART?

A request from EGEE JRA-3

1. Integrating heterogeneous data

- ERT - expected response time- published by the BDII
- ART- Actual Response Time- from local schedulers (eg PBS)



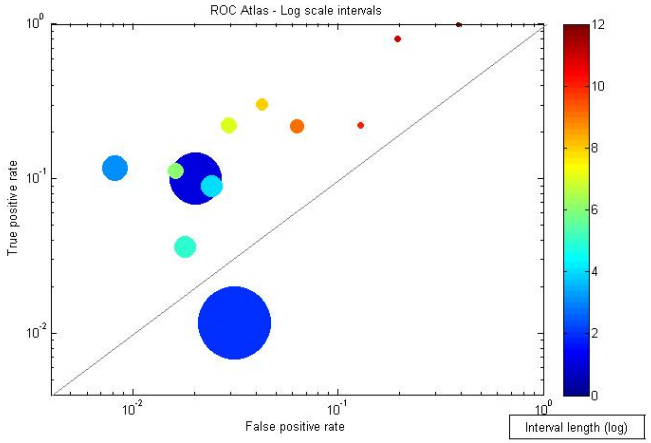


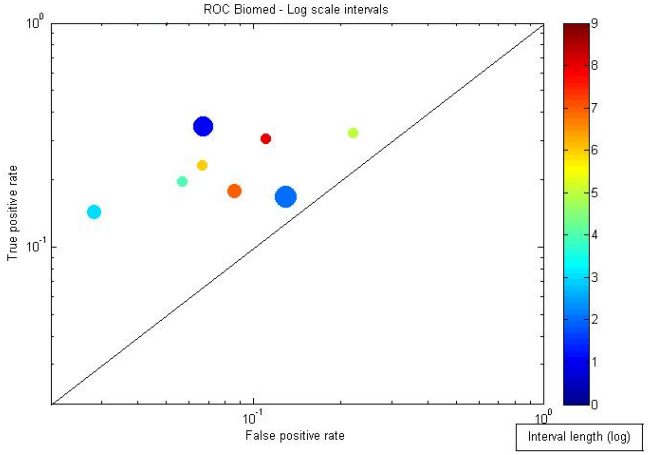
Example of use: is the ERT a good predictor for ART?

A request from EGEE JRA-3

2. What is your definition of good predictor?

- À la BQP (Batch Queue Predictor): how often does the prediction lie within a reasonable distance of the actual?
- ERT is a classifier, the classes are intervals of the value range Intervals
- ROC: True Positive Rate vs False Positive Rate



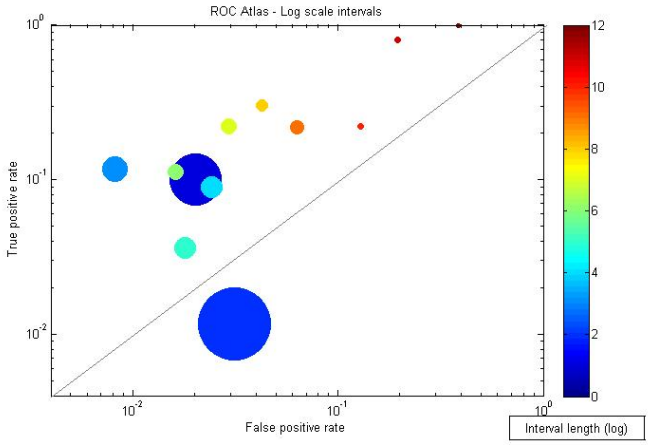


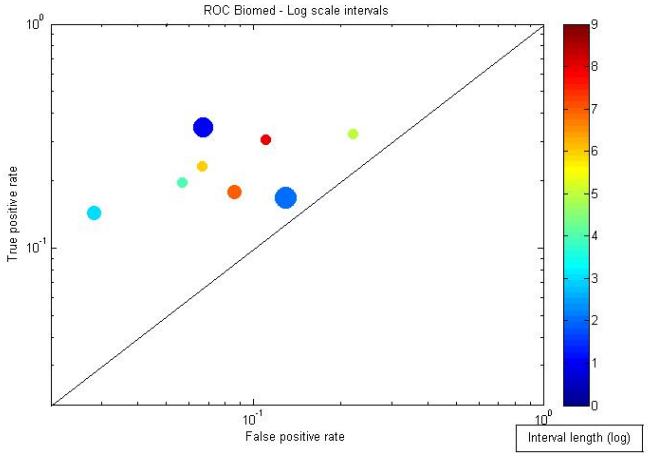
Example of use: is the ERT a good predictor for ART?

A request from EGEE JRA-3

3. Systematic Analysis

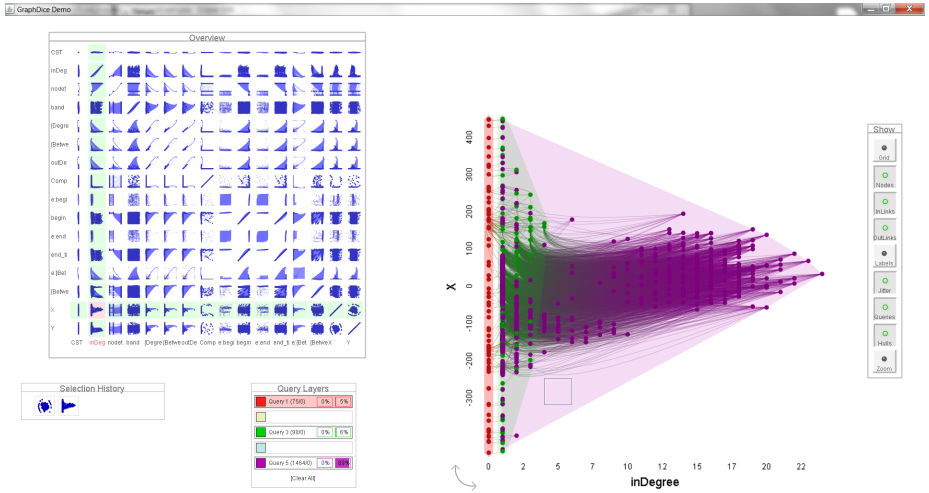
- On representative sites
- Not yet possible: ART data available only for one site (LAL)
- while comprehensive ERT are available





Data traffic

- Gridftp logs from the LAL site
- Collected and formatted
- Publication coming soon...
- Top priority for exhaustive collection



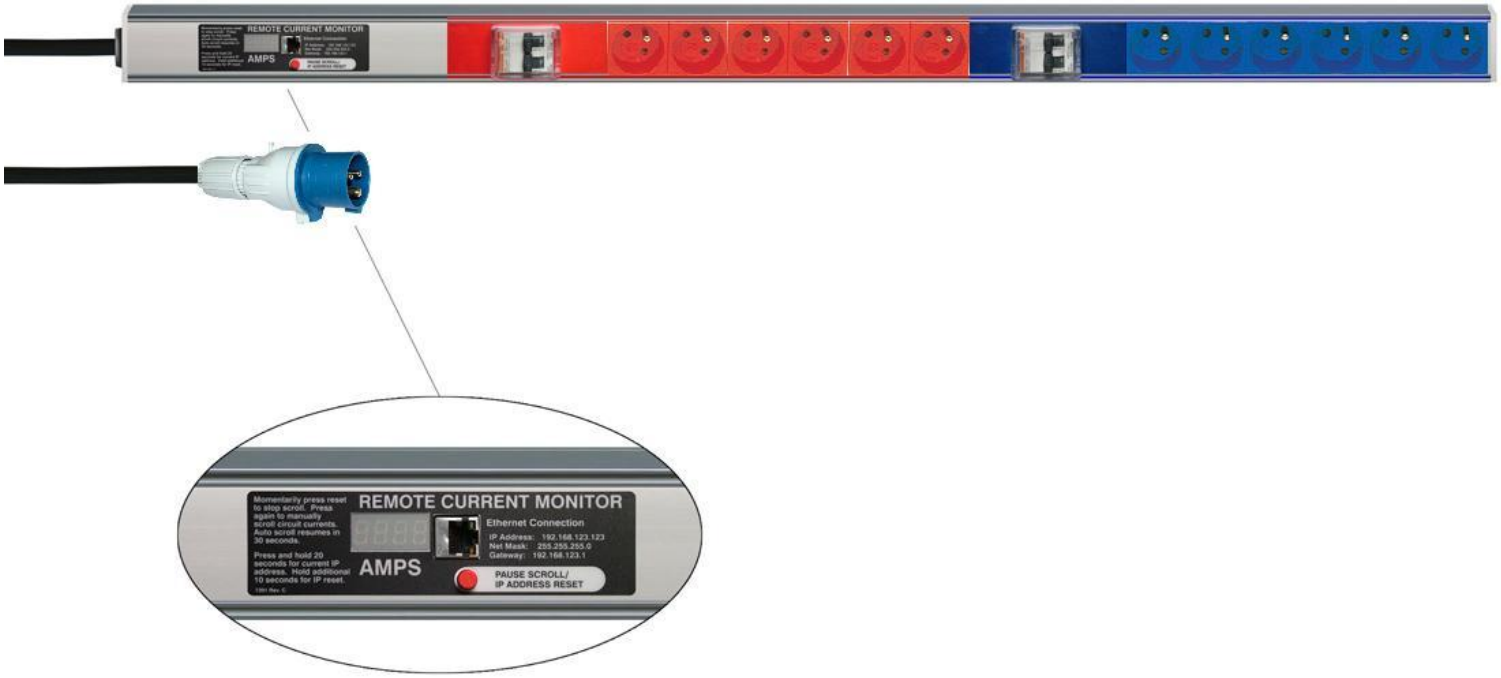
Users/Files/Clients worker nodes graph display with AVIZ GraphDice

The PowerMon@LAL project

Monitoring of energy consumption at the LAL computing center

- Provide fine grain data in the form of time series
- Operational infrastructure planning and optimization
- Prototype based on 32 machines, 300 ($\sim$ 1500 cores) planned

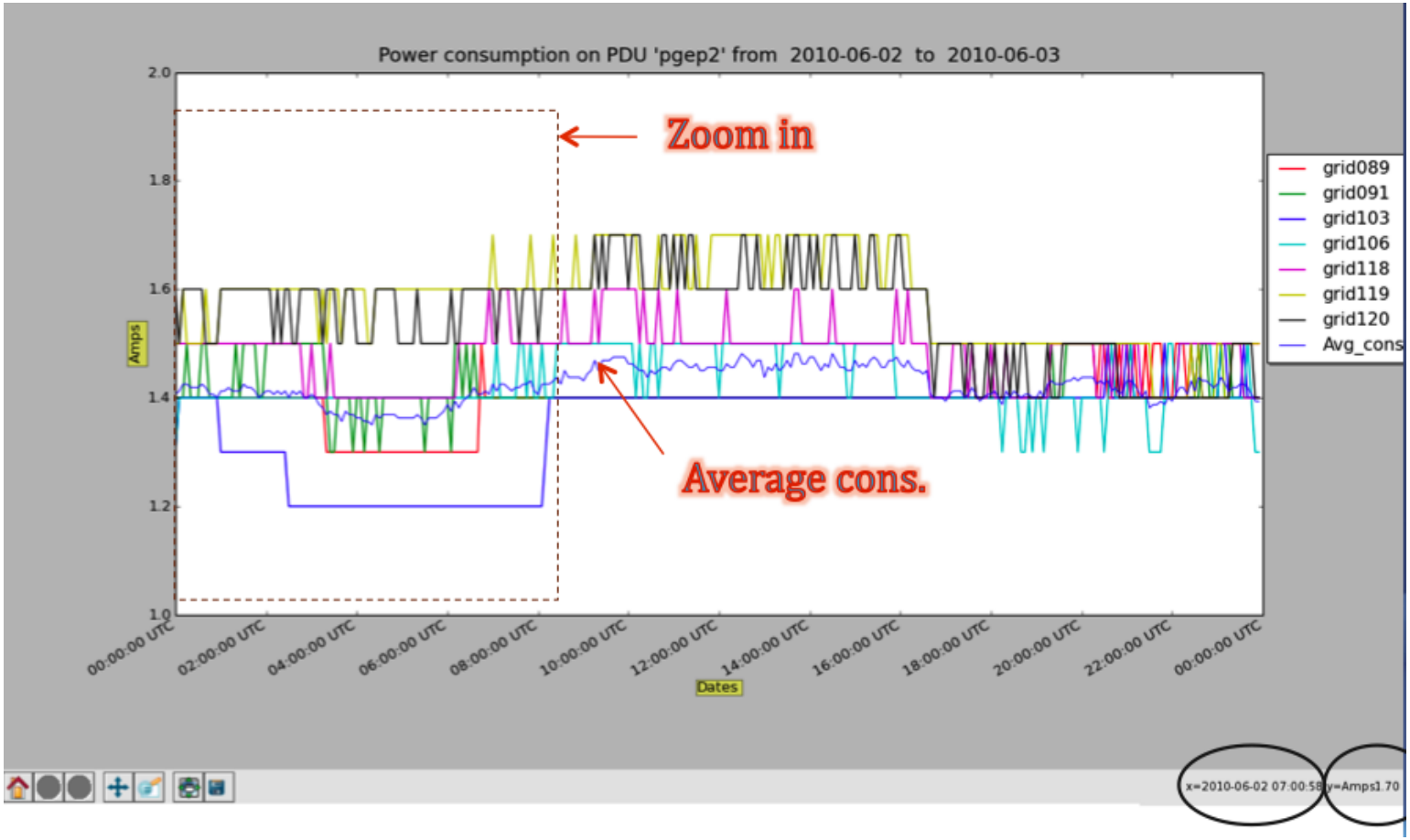
Method



Power Distribution Unit (PDU) with SNMP-based remote monitoring

- Python scripts collect the data about individual machine power consumption and load, running every 5 minutes
- All these data are stored in a unique SQL database
- Visualization tools allowing correlations between these series

First results



Towards GO 2.0

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- Users Community building
- More user-friendly formats, automatic consistency checking, more semantics
- More participating sites. Technology and process?
- Actors Community building