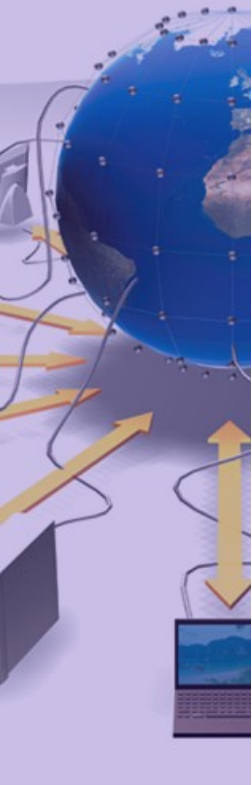


Siteview GridMap: A new monitoring tool from the site point of view

By E. Lanciotti, J. Andreeva, M. Boehm, A. Casajus, J. Casey, B. Gaidioz, C. Grigoras, L. Kokoszkiewicz, R. Rocha, P. Saiz, I. Sidorova, A. Tsaregorotsev

WLCG Workshop
Prague 21-22 March 2009

- Introduction
 - Motivation and objective of the activity
- Structure of Siteview tool
 - Information work flow from the source to the final display
- The GridMap display
 - Structure of the GridMap
 - Some screen shots of the GridMap at different sites
- Summary of the activity and feedback from users

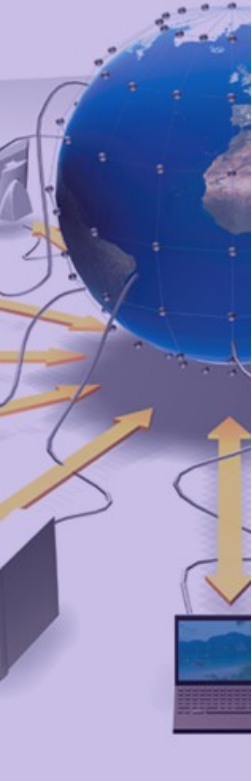


Site administrators would like to be able to:

- Compare the experiment's view of the site contribution to the information they get from their own monitoring systems
- Understand if their site is contributing to the VO activity as expected

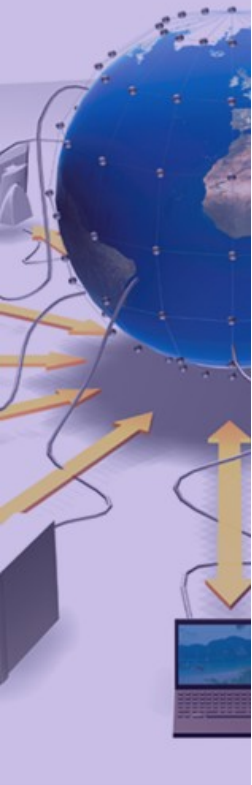
Some problems they found:

- The main monitoring tools during this exercise were experiment specific tools. They proved to work well, but they are not straightforward to use for a person external to the experiment. Furthermore, they are different for every experiment
- An additional requirement from sites is to have a definition of the targets from the experiments, otherwise it's not possible to understand whether the activity going on at their site meets the VO expectations or not

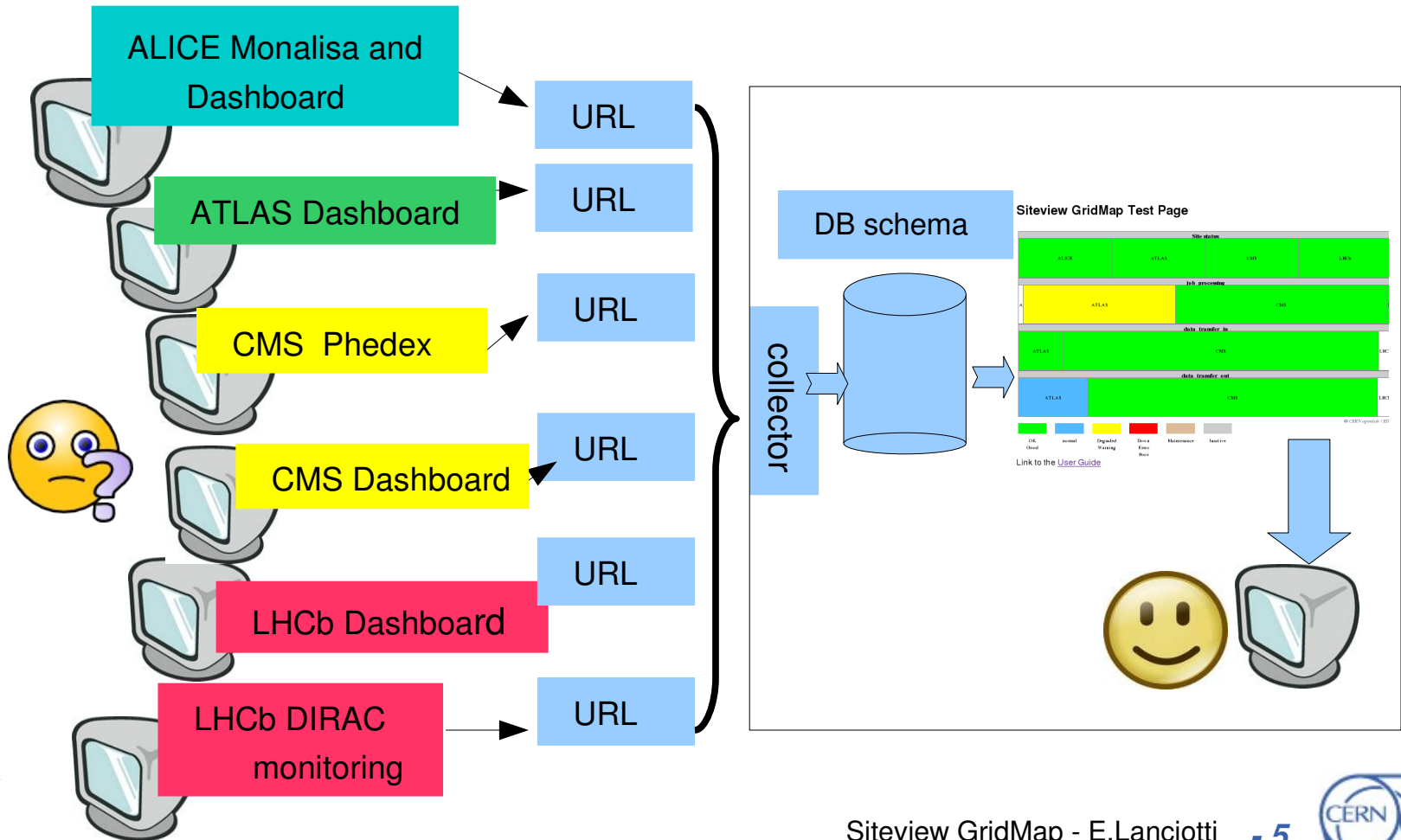


A new tool which should:

- Provide an **overall view** of all the activities going on at the site, from one unique console. This should be a tool easy to use, also for persons external to the VO, and which does not require a particular knowledge of each experiment
- Provide an overall view of the **status** of the activities, as it is evaluated by the VO, and allow fast and efficient detection of problems
- For every activity and VO provide **links** to the source of information (VO specific monitoring system), so the problem can be investigated in an efficient way



The data are published in some URLs. A Dashboard collector reads the content of the URLs and inserts it into the common DB schema. The GridMap server queries the database and displays the result into a GridMap



- A GridMap for each site
- Inside the main GridMap, the hierarchy is:

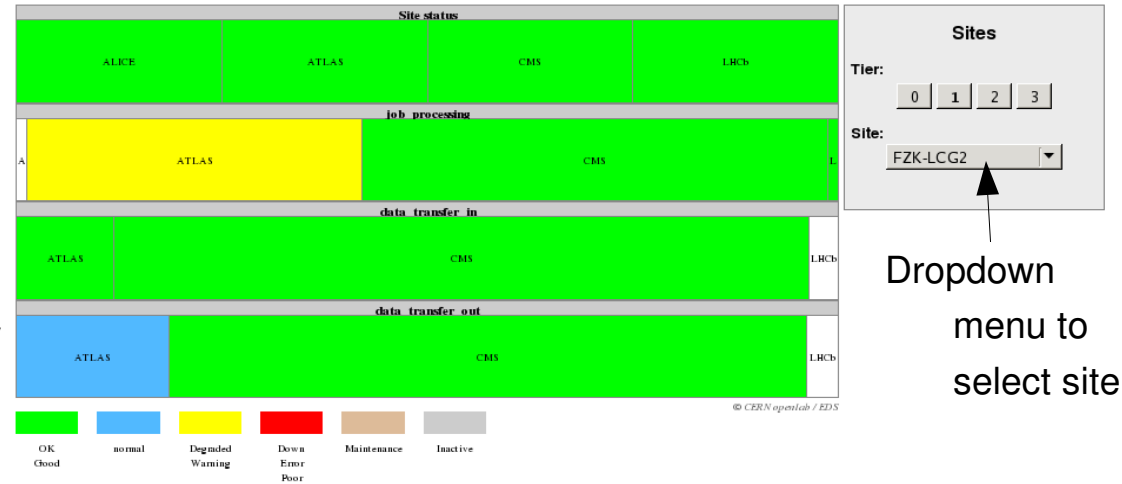
- first level: Activity
- second level: VO

The main map only shows the main activities, for all the supported VOs

The **status** (=COLOR) should be provided by the VO. Usually it is computed on the basis of the success rate

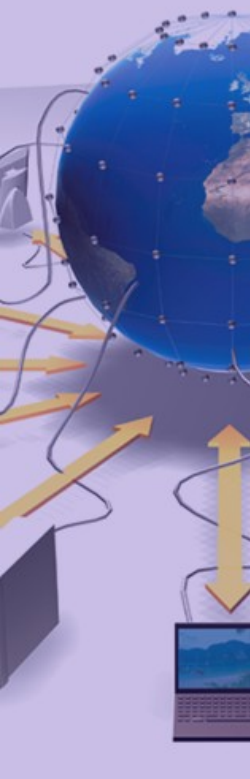
The **size** of the rectangle is proportional to the number of running jobs. A constant offset is added, in order to have all the supported VOs visible, even if they are running few (or no) jobs.

Siteview GridMap Test Page

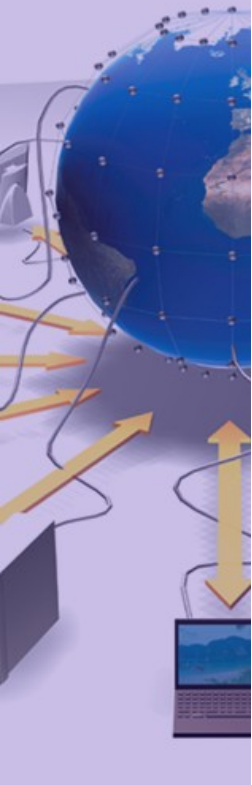


Link to the [User Guide](#)

Link to the User Guide



- What does it mean?
 - It is an overall evaluation of the site status from the VO perspective. If the status is green, then the site is ok for the VO, even if there is no job running
- Where is it taken from?
 - For LHCb and ATLAS it is computed on the basis of SAM VO specific tests
 - For CMS it takes into account SAM tests for CE and SRMv2, whether the site is visible in BDII or not, and whether the site is in maintenance
 - For ALICE it is extracted from Monalisa
- **Important:** if the status is red it does NOT necessarily mean that the responsible is the site. Even if the site status definition is as much as possible related to the site, it can happen sometimes that a site turns red due to problems of the VO. Even in this case it is useful to notify the site about the problem.

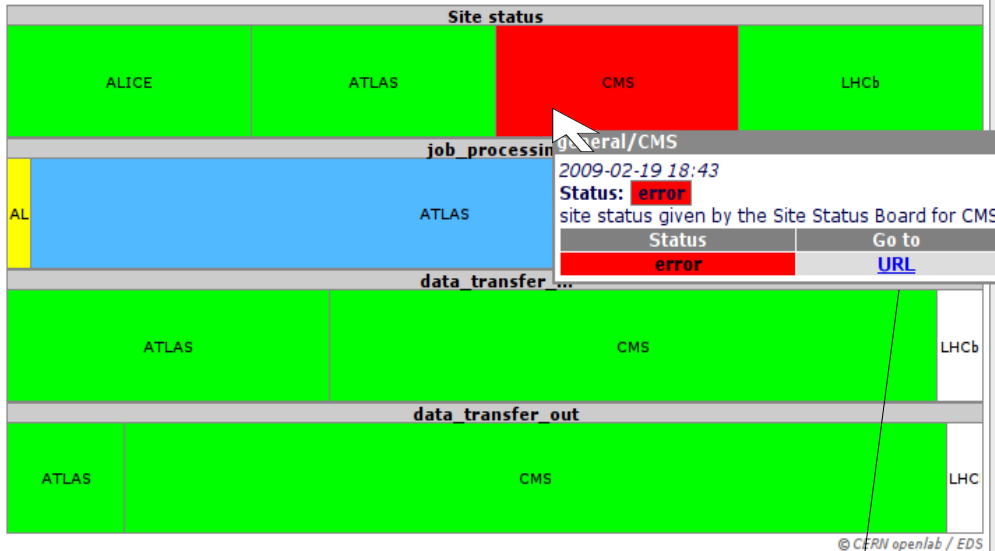


The screenshot shows the MonALISA website interface. At the top, there's a 'Site status' section with a grid of colored boxes representing different sites. A tooltip for 'ALICE' shows 'Status: good' and 'Go to URL'. To the right, a 'Sites' sidebar allows filtering by 'Tier' (0, 1, 2, 3) and selecting a 'Site' (FZK-LCG2). The main content area displays 'MonALISA Repository for ALICE' with various status reports, including 'Services status', 'Current jobs status', 'Storage status', and 'VoBox health'. A 'Running jobs trend' chart is also visible.

ALICE has a specific page in MonALISA which reports all the tests determining the site status.

But then they **don't compute an overall site status** (it is declared always 'good', regardless of the results of the tests)

For CMS the popup window provides a link to CMS Site Status Board (SSB)



Sites

Tier 0:

CERN-PROD

Tier 1:

FZK-LCG2

RAL-LCG2

NDGF-T1

NIKHEF-ELPROD

pic

INFN-T1

IN2P3-CC

Tier 2:

DESY-HH

DESY-ZN

GRIF

INFN-MILANO

IN2P3-LAPP

From SSB portal all the information and relative links are available (see poster n.275 by P. Saiz)



Site Status for the CMS sites

[Found a bug?](#) [HELP](#)

Index	Expanded Table	Gridmap	Alternative views
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Put the mouse over any column header to get the description of the column
 Clicking on a column header will display the evolution of that column over the last 24 hours
 📅: information is more than 24h old

Site Name	Visible	JobRobot	SAM TESTS		Production	Analysis	Site usage			Phedex		CMSSW	Maintenance (expand this column)	Under investigation	SiteIssues
			CE	SRM			Running	Pending	# Links	In rate	Out rate				
T1_DE_FZK	OK	0% (383)	error	OK	100% (1)	n/a	0	129%	ok	59	243	OK	GOCD8	mark	info



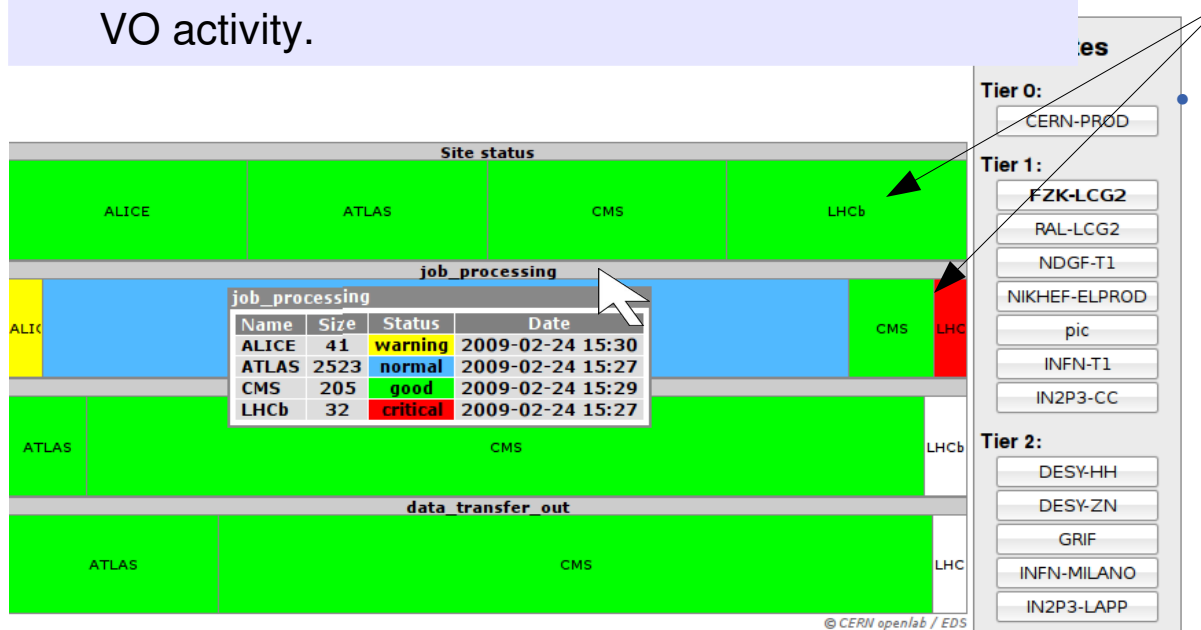
The link redirects to the SAM visualization portal for site availability of that site (see P.Saiz's talk Thursday 26 at 15:40)

Moving the mouse on the header: information about the VO which are supported by the site: The number of running jobs is displayed (parameter which determines the size of the rectangle), the status (which determines the colour), and the last update time

- Important:** if the status is red, it doesn't necessarily point to a problem of the site. If the site status is ok, then it could be a problem of the VO activity.

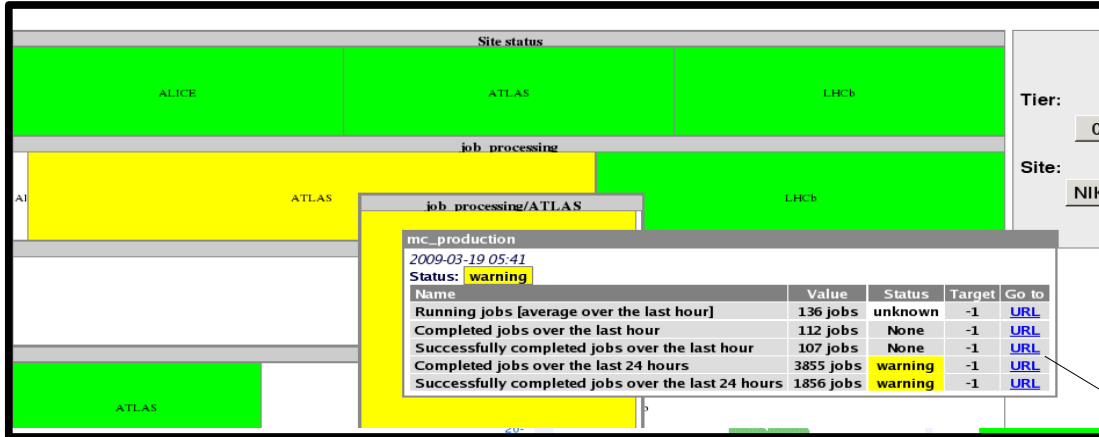
- Nevertheless, in case of discrepancy it's worth investigating!

Having all the information in the same view is a very useful cross check, which can bring to an improvement of the status definition



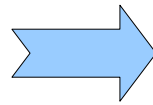
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Ex. at NIKHEF status degraded for job processing



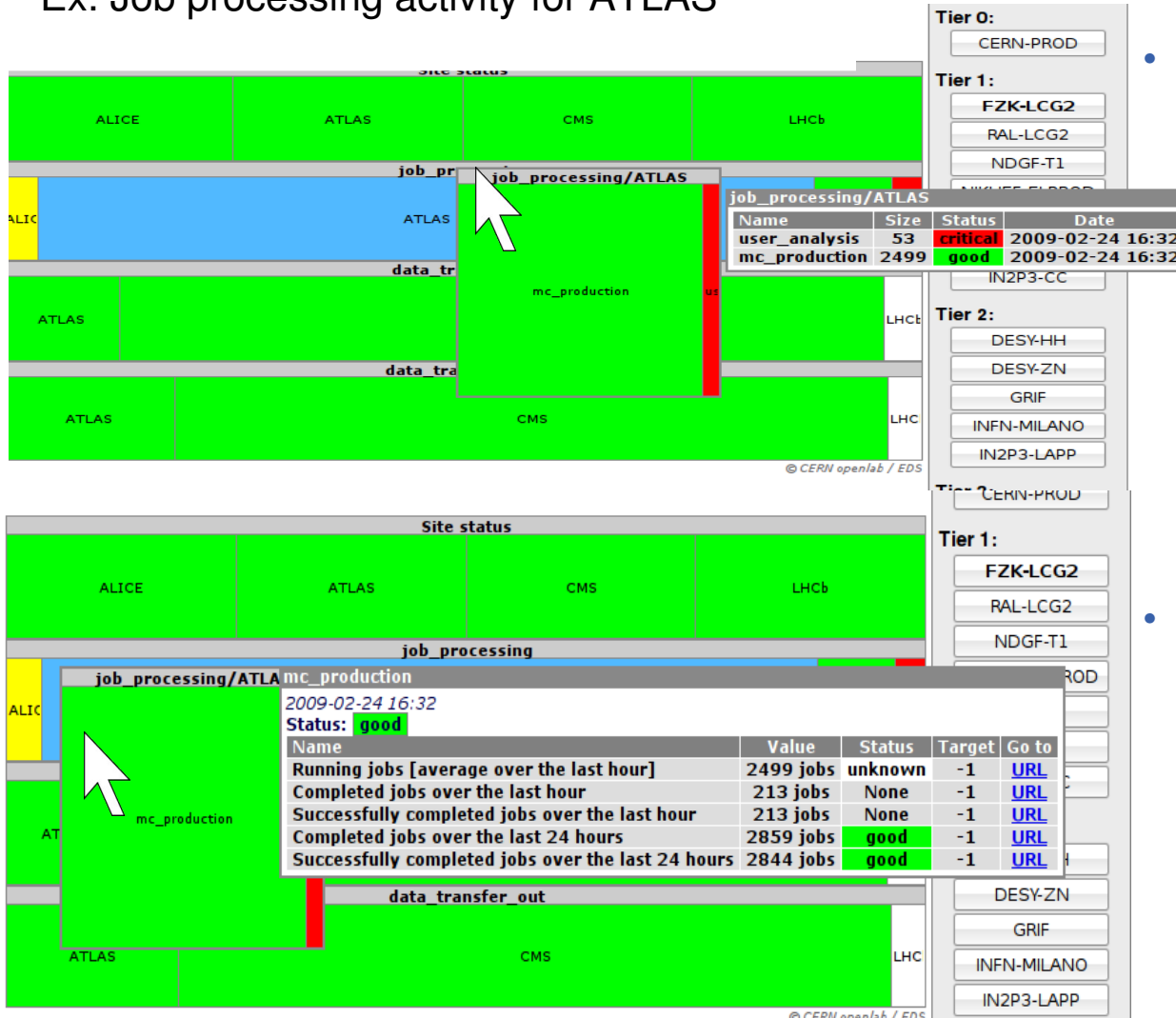
Siteview GridMap provides a link to ATLAS Dashboard with statistics about failed jobs

There, a link is provided to another Dashboard page reporting error messages



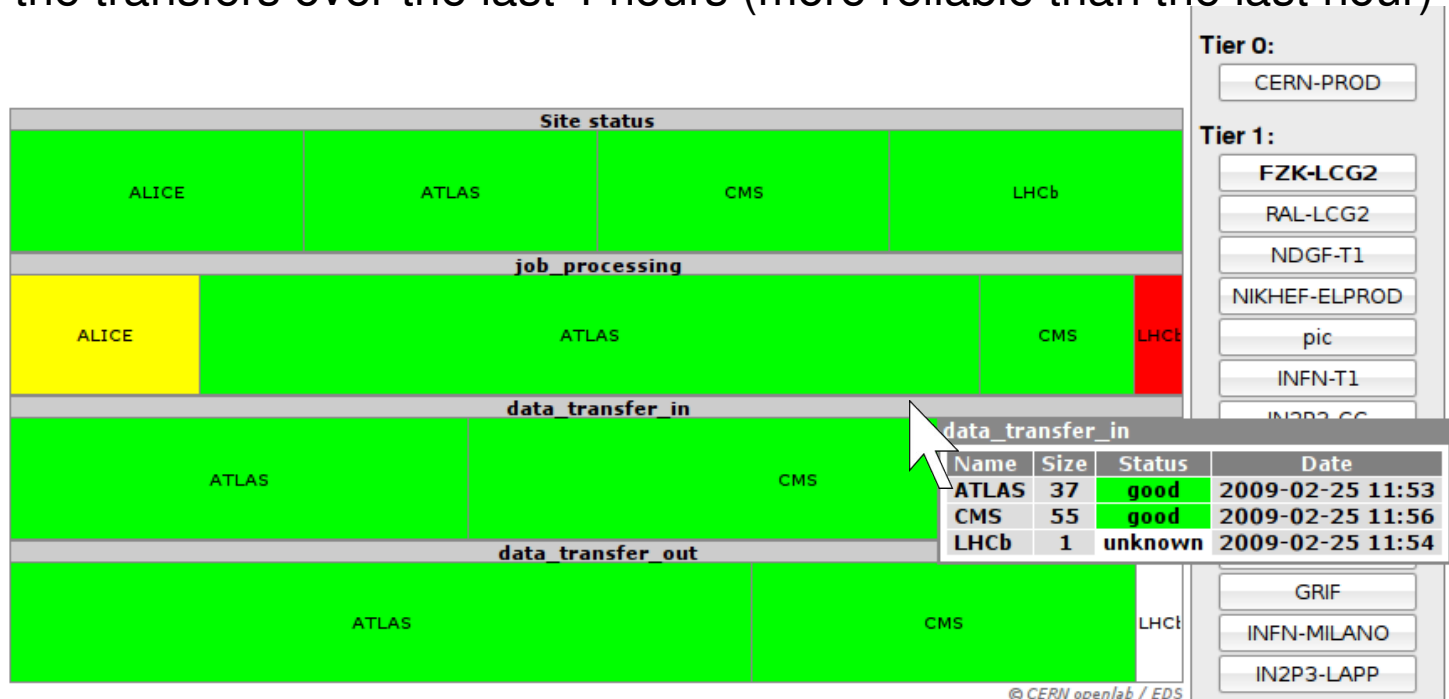
'failures' (clickable)

Ex. Job processing activity for ATLAS



- Clicking on the map, additional information about job types is provided: For ex. ATLAS distinguishes 'MC production' and 'user analysis' jobs
- The context help shows the metrics for every sub activity and the links to the source of the information

- The GridMap displays the total incoming and out coming transfer rate separately
- The size of the rectangle is proportional to the average transfer rate over the last hour
- The colour (status) is determined on the basis of the success rate of the transfers over the last 4 hours (more reliable than the last hour)



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The colour (status) is computed on the basis of the success rate over the last 4 hours following the rule:

- SR < 20% : critical
- 20% ≤ SR < 50% : warning
- 50% ≤ SR < 80% : normal
- SR > 80% : good

The screenshot shows a dashboard with a 'Site status' section containing a grid of site status indicators for ALICE, ATLAS, CMS, and LHCb. Below this is a 'job processing' section and a 'data transfer in' section. A pop-up window for 'data_transfer_in/ATLAS' is open, displaying the following data:

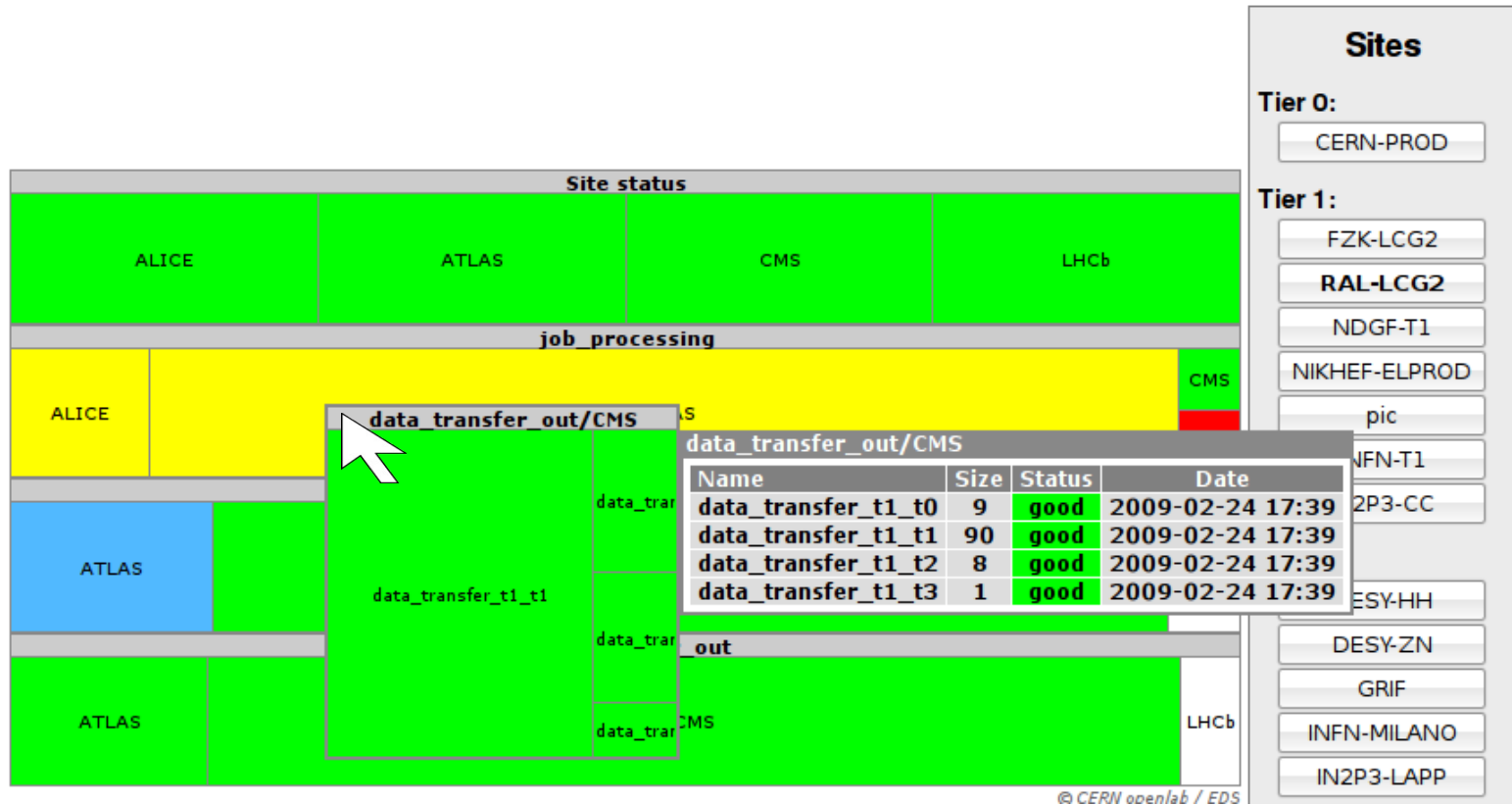
Name	Value	Status	Target	Go to
Average transfer rate over the last hour	10 MB/s	unknown	-1	URL
Average transfer rate over the last 4 hours	15 MB/s	unknown	-1	URL
Success rate in data transfer over the last hour	51 %	normal	-1	URL
Success rate in data transfer over the last 4 hours	87 %	good	-1	URL

Below the pop-up is a 'Sites' control panel with 'Tier' buttons (0, 1, 2, 3) and a 'Site' dropdown menu set to 'RAL-LCG2'.

- The link redirects to ATLAS Dashboard page for data transfer for that cloud



- The sub maps display the transfers for every type of transfer. Ex. For CMS: transfers from T1 to T1, from T1 to T2 etc..



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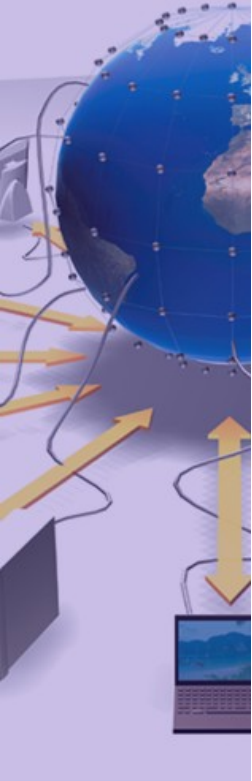
The development phase has finished in January and the link to the GridMap has been provided to some pilot users at different sites.

- Overall positive feedback from first users
- Some problems: among them is that some VOs didn't provide all the required metrics or an evaluation of the status of the activity: not always easy to get the information from the VO! --> maintaining this tool is much easier if users from sites show their interest

- Now the Siteview GridMap is available at:

<http://dashb-siteview.cern.ch/siteview.html>

- Feedback to Elisa.Lanciotti@cern.ch



- Siteview GridMap: a high level tool to monitor the activities of all the VOs supported by the site from **only one interface**
 - For every activity it provides an evaluation of the status from the VO perspective and a link which redirects the user to the source of information: no need of browsing in many different monitoring systems
 - This tool should streamline the information work flow and help site administrators and VOs to detect problems in an easy and efficient way
-
- Future plans:
 - Implement historical views for the monitored metrics
 - Links to GGUS interface to display all open tickets

