

Update on Grid Monitoring Solutions

5th openlab Major Review Meeting
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- Messaging System for the Grid activity
(Daniel Rodrigues) → [slides](#)
- Monitoring visualization activity (GridMap)
- Conclusions

GridMap Monitoring Visualization

- New release (V1.0, Feb 2008)
 - In productive use



<http://gridmap.cern.ch>

New features

Size by:

use historical CPU numbers

CPUs (BDII) Running Jobs

use VO specific information show SIZk

size by CPU performance

Services:

Site CE SE SRM

sBDII more...

FTS LFC VOBBOX BDII

RB gRB

displays more services

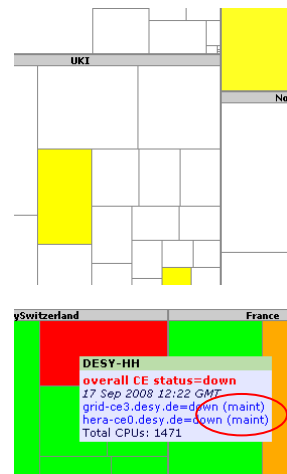
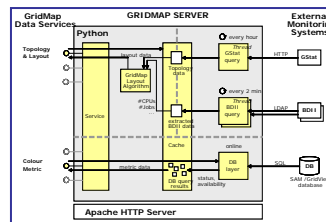
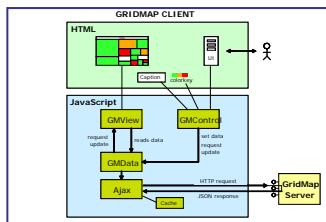
Historical Availability:

hourly daily weekly monthly

Reliability In Maintenance

shows reliability and maintenance

- Package with documentation and source code available



- ~4.500 unique visitors (Jan-Sep 2008)

Statistics for:
gridmap.cern.ch

Last Update: 13 Sep 2008 - 18:00
Reported period: - Year - 2008 OK [Awstats Web Site](#)

Summary

When:

Monthly history

Days of month

Days of week

Hours

Who:

Countries

Full list

Hosts

Full list

Last visit

Unresolved IP Address

Robots/Spiders visitors

Full list

Last visit

Navigation:

Visits duration

File type

Viewed

Full list

Entry

Exit

Operating Systems

Versions

Unknown

Browsers

Versions

Unknown

Referrers:

Origin

Referring search engines

Referring sites

Search

Search Keyphrases

Search Keywords

Others:

Miscellaneous

HTTP Status codes

Pages not found

[Back to main page](#)

Filter : Exclude filter : OK

Hosts					
	Total : 4532	Pages	Hits	Bandwidth	Last visit
mac-90110.lal.in2p3.fr		229196	231964	15.05 GB	12 Sep 2008 - 13:08
mariehem.hpc2n.umu.se		74154	74697	1.31 GB	12 Sep 2008 - 13:06
apex.cs.tcd.ie		69053	205671	1.99 GB	12 Sep 2008 - 13:07
hep14.uibk.ac.at		68999	70613	1.27 GB	21 Aug 2008 - 12:10
almond.man.poznan.pl		45858	46230	847.73 MB	12 Sep 2008 - 13:07
pc-90001.lal.in2p3.fr		37989	38180	693.20 MB	12 Sep 2008 - 13:04
mauset.uninett.no		35601	35948	666.79 MB	23 Jul 2008 - 09:56
sara0050.ka.sara.nl		31516	31792	598.02 MB	23 Aug 2008 - 15:57
195.134.89.99		30686	33173	632.93 MB	12 Sep 2008 - 13:07
host86-153-125-205.range86-153.btcentralplus.com		30394	30694	528.21 MB	18 Jun 2008 - 08:44
heppc109.hep.ph.ic.ac.uk		28451	28757	444.26 MB	12 Sep 2008 - 13:07
webproxy.fzk.de		26102	28369	554.83 MB	12 Sep 2008 - 07:49
bober.ucs.sfu.ca		21556	22049	397.96 MB	29 Jul 2008 - 04:01
uunilintu.csc.fi		20910	21891	413.67 MB	11 Sep 2008 - 09:04
hep95.ph.liv.ac.uk		20848	20893	391.71 MB	12 Sep 2008 - 13:04
zitpcx5194.desy.de		20658	21810	415.76 MB	16 Jun 2008 - 11:38
hephy.uibk.ac.at		19150	19794	358.71 MB	12 Sep 2008 - 09:17
ekplx10.physik.uni-karlsruhe.de		18256	18354	347.34 MB	11 Apr 2008 - 17:10
192.114.2.42		17658	17986	336.10 MB	24 Jul 2008 - 09:42
pcferrer2.inf.infn.it		13354	13574	251.93 MB	12 Sep 2008 - 13:07
serpiano.staff.cscs.ch		13302	13484	157.43 MB	10 Sep 2008 - 15:22
wwwcache2.rl.ac.uk		12375	12930	265.17 MB	12 Sep 2008 - 13:08
pc048097.ph.liv.ac.uk		10695	10722	204.08 MB	15 Feb 2008 - 15:32
sara0066.ka.sara.nl		10074	10301	186.27 MB	29 Jul 2008 - 03:57
sara0316.ka.sara.nl		9524	9996	198.97 MB	21 May 2008 - 17:37
host81-159-182-156.range81-159.btcentralplus.com		9453	9565	173.41 MB	12 Sep 2008 - 13:03
jurriaan.ka.sara.nl		9353	9618	184.65 MB	19 Aug 2008 - 07:34
host86-141-53-150.range86-141.btcentralplus.com		9135	9162	132.70 MB	28 Jul 2008 - 05:43
portatili-ext.cnaf.infn.it		8873	8928	155.74 MB	05 Sep 2008 - 10:33

Pages include AJAX refresh call sent automatically every 5 minutes

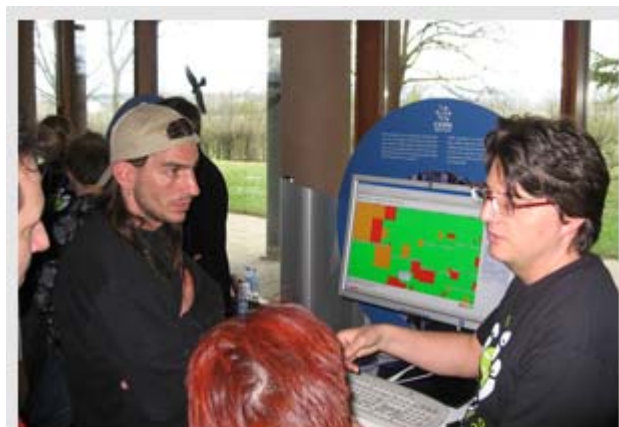


GridMap at CERN Open Day

- CERN Open Day
 - Demo
 - Covered by iSGTW

iSGTW Images of the week, 16 April 2008

<http://www.isgtw.org/?pid=1001019>



Volunteers showcased emerging technologies including [GridMap \(CERN openlab/EDS\)](#), a visualization that shows the status of different sites in the [Worldwide Large Hadron Collider Computing Grid](#). Green indicates the site is "OK," orange indicates degraded service and red indicates that the site is down.

Image courtesy of Anton Topurov

- WLCG Critical Services Map
- Generic GridMaps (prototype)
- CMS GridMaps

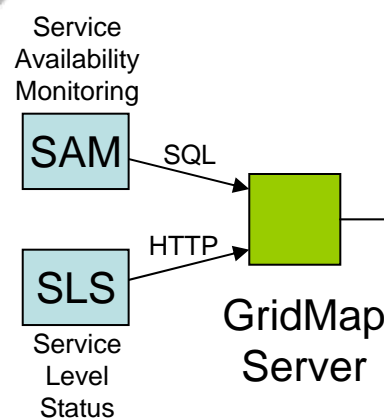
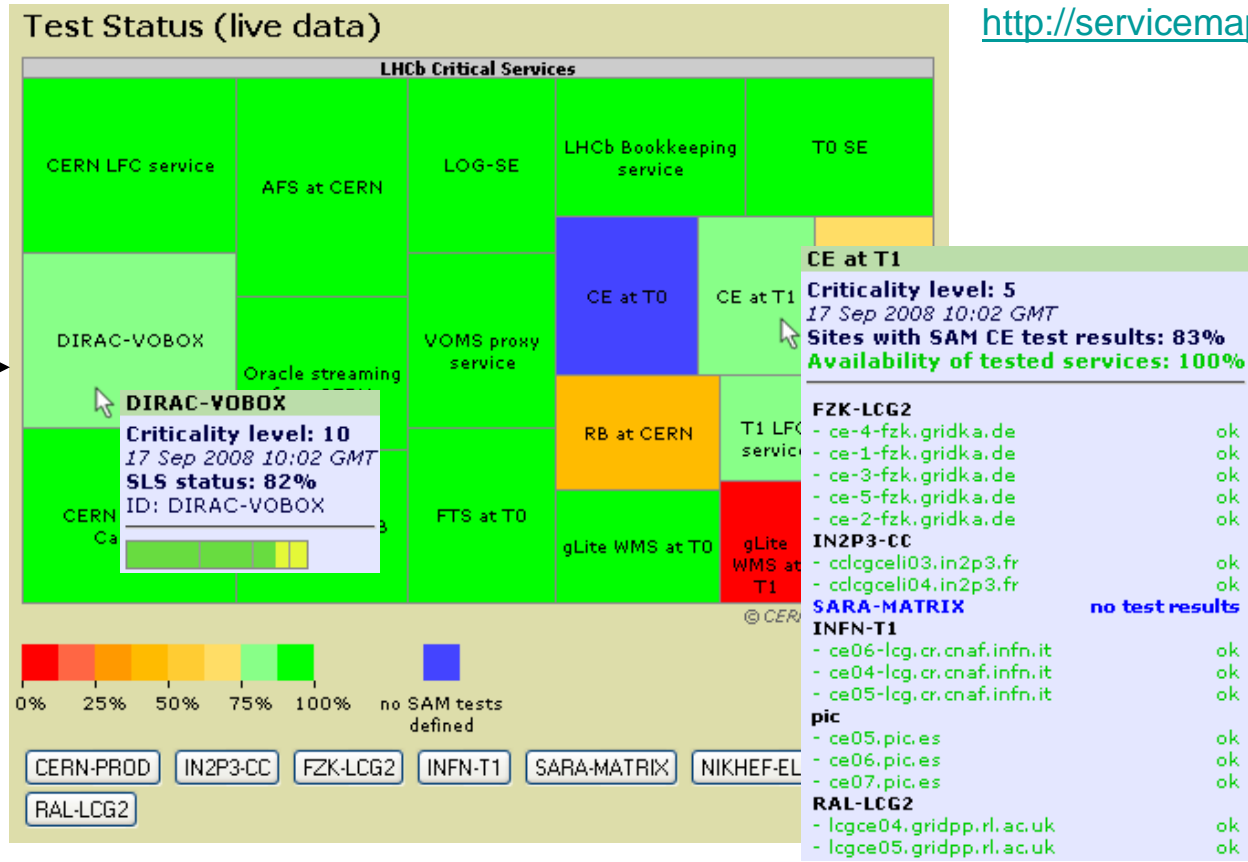
All of the above are based on the *GridMap System* architecture and reuse the software framework.



WLCG Critical Services Map

- Shows "Critical Services" of LHC experiments

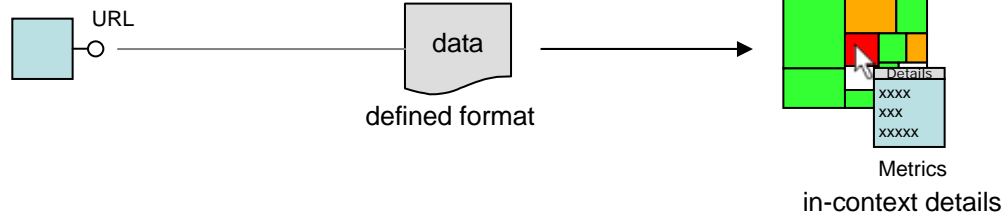
<http://servicemap.cern.ch>



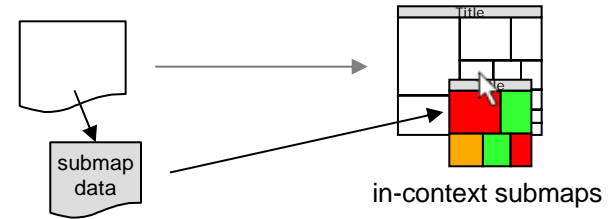
Generic GridMaps (Work in Progress)

- GridMap description data format
- Mash-up of distributed data sources

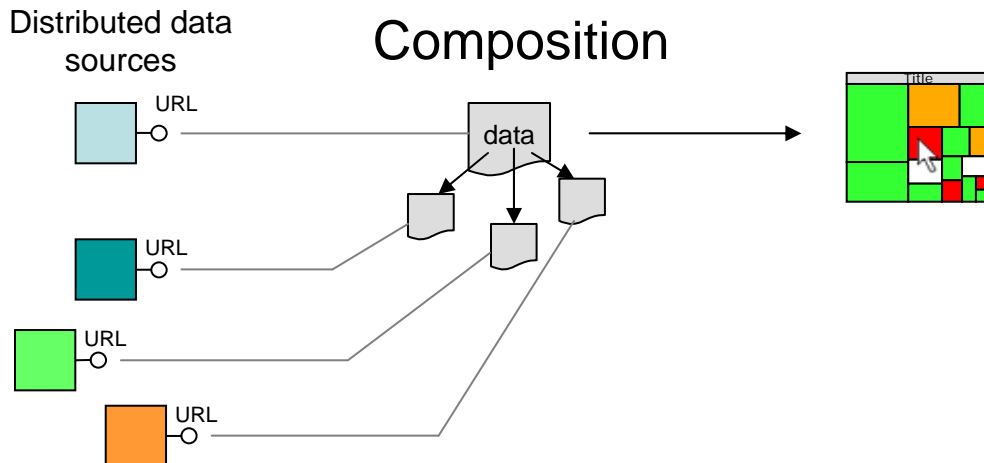
Description (topology, metrics)



Linkage of submaps

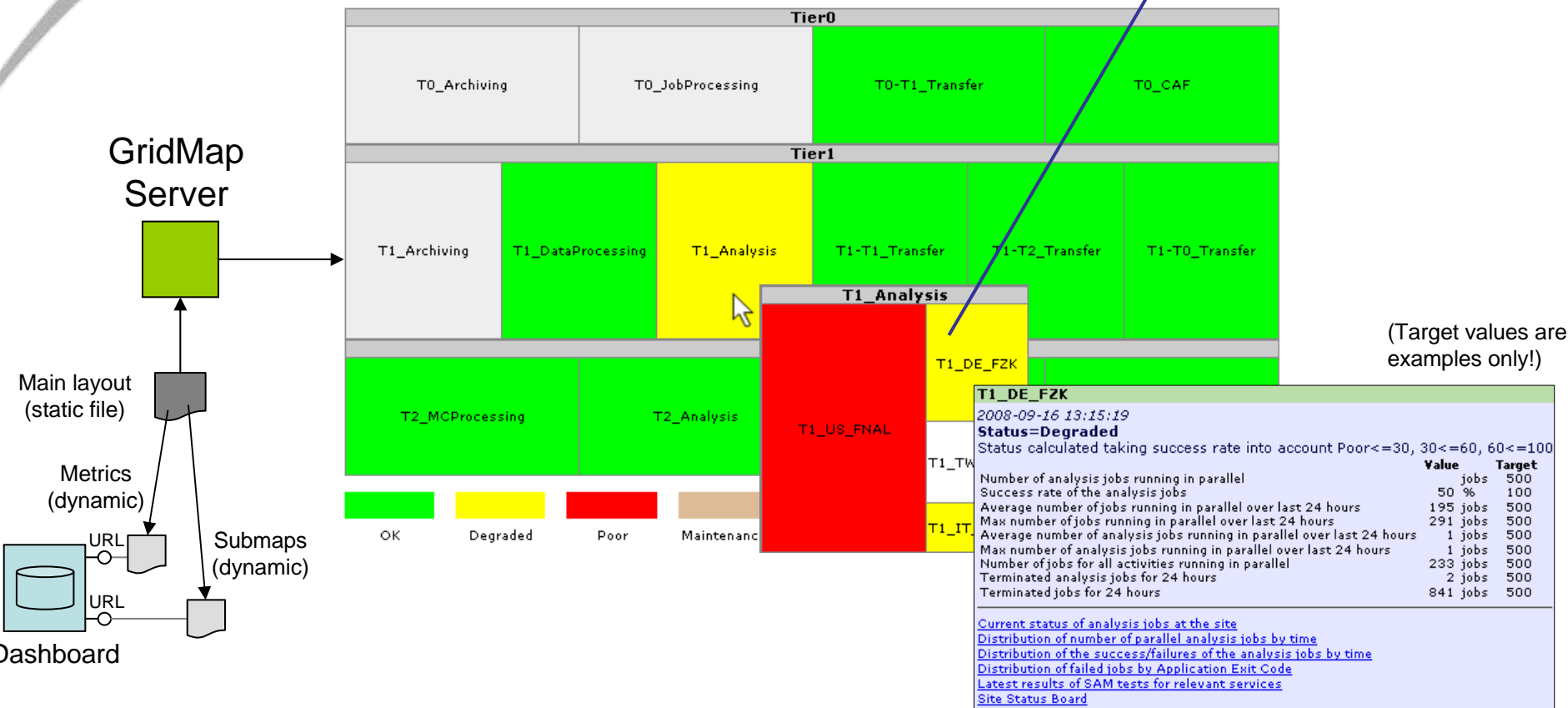


Composition



■ CMS workflow view

Submap



[live link](#) (work in progress, Irina Sidorova, Julia Andreeva)



CMS GridMaps (Work in Progress)

- Shows experiment specific top-level view
- Linkage to existing views

<http://gridmap-cms.cern.ch>

<http://dashb-ssb.cern.ch/cms/gridmap.html>

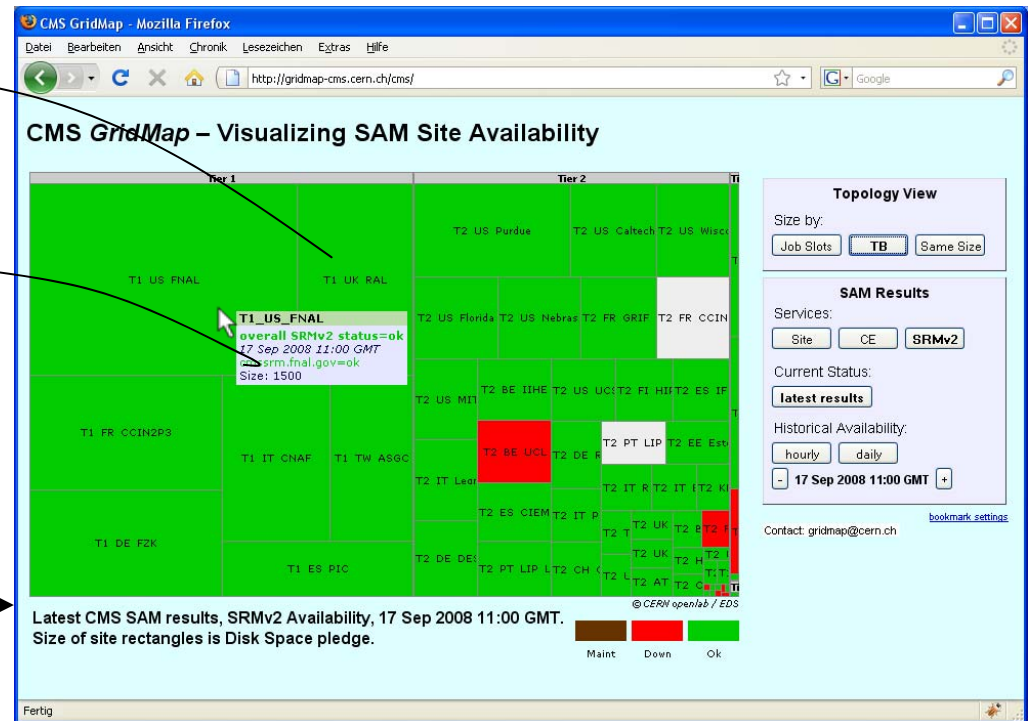
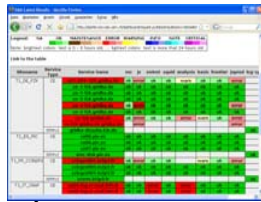
Existing Monitoring Systems

Site Status Board



(P. Saiz)

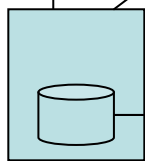
CMS SAM Visualization



Data Sources

SAM

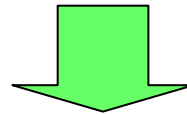
CMS SiteDB



CMS Dashboard

GridMap Server

- The LHC has been started...
 - New Grid usage patterns will be seen
 - Grid reliability is mission critical for LHC



- Monitoring is more important than before
- Increasing need for experiment specific (E2E) views
- Better visualizations help improve reliability
- Reliable messaging is the foundation for credible monitoring