

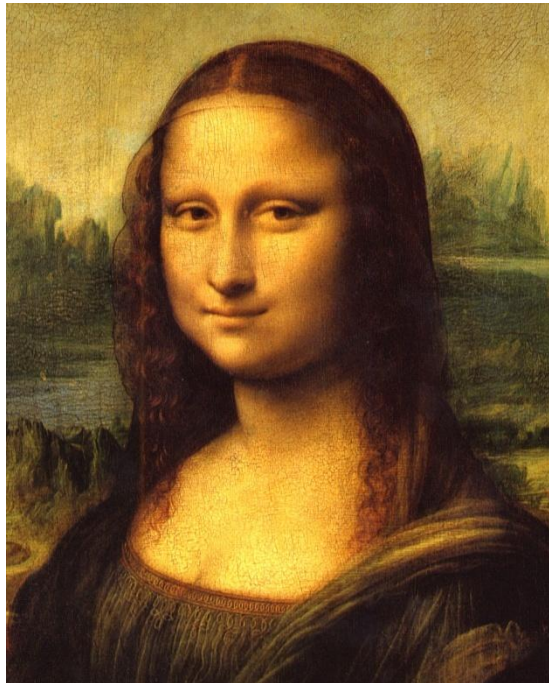


# NEWS OF MONALISA SITE MONITORING

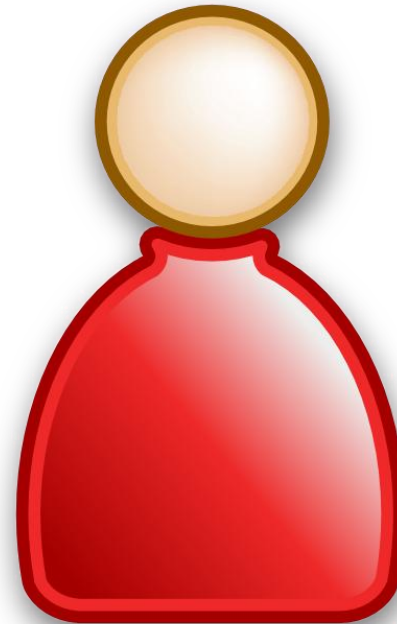
[costin.grigoras@cern.ch](mailto:costin.grigoras@cern.ch)

# NEWS FROM THE FLORENCE SITE

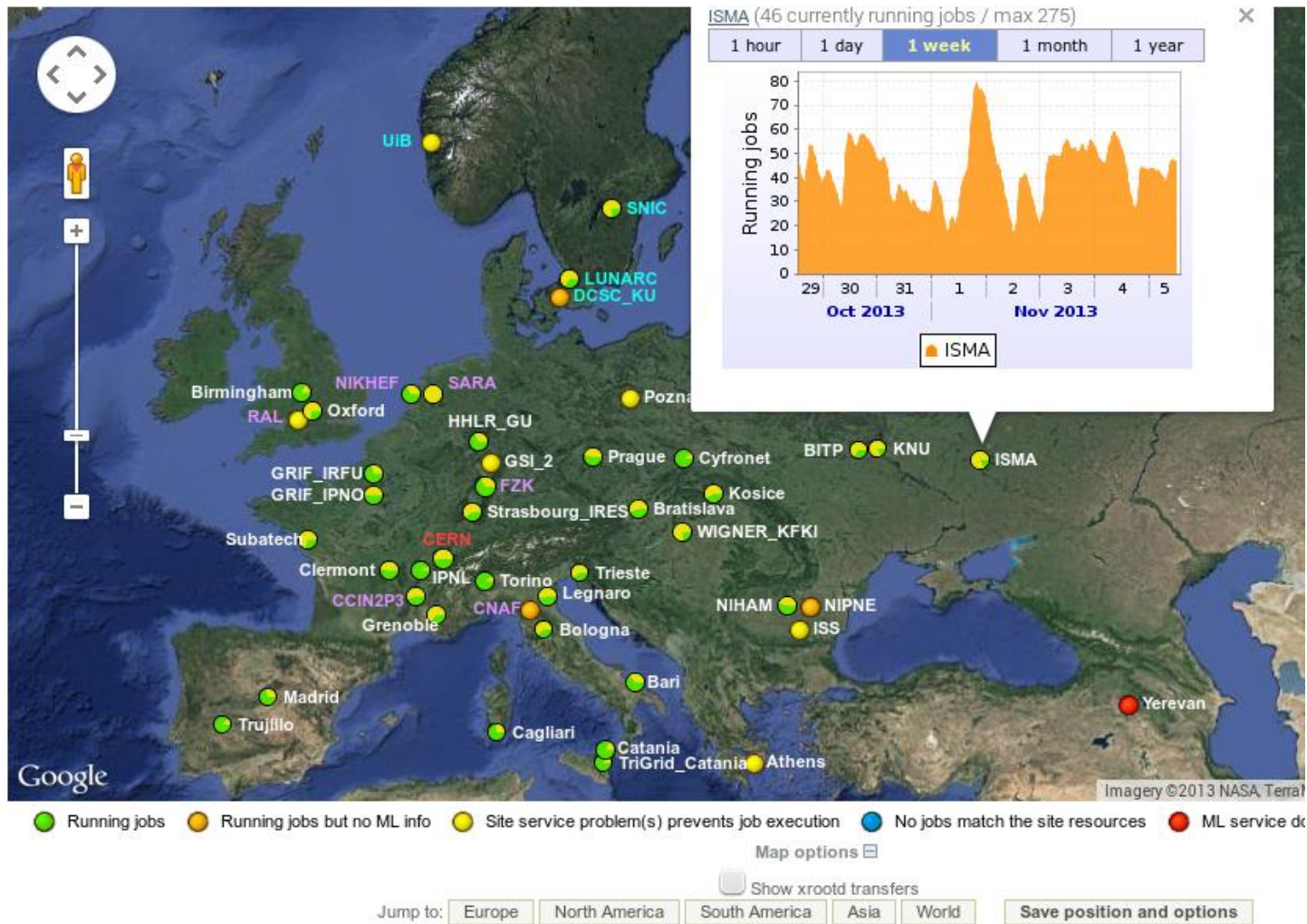
- Analysis of analogue history data in a 500y old database shows a strong correlation between these two time series:



**Lisa Gherardini**

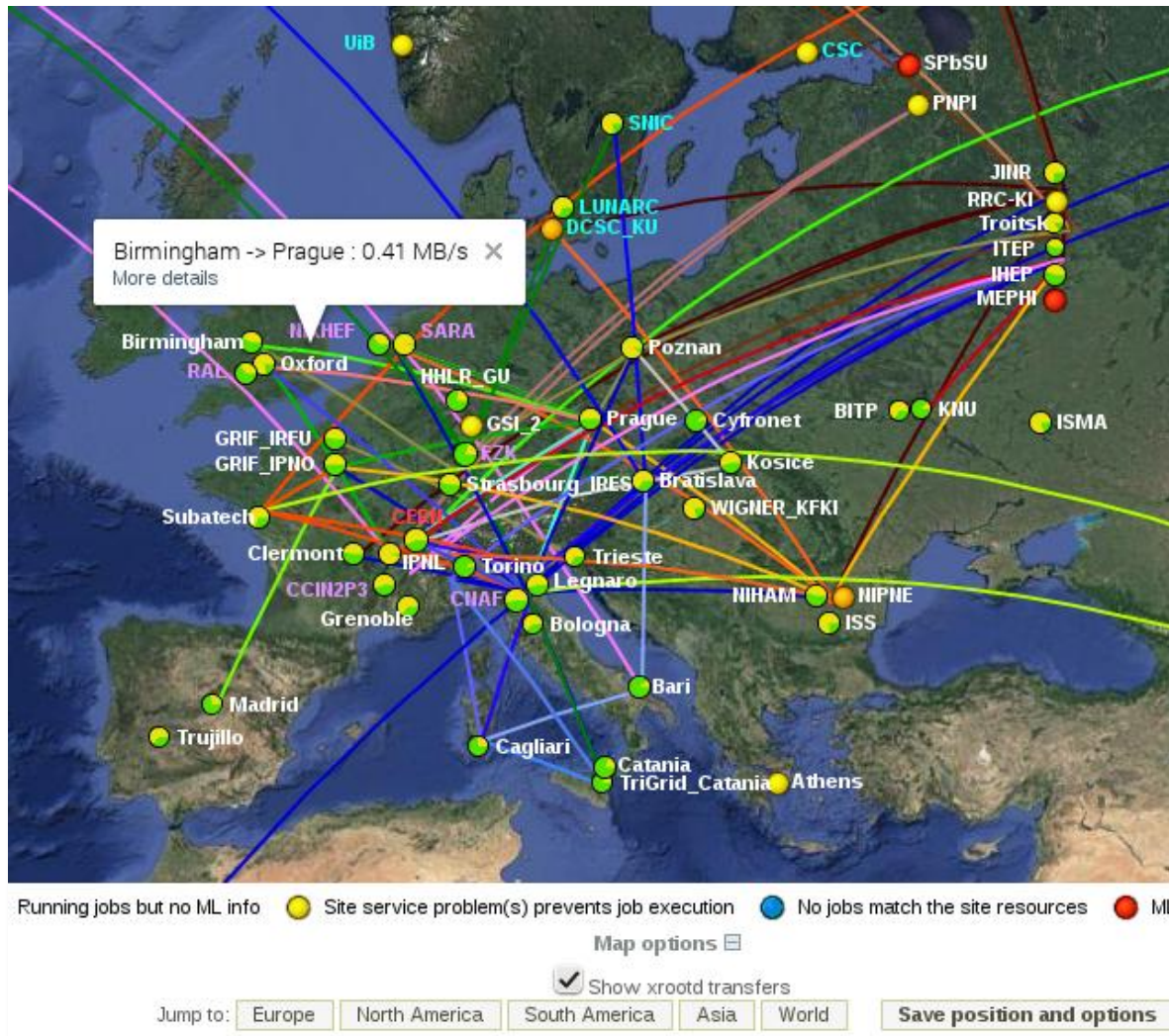


# UPDATED MAP – GOOGLE MAPS API v3





# UPDATED MAP – REAL XROOTD TRAFFIC




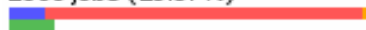
- Top 100 WAN connections at the moment
- Source-based color coding
- Traffic-dependent line width

# XROOTD/EOS TRAFFIC AGGREGATION

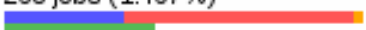
- Filter on each VoBox aggregating local Xrootd on-close events (read and write) in:
  - Client IPv4 C-classes
  - Remote site (IP to site mapping done by the central services)
  - LAN and WAN
  - Total traffic
- Also available are read and write operation frequencies
- Data available in MonALISA under the *XrdServers\_Aggregation* cluster
- A few sites don't report this monitoring data from Xrootd: *Catania, Clermont, Cyfronet, RRC-KI*
- 8.5% remote reading (520MB/s remote, 5.6GB/s local)

# REMOTE ACCESS IMPACT ON ANALYSIS JOBS

- Local SE problems makes the jobs read remotely

Site	Job eff.	HepSpec06	All files	Local files	Remote files
<b>CERN</b> 9771 jobs (51.29%) 	<b>69.76%</b>	10.25	58109 files 2.667 MB/s	58100 (99.98%) 2.668 MB/s	9 (0.015%) 0.889 MB/s
<b>FZK</b> 2966 jobs (15.57%) 	<b>13.16%</b>	9.837	17560 files 0.471 MB/s	1523 (8.673%) 2.963 MB/s	16037 (91.33%) 0.44 MB/s

- In this particular case the SE tests are all fine
  - Under investigation why the jobs cannot access local data
- Remote access can severely impact the jobs efficiency

<b>LEGNARO</b> 268 jobs (1.407%) 	<b>42.09%</b>	10.08	1496 files 1.285 MB/s	636 (42.51%) 2.628 MB/s	860 (57.49%) 0.95 MB/s
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# REMOTE ACCESS EFFICIENCY

Storage WNs	CERN	LEGNARO	TORINO	CNAF	FZK
CERN	2.668 MB/s		0.27 MB/s		
FZK	0.486 MB/s	0.161 MB/s	0.213 MB/s		2.963 MB/s
LEGNARO	1.611 MB/s	2.628 MB/s	0.673 MB/s		0.749 MB/s
TORINO	1.848 MB/s	1.609 MB/s	0.684 MB/s		0.891 MB/s
CNAF	2.193 MB/s		0.623 MB/s	2.126 MB/s	

- Problems can come from both network and the storage
- IO performance seen by jobs doesn't always match the VoBox-to-VoBox measurements
  - Congested firewall / network segment, different OS settings
- Reflected in the overall efficiency

# SYSTEM AND FIREWALL REQUIREMENTS

## REMINDER

- Network buffer settings, same on all nodes (WNs, Xrootd servers, VoBox)
  - [http://monalisa.cern.ch/FDT/documentation\\_syssettings.html](http://monalisa.cern.ch/FDT/documentation_syssettings.html)
  - Or larger, newer machines typically have enough memory
- WNs to VoBox firewall openings
  - UDP/8884 – ApMon data from JA and jobs
- Storage servers to VoBox
  - UDP/8884 – ApMon monitoring of the hosts
  - UDP/9930 – Xrootd internal monitoring: traffic data
- World to VoBox and VoBox to the world
  - TCP/1093 – 1 stream bw measurement
  - ICMP – tracepath / traceroute, UDP/33434 - tracepath



# SITE ISSUES DASHBOARD

- <http://alimonitor.cern.ch/siteinfo/issues.jsp>
- Issues split in levels, last selected level as cookie
- Default sorting by site size
- Added direct testing of individual Xrootd data servers

ALICE::RRC-KI::SE redirector **radical.grid.kiae.ru** doesn't see all nodes, only 309.8 TB out of 339 TB total space is connected  
ALICE::RRC-KI::SE: xrootd data server **xr26.grid.kiae.ru** fails ADD test.

ALICE::Clermont::SE redirector **clralicexrd.in2p3.fr** doesn't see all nodes, only 166.2 TB out of 179.9 TB total space is connected  
ALICE::CLERMONT::SE: xrootd data server **clrgpfs2srv-dpm07.in2p3.fr** fails ADD test.

- CVMFS status

CNAF ui01-alice.cr.cnaf.infn.it	CVMFS: old CVMFS version detected (2.1.10), please upgrade to 2.1.15.
ISMA gl-vobox.isma.kharkov.ua	CVMFS: old catalogue revision detected (158), expecting 166.

- IPv6, network buffers, efficiency...

# FUTURE USE OF ML DATA IN SAM/SSB

- ALICE reports will be based on values published by MonALISA
  - eta: 1 month
- A lot of details are still unclear
  - Issues reported in the previous page will influence the report
- We will have to implement a test job scheduling for the idle sites to avoid “unknown” statuses
- Connectivity, bandwidth tests and appropriate buffer sizes will become critical
  - <http://alimonitor.cern.ch/speed/>

# MONALISA – ALIROOT INTERFACE

- Available in AliROOT as *ANALYSIS/AliXMLParser.cxx*
- Currently the following links implement it:
  - Production details, eg:  
[http://alimonitor.cern.ch/prod/jobs.jsp?t=4078&res\\_path=xml](http://alimonitor.cern.ch/prod/jobs.jsp?t=4078&res_path=xml)
  - Run Condition Table:  
[http://alimonitor.cern.ch/configuration/?res\\_path=xml](http://alimonitor.cern.ch/configuration/?res_path=xml)
  - SHUTTLE:  
[http://alimonitor.cern.ch/shuttle.jsp?instance=PROD&res\\_path=xml](http://alimonitor.cern.ch/shuttle.jsp?instance=PROD&res_path=xml)
  - The REST interface of MonALISA:  
[http://alimonitor.cern.ch/rest/CERN/MonaLisa/localhost/\\*?Accept=text/xml](http://alimonitor.cern.ch/rest/CERN/MonaLisa/localhost/*?Accept=text/xml)
- Create the view you want in the web interface then add the respective argument in the code
- Some certificate-protected areas will require ROOT to pass a valid certificate, todo

# USAGE

CINT/ROOT C/C++ Interpreter version 5.18.00, July 2, 2010

Type ? for help. Commands must be C++ statements.

Enclose multiple statements between { }.

```
root [0] AliXMLParser *parser=new AliXMLParser();
```

```
root [1] TList *list=parser->GetTreesFromURL("http://alimonitor.cern.ch/shuttle.jsp?filter=&instance=PROD&runrange=&time=4100&res_path=xml")
```

```
root [2] TList *list=parser->GetTreesFromXML("complex.xml")
```

```
root [3] █
```

```
root [5] .x sample.C(URL,"http://alimonitor.cern.ch/configuration/?res_path=xml")
```

```
===== Tree 1 =====
=====> EVENT:0
runno          = 197692
filling_scheme = 168
filling_config =
fillno         = 3564
energy         = 1380
intensity_per_bunch =
mu             =
interacting_bunches = 36
noninteracting_bunches_beam_1 = 1338
noninteracting_bunches_beam_2 = 1302
interaction_trigger = 49115
rate           = 33.0073929
beam_empty_trigger =
empty_empty_trigger =
muon_trigger    = 30330
high_multiplicity_trigger =
emcal_trigger  = 42402
calibration_trigger =
quality        = 2
muon_quality   = 1
comment        =
changedon      = 1381751349
changedby      = germain
```

# CSV DUMP OF DATA

- Data from history plots (*display?page=...*)
  - `&download_data_csv=true`
- Status tables (*stats?page=...*)
  - `&dump_csv=true`
- Some of the dynamic (*.jsp*) pages
  - `&res_path=csv`
- REST interface
  - [http://alimonitor.cern.ch/rest/CERN/MonaLisa/localhost/\\*?Accept=text/csv](http://alimonitor.cern.ch/rest/CERN/MonaLisa/localhost/*?Accept=text/csv)
- If you need to periodically query such values, running a standalone client to collect site-specific information is a better option



# USING THE WEB FILTERS

LHC13g		Beam					Bunches				
197500:197600											100000:
Run#	Bunches	Scheme	Fill #	Energy per beam	Intensity per bunch	Mu	B B	B A	B C	MB Interaction	
197584	168	50ns_1374b_1278_36_1218_144bpi12inj	3,559	1,380			36	1338	1302	1,187,920	
197583	168	50ns_1374b_1278_36_1218_144bpi12inj	3,559	1,380			36	1338	1302	272,707	
197501	167	50ns_510b_504_6_414_72bpi11inj	3,556	1,380			6	504	504	2,221,762	
197500			3,556	1,380			6	504	504	426,597	
4										<b>4,108,986</b>	
OPTIONS		Sh									

Selected runs  
197584, 197583, 197501, 197500

- You can use ranges, lists, exclude particular values...
  - [http://alimonitor.cern.ch/doc/index.jsp?page=configuration\\_index](http://alimonitor.cern.ch/doc/index.jsp?page=configuration_index)
- Full link to page + options to send/bookmark:

This page: [bookmark](#), [URL](#)

Running jobs trend

Jobs: 33452

Link to this page

The [link](#) to the current page is:

```
http://alimonitor.cern.ch/configuration/?partition=LHC13g&raw_run=197500%3A197600&interaction_trigger=100000%3A
```

[Short URL](#)

[Make this page your start page](#)

# QUESTIONS AND SUGGESTIONS SESSION

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