

RTM for monitoring

<http://gridportal.hep.ph.ic.ac.uk/rtm/>

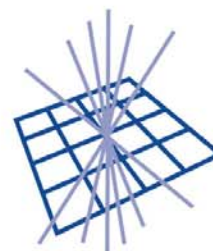
O. van der Aa

o.vanderaa@imperial.ac.uk

e-Science, HEP, Imperial College London

On behalf of

D. Colling, G. Moont, M. Aggarwal

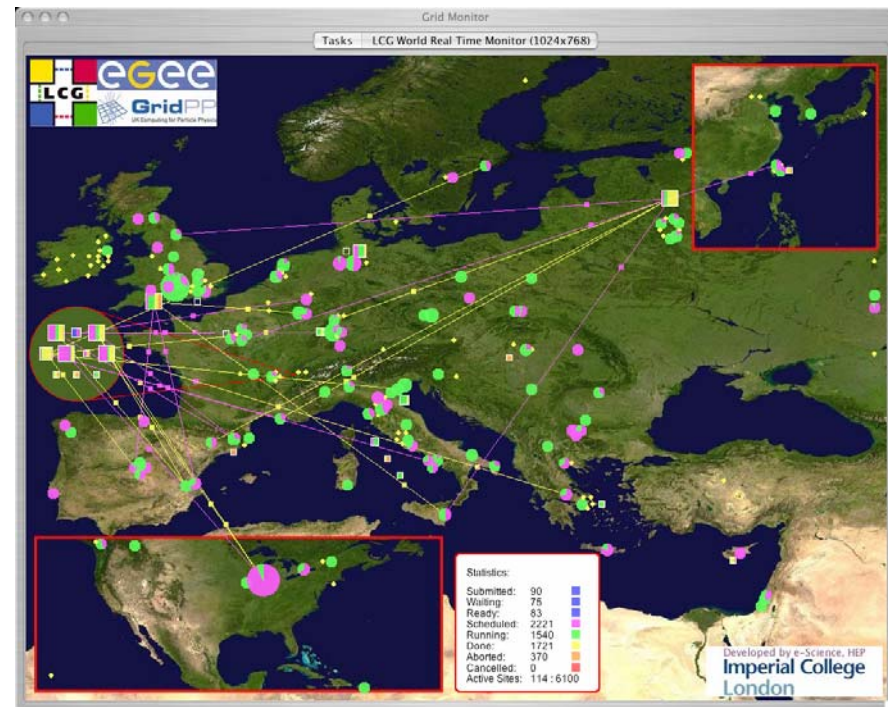


Changes in the RTM

- Big changes in underlying design allowing for more flexibility
- 51 Resource Brokers now monitored
- Other EGEE Grid Projects have requested to be monitored; EUMED, EUCHINA, EELA
- Historical data available and taken by several groups
- Real Time data being visualised in new ways

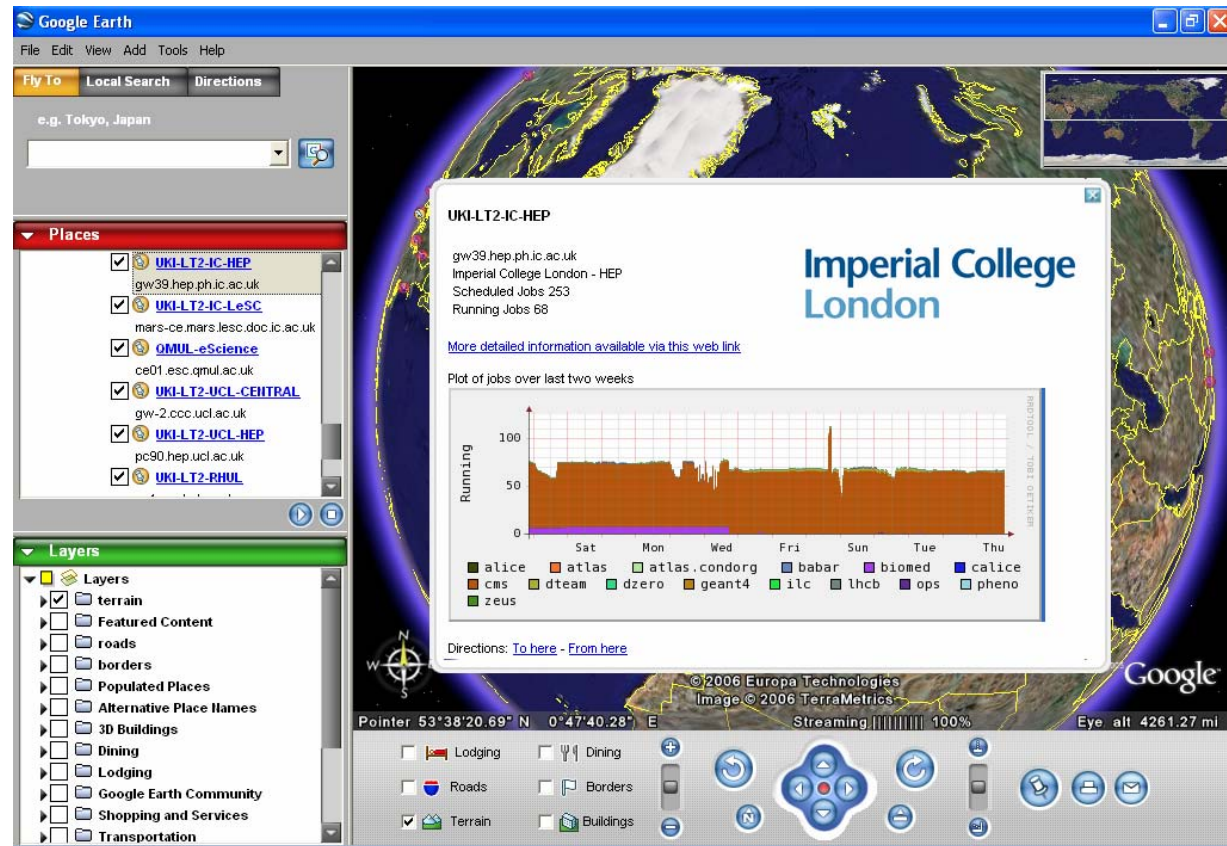
RTM, the Applet

- The original form of the Monitor - popular as a demo
- Problem in users are unaware of full capabilities via clicking in the Key; selection by VO and/or RB



RTM, Google earth

- Static view of the grid
- Shows a plot of running jobs for each site you click on.

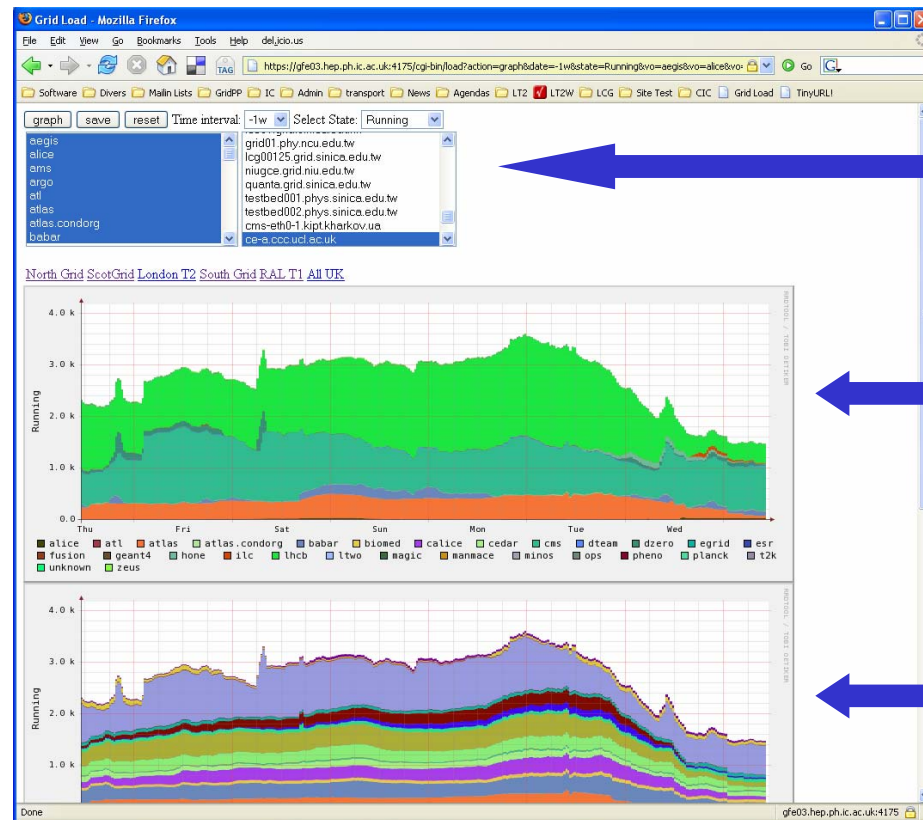


RTM, real time plots

- The RTM keeps all job states in a Postgresql database
- Round-robin archives are then produced to allow real time plotting of the number of jobs in any given state.
- Good for real time monitoring of the Grid activity

How does it look like

- See <https://gfe03.hep.ph.ic.ac.uk:4175>

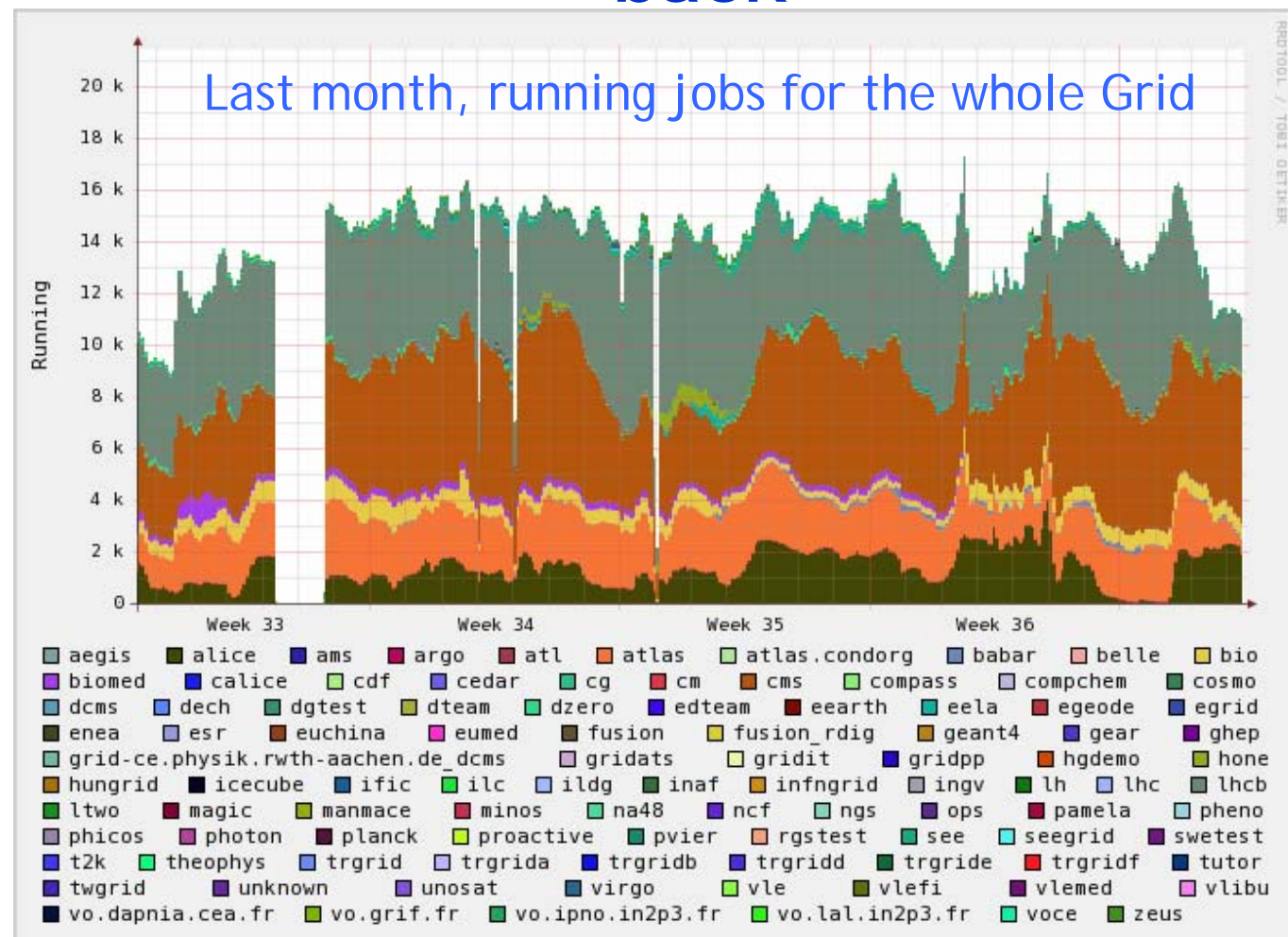


- Select a set of VO and CE and the time period for the plot

- One plot stacked by VO

- On plot stacked by CE

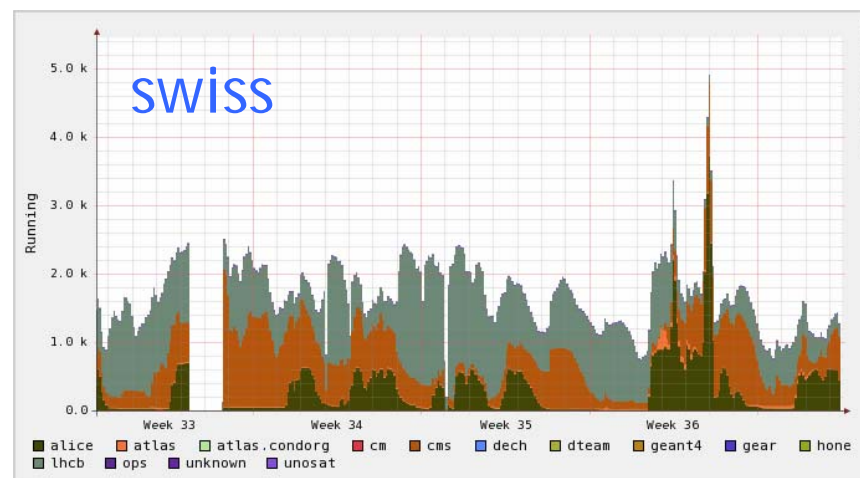
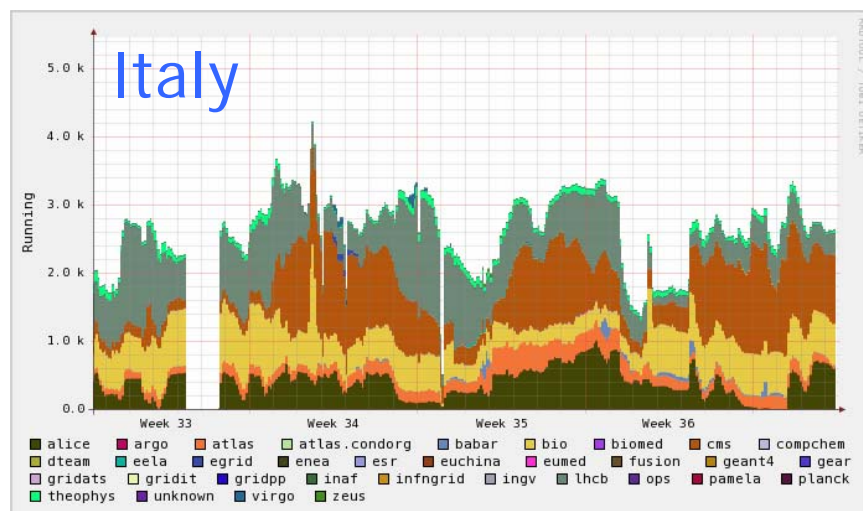
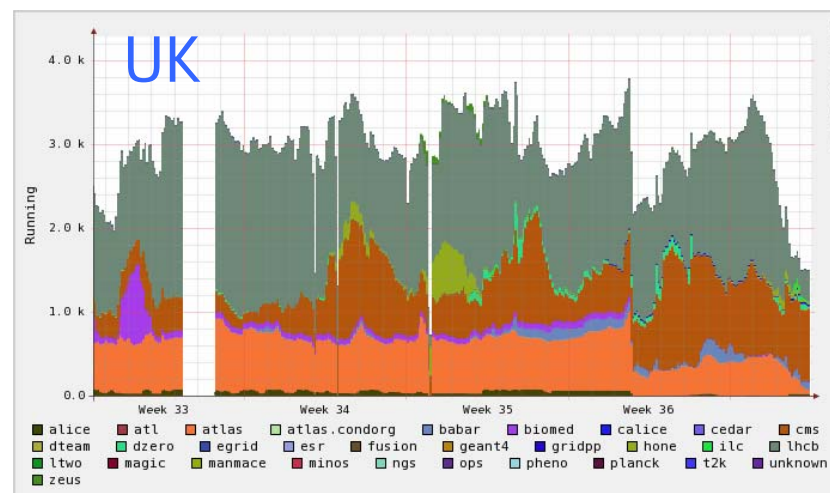
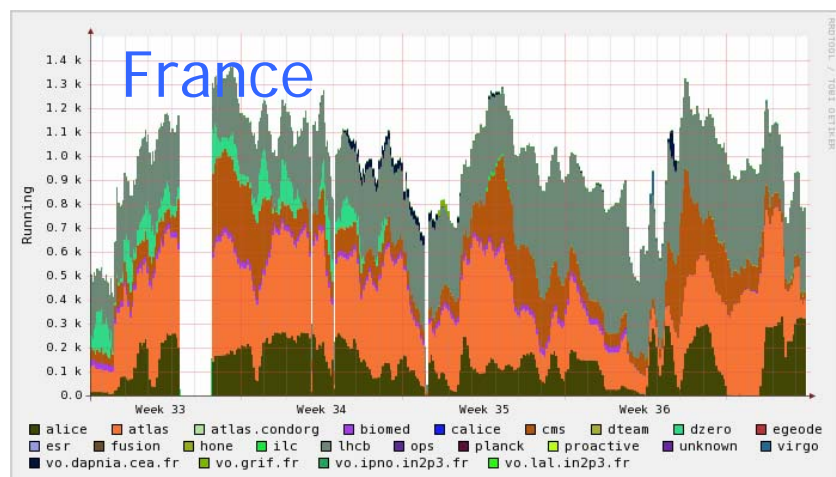
RTM, running jobs 1month back



15/09/2006

RTM for monitoring - o. van der Aa

View per country



Embedding graphs in your web pages

- <https://gfe03.hep.ph.ic.ac.uk:4175/cgi-bin/googlegraph.cgi?>
- Arguments are
 - `ce=[yource1]&ce=[yource2]`
 - If no ce is given all the existing ones are plotted
 - If `filter=[country]` is used only the ce in that country are shown
 - `Date=-1w`
 - `W=800` (width)
 - `H=400` (height)
- Examples:
 - `Googlegraph.cgi?ce=gw39.ph.ic.ac.uk&date=-1w&w=800&h=400`
 - `Googlegraph.cgi?filter=uk&date=-1w&w=800&h=400`

RTM for detailed analysis

- Round robin is fast to render real time data view over long periods
 - It contains averages of the number of job in a given state
- For more detailed analysis we need the full data on a per job basis (jobid)
 - Use root to store the timings of the job state transitions
 - Also store all the states the job went in

Where to find the root and ascii data

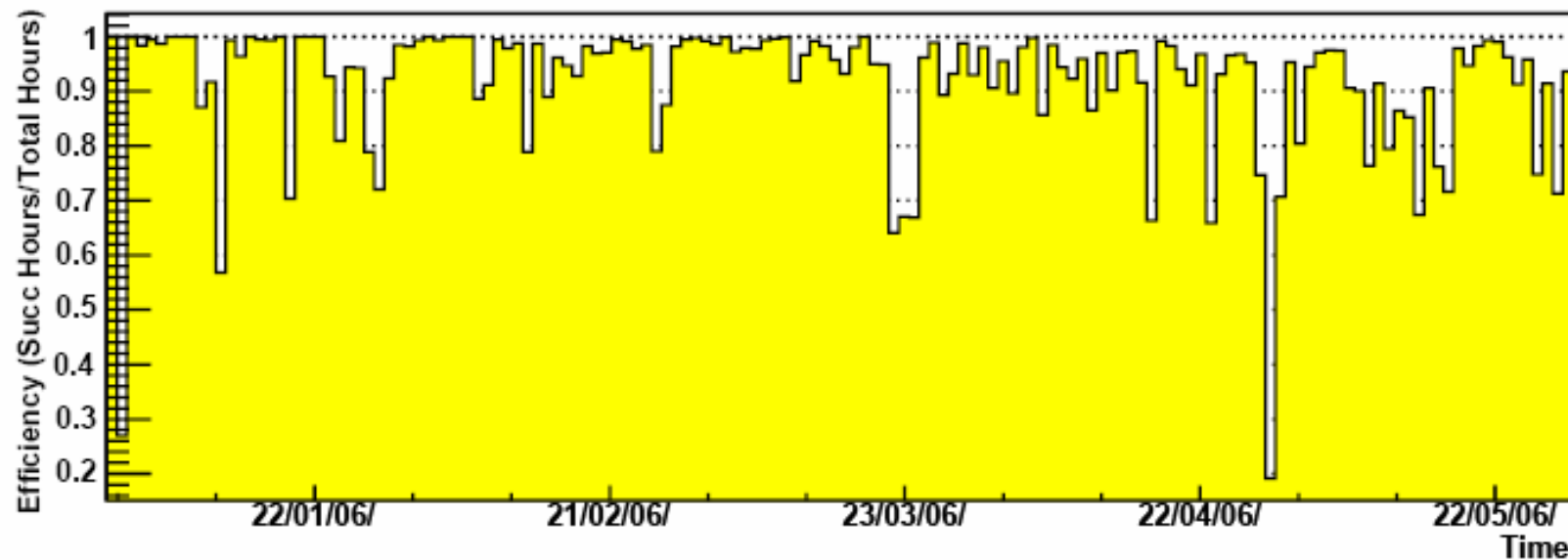
- http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/reports/ascii_report_data_2006-05-01.dat
- http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/reports/root_report_data_2006-05-01.root
- The daily data is that of jobs which are considered as "finished" by the RTM within a 24 hour period (local time UK midnight-midnight). Finished means either they were CLEARED by a user, or had been sitting in a DONE / ABORTED / CANCELLED state for over 2 hours.

Job states data

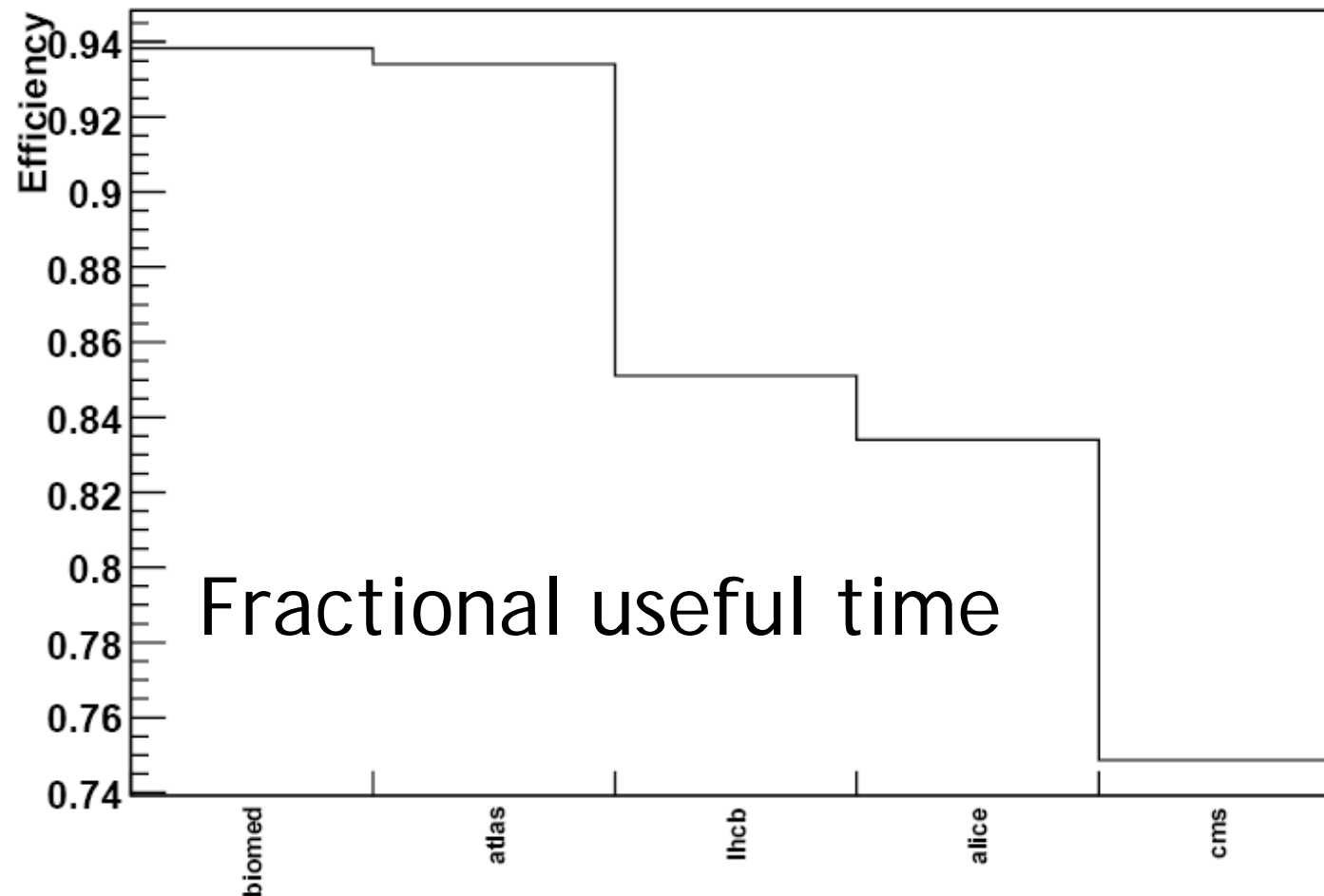
- <http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/all.dat>
- <http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/update.dat>
- Their format is (Java code snippet) - the all.dat does NOT have the rtm_timestamp ;
- `println(rbAddress + "\t" + jobid + "\t" + status + "\t" + state_entered + "\t" + registered + "\t" + ui + "\t" + ce + "\t" + queue + "\t" + wn + "\t" + vo + "\t" + rtm_timestamp) ;`
- By reading the all.dat, and rereading the update.dat exactly once a minute afterwards, you should be able to maintain a current view.

Examples (jan-june data)

- Fractional useful time for atlas
- Total Successful Hours/Total Hours

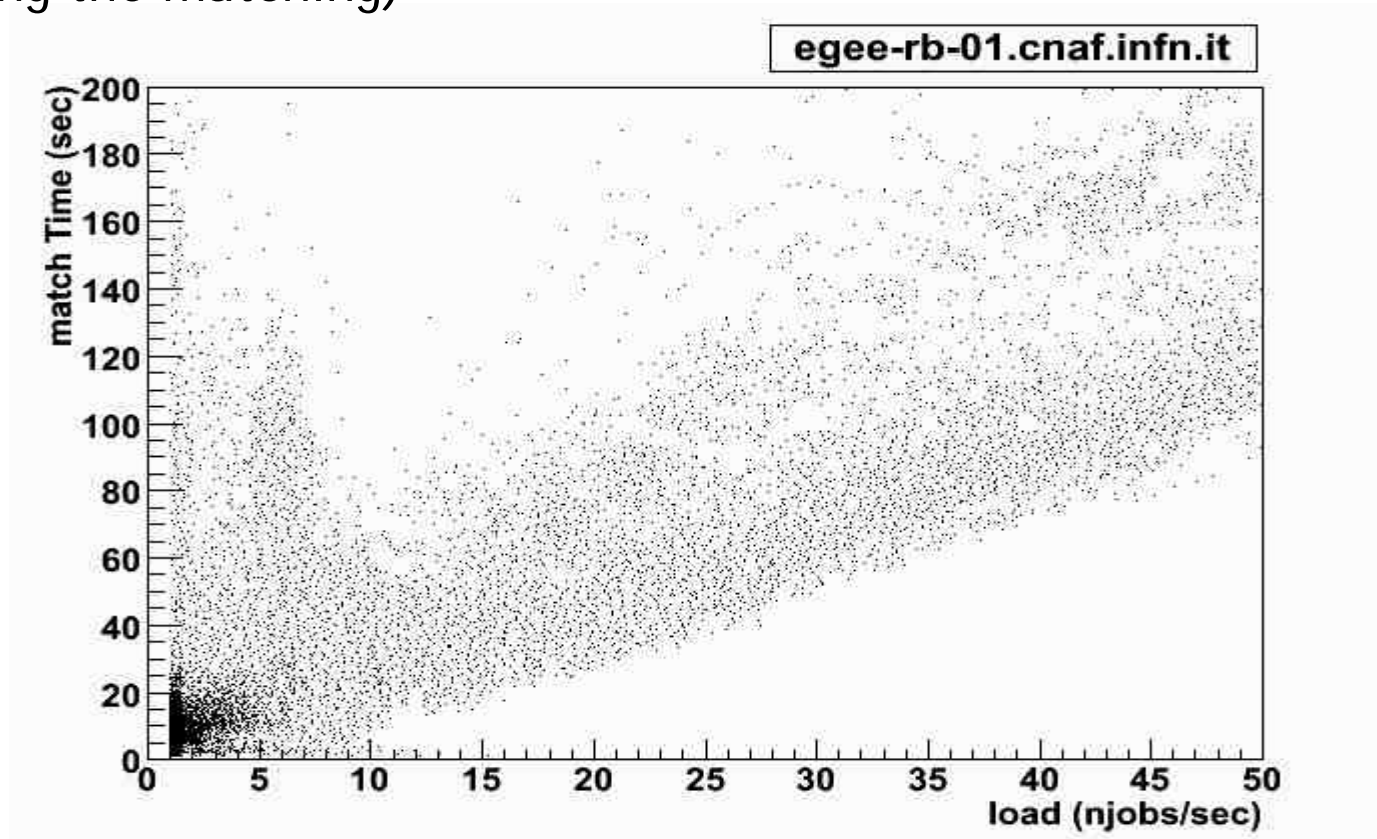


More examples: Fractional useful time per vo



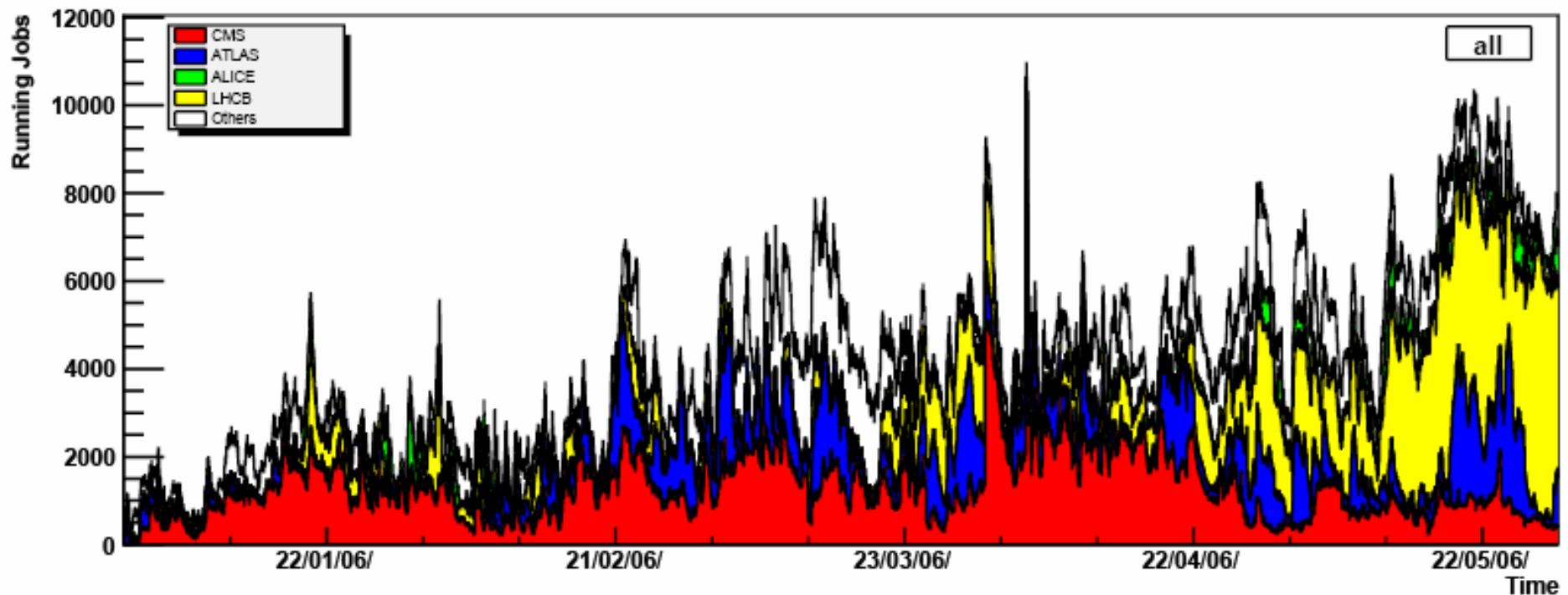
Example WMS monitoring

- Job scheduling (Match Time) versus load (mean number of jobs/sec during the matching)



Conclusion

- RTM is more than the applet



- Please feel free to use the root/ascii and round robin data

URLS

- <http://gridportal.hep.ph.ic.ac.uk/rtm/>
- <https://gfe03.hep.ph.ic.ac.uk:4175>
- The historical data
 - http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/reports/ascii_report_data_2006-05-01.dat
 - http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/reports/root_report_data_2006-05-01.root
- The real time data (job states, ce, rb, etc)
 - <http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/all.dat>
 - <http://gridportal.hep.ph.ic.ac.uk/rtm/resource-brokers/update.dat>