Siteview GridMap: monitoring sites performance from the VO point of view

Developed at CERN IT Dept./GS group in the framework of Dashboard project

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Contents

- Objective:

  – Fulfill a requirement from site admins: Streamline the monitoring of VO activities at sites and to give an evaluation of the status of the activities from the VO perspective

- Structure of Siteview GridMap application: A new tool on top of already existing VO specific monitoring systems

  – Information work flow from the source to the final display: many sources of information, one unique display

- The GridMap display

  – Structure of the GridMap

  – Some screen shots of the GridMap at different sites

- Current status of the activity and feedback from users

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Information work flow
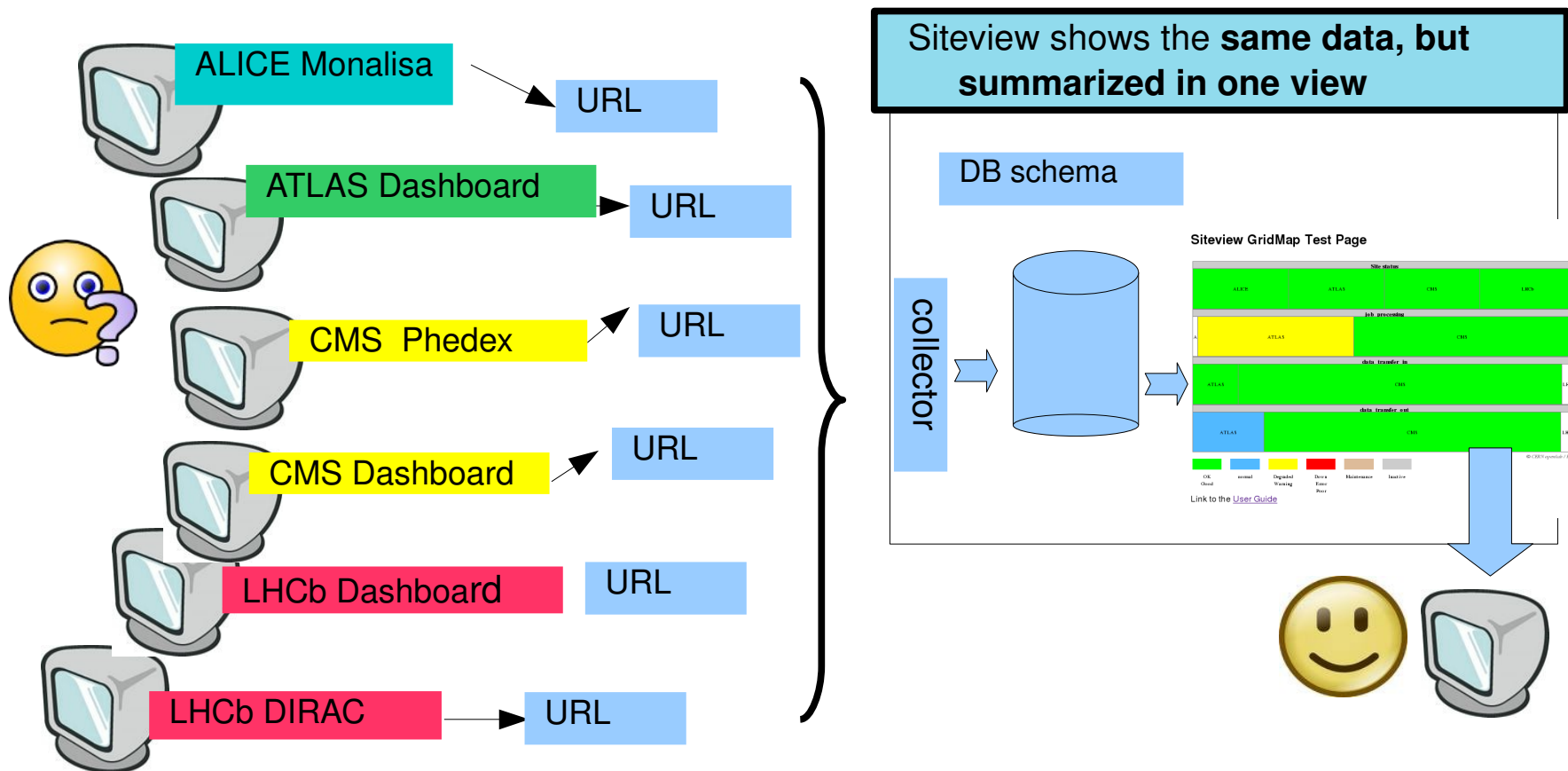
- Provide an **overall view** of all VO activities at the site from one unique console. Easy to use, also for persons external to the VO, and does not require a particular knowledge of each experiment

- Provide an evaluation of the **status** of the activities as it is defined by the VO

- For every activity and VO provide **links** to the source of information (VO specific monitoring system), so the problem can be investigated in a fast and efficient way

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The GridMap display

Available here:

http://dashb-siteview.cern.ch

- A GridMap for each site

- Inside the main GridMap

  the hierarchy is:

  - first level: **Activity**

  - second level: **VO**

Link to the User Guide

Dropdown menu to select site

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.
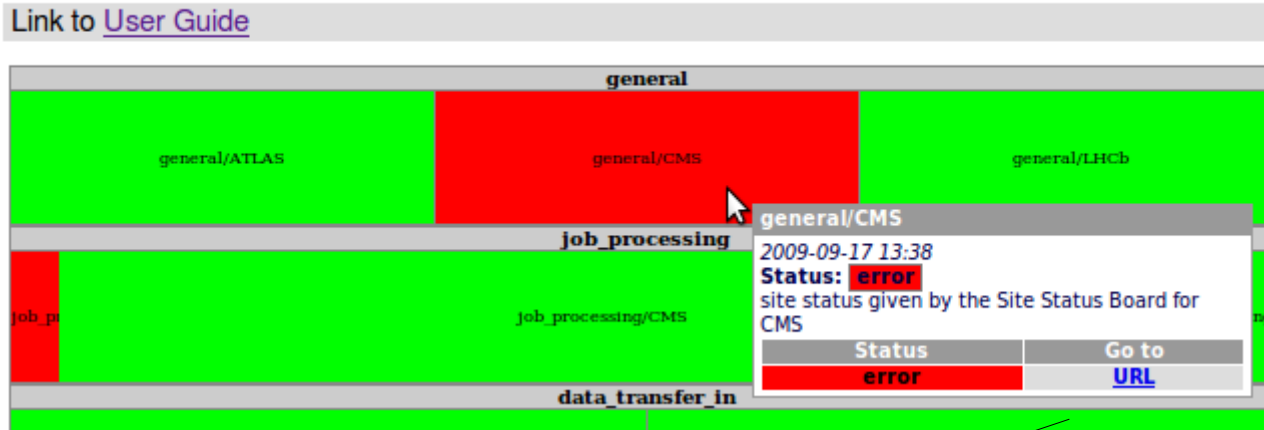
The site status

- What does it mean?
  - 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.

Site status for CMS: from Site Status Board (SSB)

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

From SSB portal all the information and relative links are available

Site status for ATLAS and LHCb: VO specific SAM tests

The link redirects to the SAM visualization portal for site availability of that site (see P. Saiz's talk)
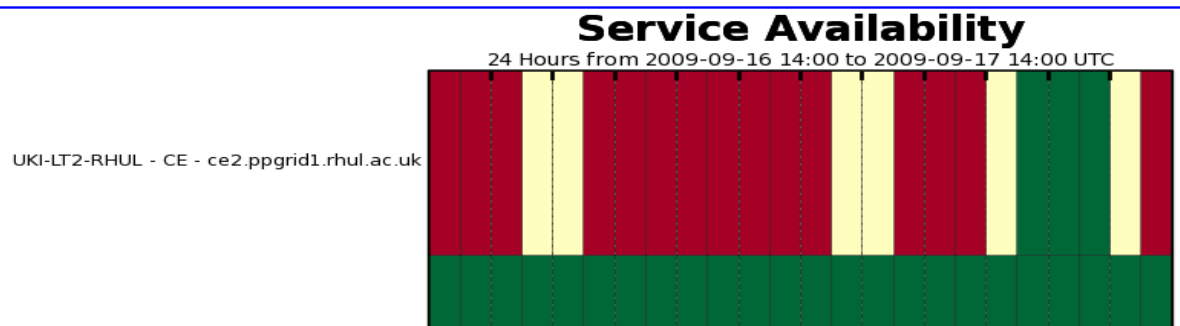
Job processing activity

Moving the mouse on the header: information about the VOs 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 job processing 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.

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

- In case of discrepancy:
    - Either the site status definition is not complete
    - Or the problem is VO specific

Siteview GridMap

Link to User Guide

general

general/CMS   general/LHCb

job_processing

job_processing			
Name	Size	Status	Date
ATLAS	5	good	2009-09-18 12:10
CMS	1029	good	2009-09-18 12:13
LHCb	10	banned	2009-09-18 11:55

job_processing/CMS   job_pr

transfer_in

job_processing/LHCb
2009-09-18 11:55
Status: banned
if completed jobs in the last 24h<10 Status=idle
else status calculated on the basis of the success rate for the last 24 hours:
good>0.9, 0.9<=normal<0.8, 0.8<=warning<0.5, 0.5>=bad.

Name	Value	Status	Target	Go to
Running jobs [average over the last hour]	10 jobs	unknown	-1	URL
Completed jobs over the last hour	jobs	banned	-1	URL
Successfully completed jobs over the last hour	jobs	unknown	-1	URL
Wall time for jobs completed over the last hour	s	unknown	-1	URL
CPU time for jobs completed over the last hour	s	unknown	-1	URL
Completed jobs over the last 24 hours	216 jobs	banned	-1	URL
Successfully completed jobs over the last 24 hours	208 jobs	unknown	-1	URL

Job processing activity for ATLAS

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)

Same data than in Dashboard but summarized in one view

Data transfers

- 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, if available (more reliable than the last hour). The exact rule is reported in the popup window.

data_transfer_in

data_transfer_in/ATLA   data_transfer_in/CMS

data_transfer_in/ATLAS

2009-09-17 15:00
Status: good
status computed on the basis of the success rate over the last 4 hours
good>=0.8, 0.8>normal>=0.5, 0.5>warning>=0.2, critical<0.2

| Name	Value	Status	Target	Go to
Average transfer rate over the last hour	4 MB/s	unknown	-1	URL
Average transfer rate over the last 4 hours	11 MB/s	unknown	-1	URL
Success rate in data transfer over the last hour	42 %	warning	-1	URL
Success rate in data transfer over the last 4 hours	100 %	good	-1	URL

data_transfer_in/CMS

2009-09-17 16:49
Status: good
status computed on the basis of the success rate
good>=0.6, 0.6>warning>=0.3, critical<0.3

Name	Value	Status	Target	Go to
Average transfer rate over the last hour	43 MB/s	good	-1	URL
Success rate in data transfer over the last hour	%	unknown	-1	URL

As an example: Data transfer for ATLAS

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

SR<20% : critical
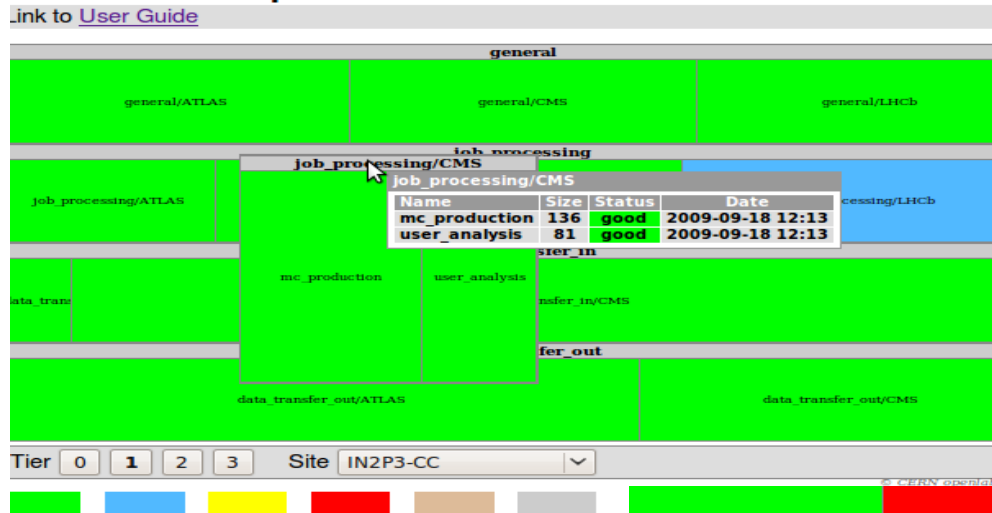
20<=SR<50%: warning

50<=SR<80%: normal

SR>80%: good
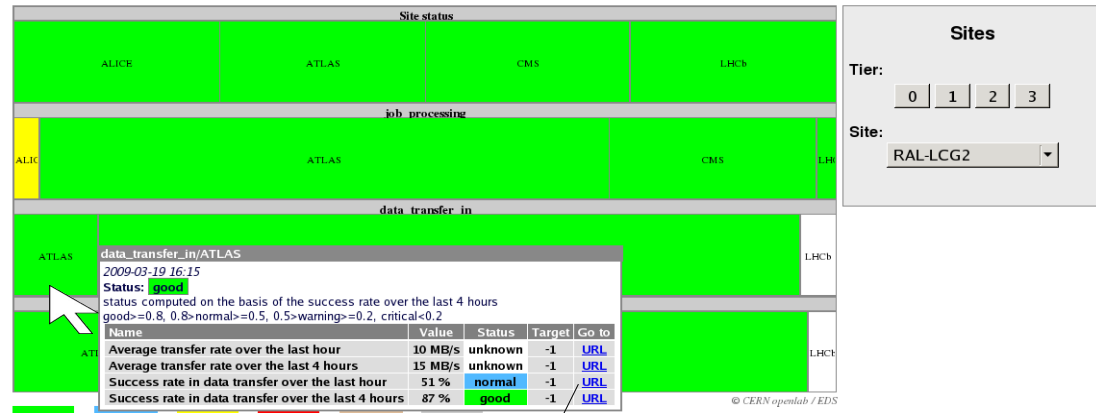
- The rule is set by the experiment, and it is reported in the popup window

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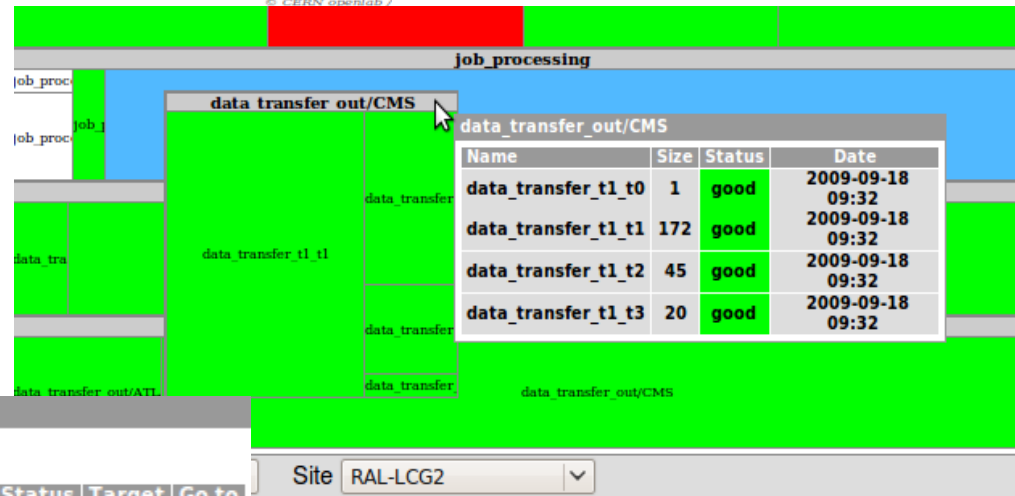
The second level maps

Clicking on the main map, a sub map is displayed showing the sub activities

- i.e. for CMS for job processing → MC production and user analysis.

- And for data transfer → transfers from tier1 to tier1, from tier1 to tier2, etc..

The context help shows the metrics for every sub activity and the links to the source of the information

Siteview GridMap - E.Lanciotti

Current status

- Siteview is in production since March 2009
- Recently the development has been taken over by Marco Ferreira Devesa Campos (new fellow in the GS group)
- Integrated with Dashboard Google Earth display (see Dashboard demo)
- Historical views of the metrics will be implemented soon
- Links to GGUS interface will display all open tickets

Feedback from users

- Overall positive feedback. In average 30 users per month, mainly from UK, France, Switzerland (statistics from April)

- This summer some instabilities: the data were not refreshed during days. We apologize for that!

- Some Vos still do not provide all the required metrics or an evaluation of the status of the activity. If you notice a lack of data: please open a ticket!

Feedback from users is fundamental to improve and maintain Siteview GridMap. You can give your feedback through Savannah tickets in Dashboard project and category Siteview

Thank you for your attention