

Proposals for Site Monitoring Solutions

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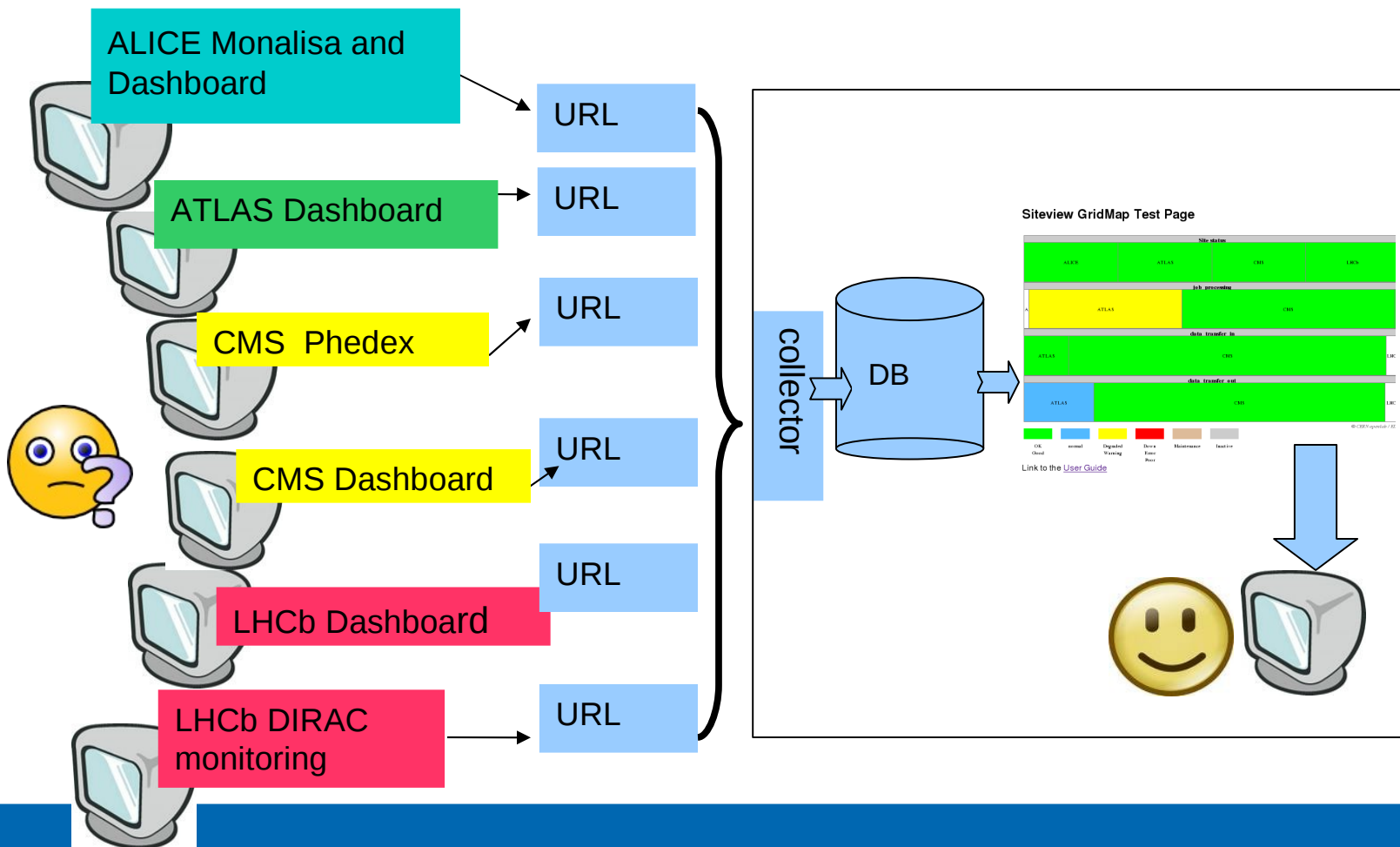
- Define the **objectives** of a monitoring tool for sites:
 - VOs have specific monitoring systems (Dashboard, Dirac, Monalisa..) with very detailed information, designed to be used by the experiment's shifter, production manager, etc..
 - But for a person external to the VO, not easy to use and find the relevant information => a site monitoring tool is needed, designed with the site admin as target
- Show some **possible solutions**
 - Two proposals of possible tools that Dashboard could provide

- Provide a view of the tests that the VO considers critical for the site usability
- Provide a summarized view of the VO's activities at the site, and their **status**, 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 further in an efficient way
- Assume that the user is a person external to the VO (-> no VO specific terminology)
- Make the information available in only one tool (-> no need to open one window for each VO)
- Do not duplicate information: it should just aggregate in one entry point the information available in already existing monitoring systems

- Once agreed on the objectives and functionality, we should try and find the best way for the visualization
- Dashboard could provide two different solutions, to be evaluated which one is the most appropriate:
 - **Siteview**: a tool for aggregating the information from VO specific monitoring systems and display a summary in one view. Developed and put in production in 2009. Still in production, but would need to be validated (some information missing, or not correct..)
 - **Site Status Board (SSB)**: used by ATLAS and CMS for monitoring the status of sites and the ongoing activities. Could implement a new view to display the status of all sites for all VOs, and serve as entry point to the VO specific monitoring systems

Simply collects the information from VO specific tools and publish some homogeneous metrics

One interface, providing links to further debug problem



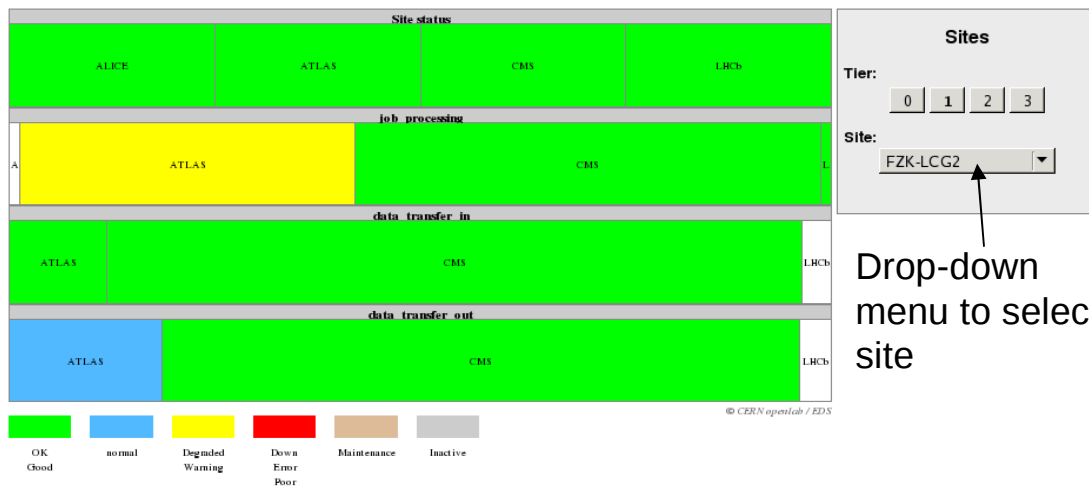
- **One view for each site**
- Inside the main GridMap, the hierarchy is:
 - first level: Activity
 - second level: VO

The main map only shows the main activities and uses a **common metrics**, 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

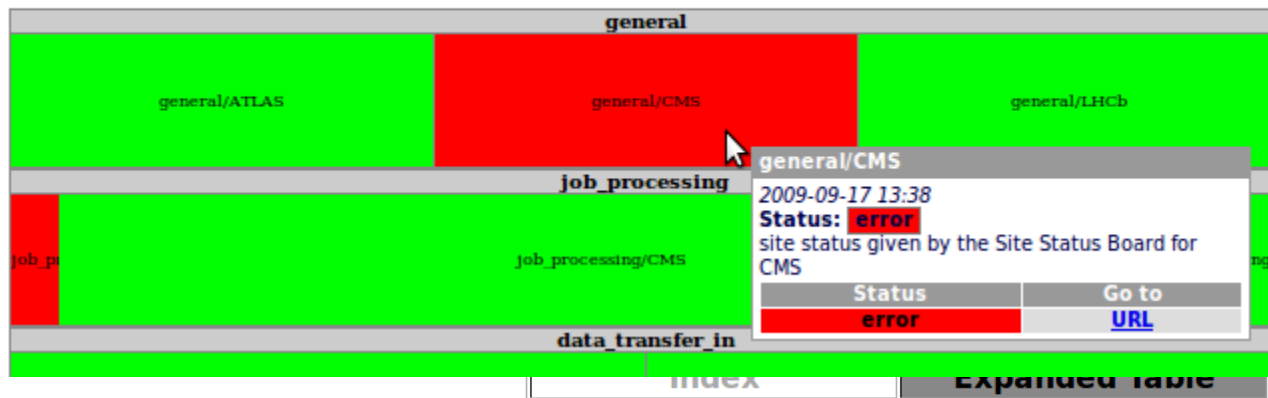
Drop-down menu to select site

The site status

- The site status is the site usability as stated by the VO (see Andrea's talk about the definition of usability)
- Should provide a link to the VO monitoring tool used by the experiment's shifter: this guarantees it is the same information seen by the VO

Siteview GridMap


Link to [User Guide](#)



the CMS sites

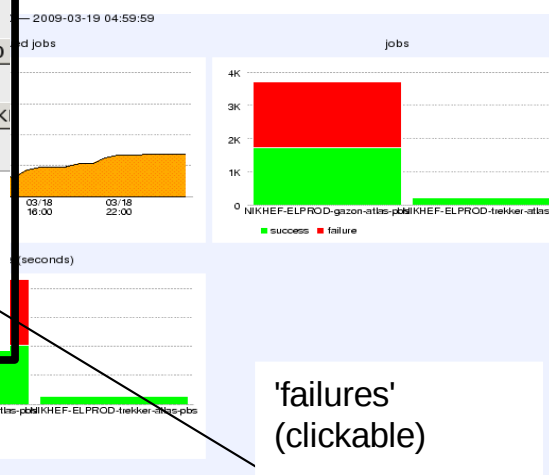
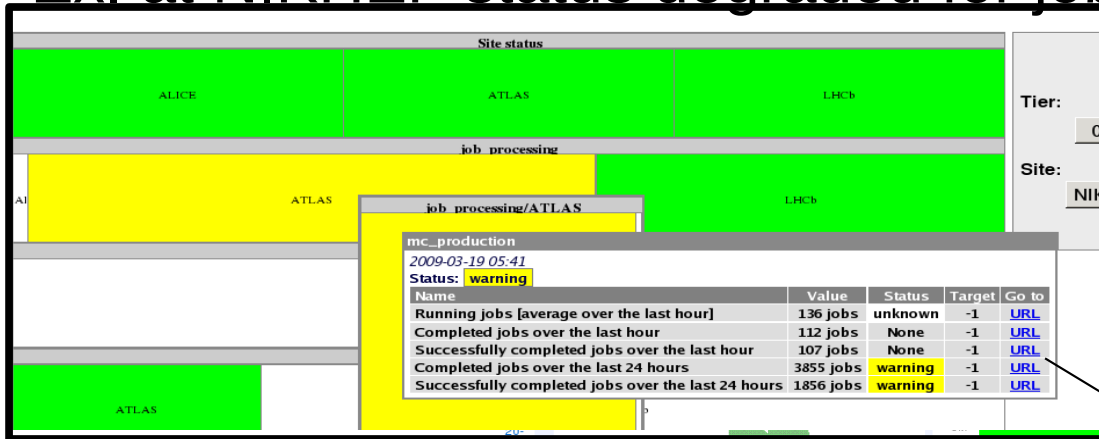
[Found a b](#)

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

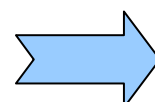
 : information is more than 24h old

Site Name	Visible	JobRobot	SAM TESTS		Production	Analysis	Site usage		Phedex			Maintenance (expand this column)	Savannah	Under investigati
			CE	SRM			Running	Pending	# Links	In rate	Out rate			
T3 UK London QMUL	OK	n/a	OK	error	100%(1367)	100%(478)	880	30%	3/ 9	0	14	GOODB	n/a	m

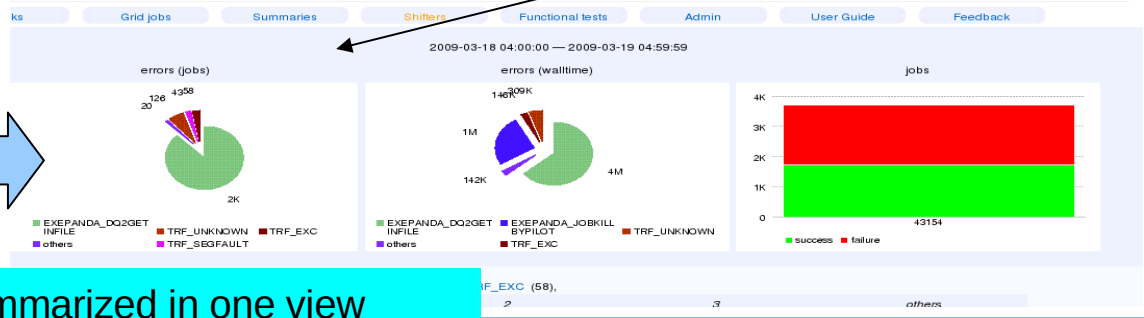
Ex. at NIKHEF status degraded for job processing



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



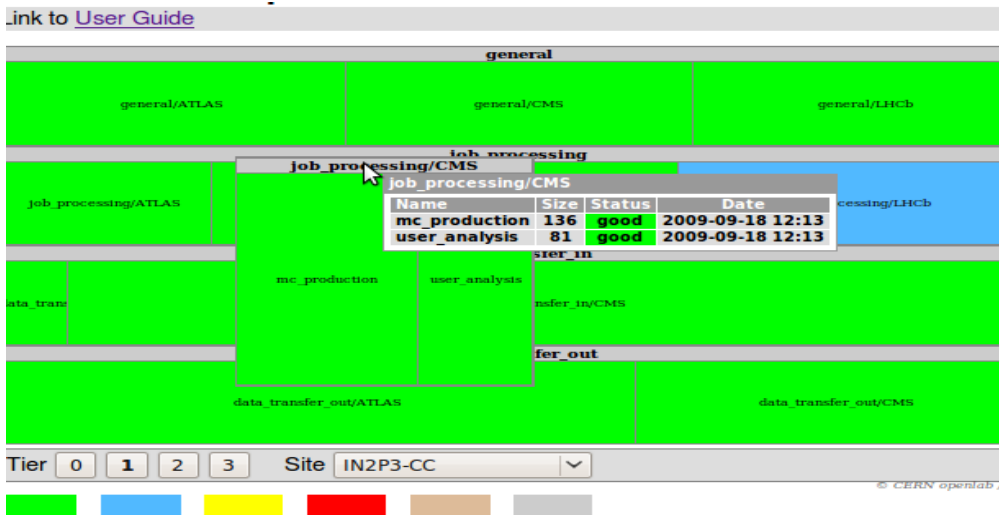
cluster	defined	assigned	waiting	activated	running	holding	transferring	success	failure	efficiency
NIKHEF-ELPROD-gazon-atlas-pbs	0	0	0	0	100	335	0	1731	1971	46.8%
NIKHEF-ELPROD-trekker-atlas-pbs	0	0	0	0	61	5	0	210	29	87.9%



Same data than in Dashboard but summarized in one view

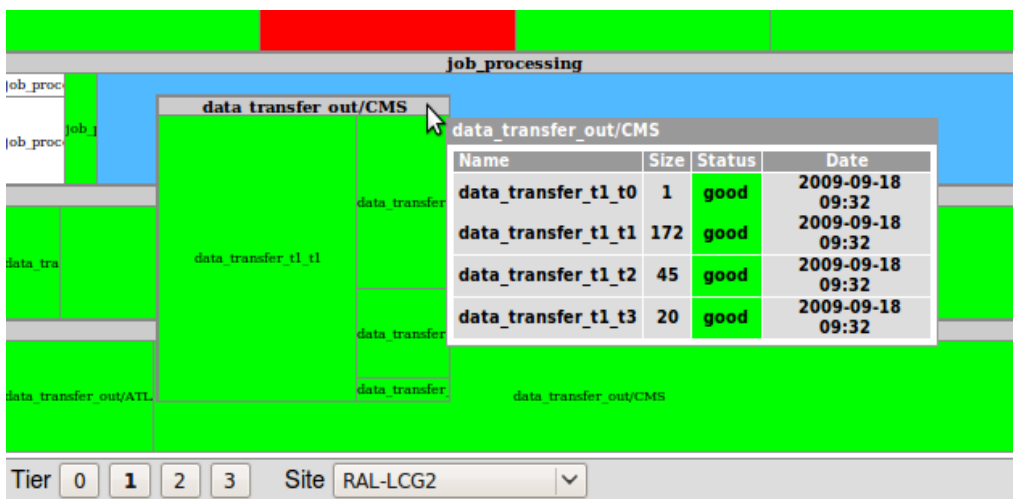
The second level maps

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



- Site Status Board (SSB) is a Dashboard monitoring system used by ATLAS and CMS to monitor their activities across all sites: one view allows the VO to monitor many sites
- SSB is highly flexible and can provide customized views
- A new view could be created to display the status of all sites for all VOs, and then provide links to the VO specific monitoring systems

Example of SSB for CMS

- One view per VO, where all sites are displayed
- More columns can be added showing activities/tests results
- Columns can be clicked on and provide links to the source of information

Help Login Site Status for the CMS sites_v0.14.0_rc5

Index Expanded Table

Show 200 entries Print view: default Search...

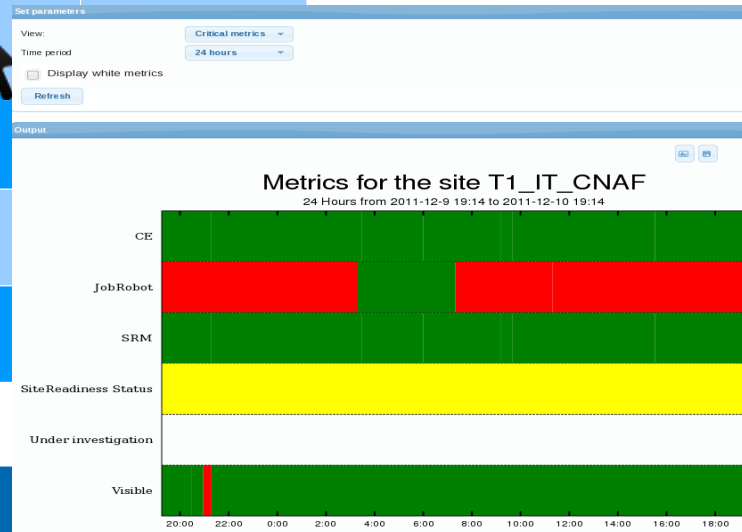
Site Name	Visible	JobRobot	SAM TESTS		Production	Analysis	Site usage		Commissioned Links (expand this column)	Under investigation	Siteissues	In_rate_phedex	Out_rate_phedex	Savannah CMS	TopologyMaintenance
			CE	SRM			Running	Pending							
T1_CH_CERN	n/a	OK	n/a	n/a	n/a	n/a	n/a	n/a	2/5 combined	mark	n/a	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE 4 CE
T3_US_Vanderbit_EC2	error	n/a	error	error	n/a	n/a	n/a	10	n/a	mark	n/a	n/a	n/a	n/a	n/a
T1_UK_RAL_Disk	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3/5 combined	mark	n/a	n/a	n/a	n/a	n/a
T2_CH_CAF	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	mark	n/a	n/a	n/a	n/a	6 CREAM-CE 4 CE
T2_CH_CERN	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2/5 combined	mark	n/a	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE 4 CE
T2_GR_Ioannina	OK	n/a	OK	OK	n/a	99%(2221)	116	838	2/5 combined	mark	n/a	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE
T2_PL_Craow	OK	n/a	error	error	n/a	n/a	n/a	n/a	2/5 combined	mark	info	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE 2 CE
T2_RU_RRC_KI	OK	n/a	error	OK	n/a	n/a	n/a	n/a	2/5 combined	wrong	info	n/a	n/a	1 tickets	OUTAGE UNSCHEDULED 1/1 CREAM-CE down, 0/1 CE down
T3_BY_NCPHEP	OK	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	n/a	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE
T3_CN_PKU	error	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	n/a
T3_DE_Karlsruhe	error	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	n/a
T3_GR_Demokritos	error	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	n/a
T3_GR_IASA	OK	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE 2 CE
T3_GR_Ioannina	n/a	n/a	OK	OK	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	n/a
T3_IT_Bologna	OK	n/a	OK	OK	n/a	n/a	n/a	n/a	n/a	mark	n/a	n/a	n/a	n/a	1 SRMv2 1 CREAM-CE
T3_IT_Firenze	error	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	n/a
T3_IT_Napoli	OK	n/a	error	error	n/a	n/a	n/a	n/a	n/a	mark	info	n/a	n/a	n/a	1 SRMv2 1 CE
T3_IT_Padova	OK	n/a	error	error	100%(33)	100%(247)	85	178	n/a	mark	info	n/a	n/a	n/a	3 CREAM-CE 1 CE

Showing 1 to 118 of 118 entries DB query took 0.0511 s First Previous 1 Next Last

- SSB could provide one overall view for all WLCG sites
- Correlations can be easily spotted and help to distinguish whether it's a site issue or a problem of the VO (one site red for all VOs is probably having problems. But one site red only for 1 VO, which has all sites red, probably points to a problem of the VO (e.g. proxy for pilot jobs expired etc...))
- Cells are click-able and are linked to VO specific tool for site monitoring. e.g.

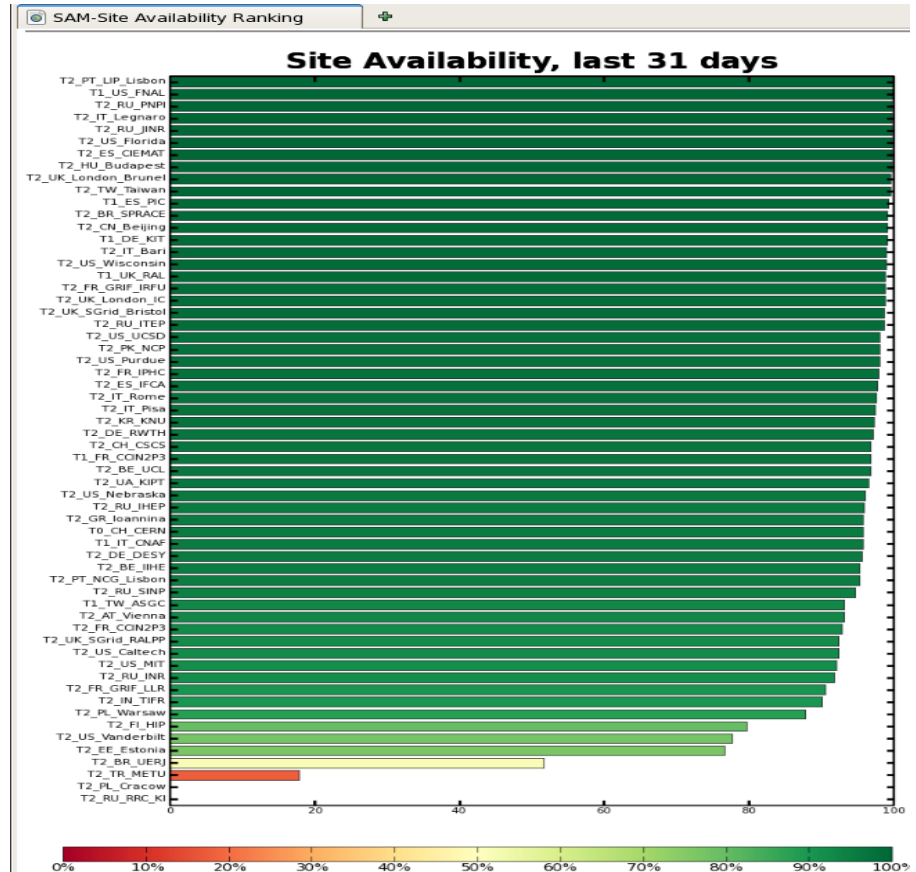
	ALICE	ATLAS	CMS	LHCb
CERN	GOOD	BAD	WARN	BAD
CNAF			WARN	
GRIDKA				
...				

Clicking on the cell (CNAF, CMS) opens a new tab to the CMS SSB view for CNAF.



A sketch of the possible SSB view with one VO per columns and one site per row

- The historical view of site availability
- The ranking of sites



- Sites need a tool for monitoring VOs activities and tests for site usability
 - Should be one interface, for all the VOs
 - Easy to use for people external to the VO
 - Give a realistic picture of VO activities at the site taking information from the VO monitoring system actually used by computing shifters
- Two possible solutions proposed:
 - Dashboard **Siteview**: one view per site reporting the site status as evaluated by the VO and reporting a summary of the activities, plus links to the sources (VO specific tools). No development needed, but a thorough validation of the information displayed
 - Dashboard **Site Status Board**: could provide one view with all VOs and sites. From there, links to the particular VOs monitoring tools. Nice feature like historical view of site availability and site ranking would be provided

Either of them can be easily put in place. Sites should express their preference