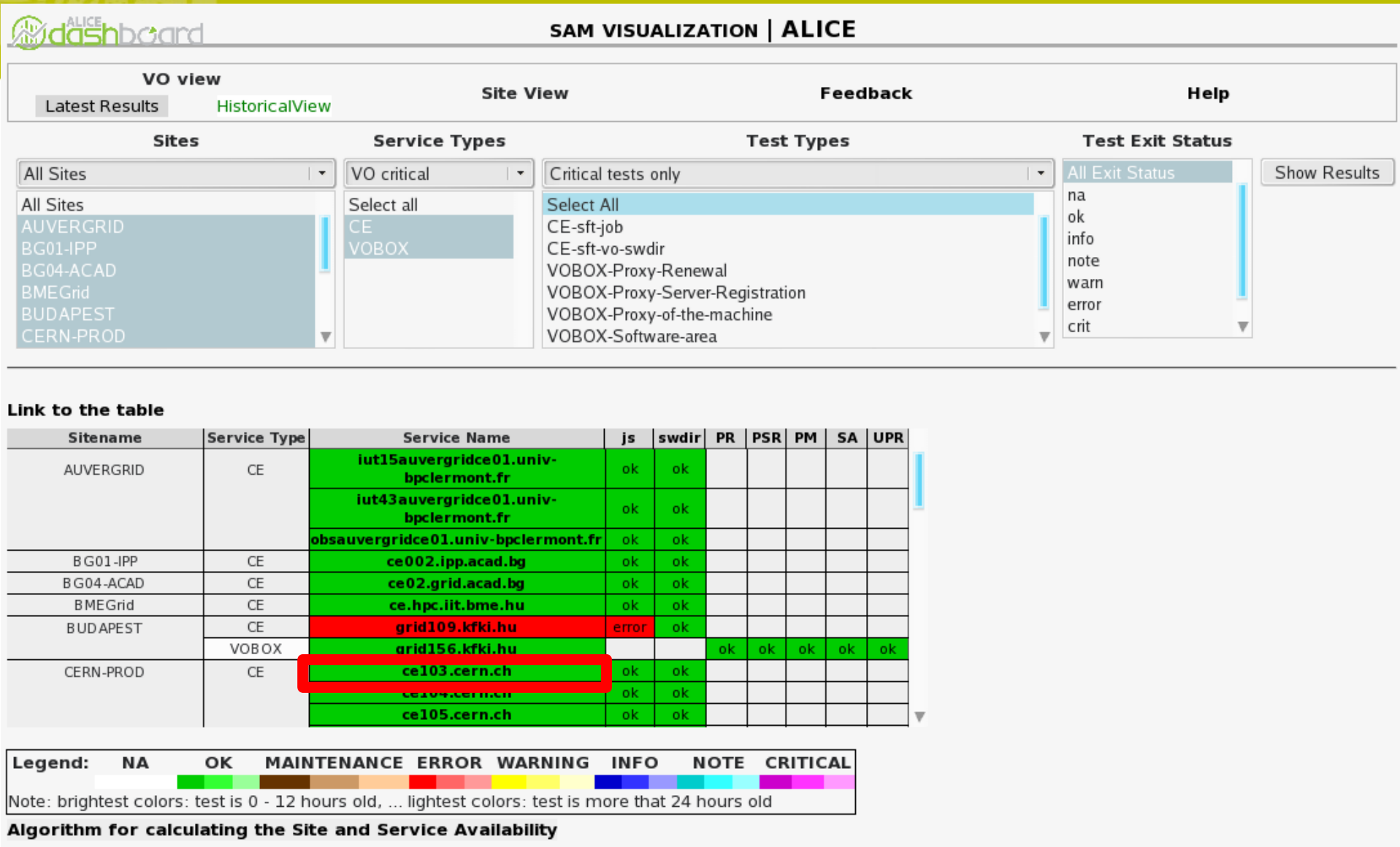
SAM Dashboard update

ALICE-LCG Task Force weekly
Thu. 4 Sept. 2008

William OLLIVIER
TELECOM Bretagne

Screenshot: http://dashb-sam-alice.cern.ch



SAM VISUALIZATION | ALICE

VO view: Latest Results | HistoricalView

Site View | Feedback | Help

Sites: All Sites
- All Sites
- AUVERGRID
- BG01-IPP
- BG04-ACAD
- BMEGrid
- BUDAPEST
- CERN-PROD

Service Types: VO critical
- Select all
- CE
- VOBOX

Test Types: Critical tests only
- Select All
- CE-sft-job
- CE-sft-vo-swdir
- VOBOX-Proxy-Renewal
- VOBOX-Proxy-Server-Registration
- VOBOX-Proxy-of-the-machine
- VOBOX-Software-area

Test Exit Status: All Exit Status
- na
- ok
- info
- note
- warn
- error
- crit

Show Results

Link to the table

Sitename	Service Type	Service Name	js	swdir	PR	PSR	PM	SA	UPR
AUVERGRID	CE	iut15auvergridce01.univ-bpclermont.fr	ok	ok					
		iut43auvergridce01.univ-bpclermont.fr	ok	ok					
		obsauvergridce01.univ-bpclermont.fr	ok	ok					
BG01-IPP	CE	ce002.ipp.acad.bg	ok	ok					
BG04-ACAD	CE	ce02.grid.acad.bg	ok	ok					
BMEGrid	CE	ce.hpc.iit.bme.hu	ok	ok					
BUDAPEST	CE	grid109.kfki.hu	error	ok					
	VOBOX	grid156.kfki.hu			ok	ok	ok	ok	ok
CERN-PROD	CE	ce103.cern.ch	ok	ok					
		ce104.cern.ch	ok	ok					
		ce105.cern.ch	ok	ok					

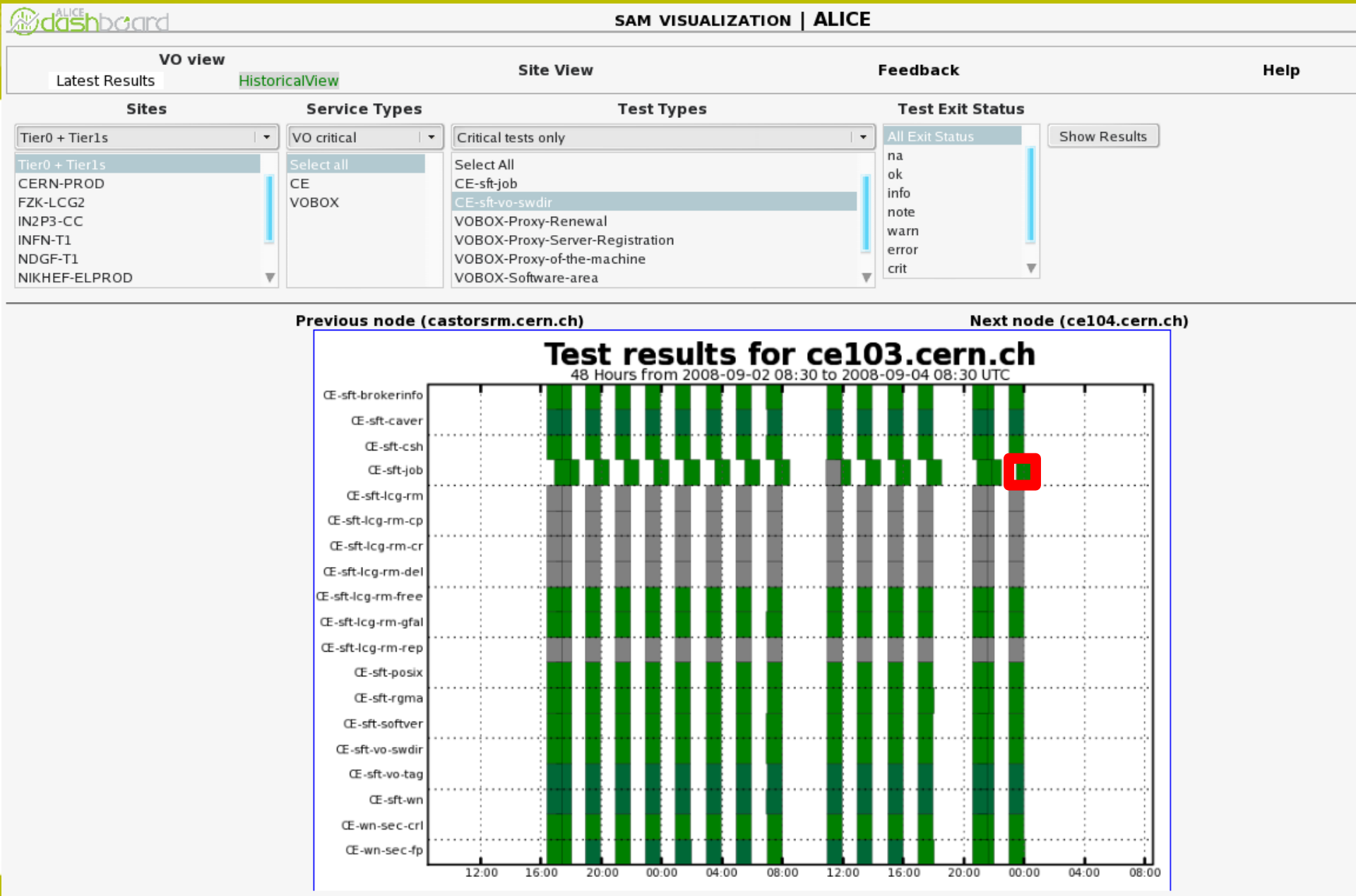
Legend: NA | OK | MAINTENANCE | ERROR | WARNING | INFO | NOTE | CRITICAL

Note: brightest colors: test is 0 - 12 hours old, ... lightest colors: test is more that 24 hours old

Algorithm for calculating the Site and Service Availability

TELECOM Bretagne

Screenshot (2): Service instance test history



Screenshot (3): Test log file

Home Back

SAM test: *CE-sft-job*
Submitter VO: *alice*
Node: *ce105.cern.ch*
Execution time: *04-Sep-2008 08:51:59*

Generating JDL file:

```
Executable = "/bin/sh";
Arguments = "-x testjob.sh";
StdOutput = "testjob.out";
StdError = "testjob.out";
InputSandbox = {"testjob.sh","testjob.tgz","same.conf"};
OutputSandbox = {"testjob.out","testjob-results.tgz"};
Requirements = other.GlueCEInfoHostName == "ce105.cern.ch";
RetryCount = 0;
ShallowRetryCount = 3;
```

content of *testjob.sh*

```
#!/bin/sh
tar xzf testjob.tgz; export SAME_WORK=`pwd`/work; bin/same-exec -c same.conf --nodetest testjob ce105.cern.ch -- CE-1220489487   2>&1
```

Submitting a job

```
+ edg-job-submit --vo alice -o testjob.jid testjob.jdl
**** Warning: UI_JDL_UNKNOWN ****
The following unknown attribute(s) have been found in the JDL file:
- ShallowRetryCount
They will be passed through but ignored by the NS
Selected Virtual Organisation name (from --vo option): alice
Connecting to host rb127.cern.ch, port 7772
Logging to host rb127.cern.ch, port 9002
================================ edg-job-submit Success =====================================
 The job has been successfully submitted to the Network Server.
 Use edg-job-status command to check job current status. Your job identifier (edg_jobId) is:
 - https://rb127.cern.ch:9000/ijyUn4Q-C0Rh29TS6zR6Hw
 The edg_jobId has been saved in the following file:
 /home/samalice/.same/CE/nodes/ce105.cern.ch/testjob.jid
=============================================================================================
+ set +x
```


TELECOM Bretagne

Screenshot(4): Site Availability for OPS

dashboard

SAM VISUALIZATION | OPS

VO view | Site View | Feedback | Help

Latest Results | Historical View

View	Algorithm	Time Range	Sites
Site Availability	OPS AvlTest	Last 2 Weeks	Tier0 + Tier1s Tier0 + Tier1s BNL-LCG2 CERN-CIC CERN-PROD CERN-SC CERN_PPS FZK-LCG2

Quality Plot

Availability Ranking Plot

Show Results

TELECOM Bretagne

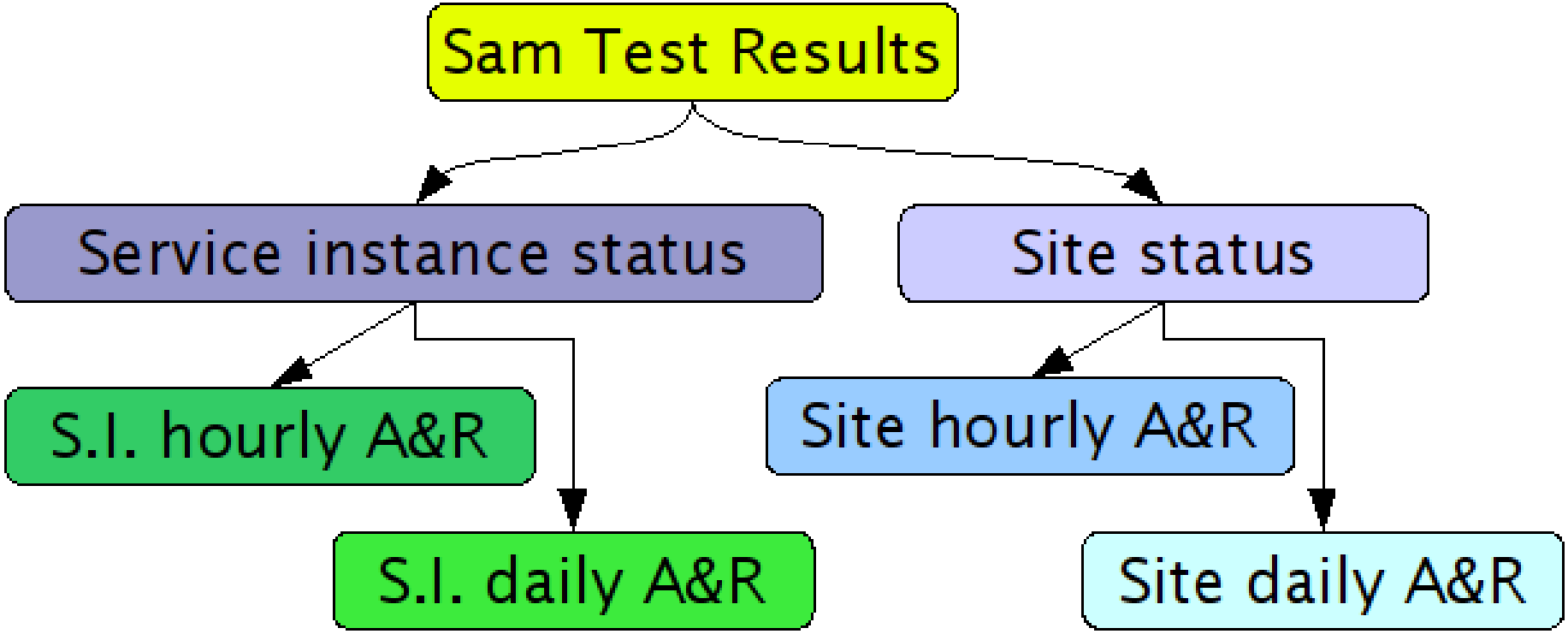
Global improvements

- A very simple front page has been created
  - Select the VO or
  - Select the site you are interested in
  - And you can access the information
  - Currently, only VOs can access information
- Simpler URLs to access any of the VO-specific interfaces
  - For ex.: front page > dashb-sam(.cern.ch)
  - Other ex.: ALICE version > dashb-sam-alice
- Code refactoring (see 11)

Availability

- Intense discussions with Julia A., Alessandro D.G.
  - Different opinions
  - Quite hard to comply with everyone's needs
  - Critical point (because people might rely on these metrics to take actions)
  - Having VO-specific algorithms is not really to be considered
    - Load on the database
    - Writing the computation algorithms is quite time consuming

Principle of the algorithm



S.I. = Service Instance
A&R = Availability & Reliability

Current algorithm: STATUS

- 1st computed metric: Service instance status
  - 4 statuses: OK, DOWN, N/A, MAINTENANCE (scheduled downtime)
  - Every 10 minutes
  - Stored for 48 Hours only
  - Not showed in the web interface
- Deducted from the previous metric: Site status
  - Same status values
  - Same remarks as before

Availability versus Reliability (see 12, 13, 14)

- Both calculated from the status defined before
- Availability: Objective metric (the facts)

$$\frac{\text{time up}}{\text{total time}}$$

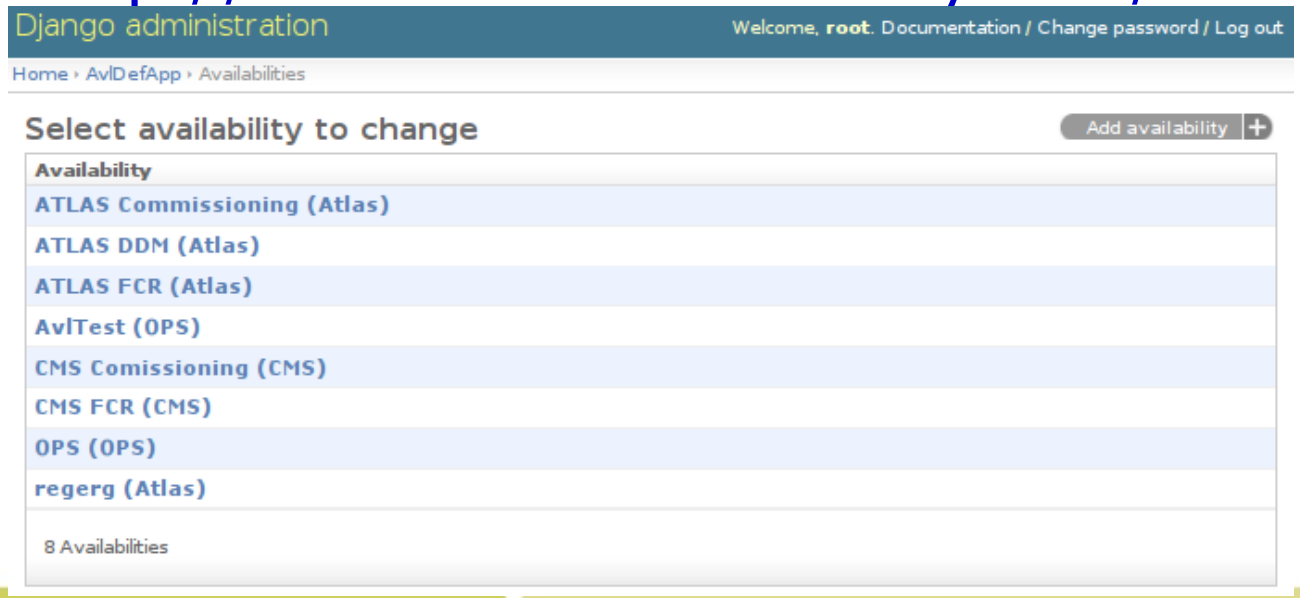
- Reliability: Nicer to the sites, more subjective

$$\frac{\text{time up}}{\text{total time} - \text{maint. time} - \text{N/A time}} = \frac{\text{time up}}{\text{time up} + \text{time down}}$$

- This is how Gridview does it
- So the comparison is possible between these results and those from Gridview

Critical tests

- New interface to define sets of critical tests to be used for determining SI and Site statuses
- Password protected to prevent mess
- Test instance available (ask for credentials)
  - http://dashb-sam-availability-test/admin



The end

- Any complaints, feedback, bug reports or functionality requests about ant of the dashb-sam* interfaces should be adressed, as always, to me
  - william.ollivier@cern.ch
- Questions, comments?

Backup slides

For curious people

Global improvements (2)

- Code refactoring
  - Less source files
    - Basically 3 times fewer files
  - Simpler access
    - Previously, 3 urls: ...latestresultsview, ...latestresultssmry, ...latestresultssmrytable
    - Now, only one: ...latestresults, with different URL parameters, of course
  - Same functionalities
  - ! Not yet deployed on the production instances

Definitions

- Service Instances ans sites can have 4 statuses
- SI and Sites have the same status during a 10 minute time slot (05:50:00-05:59:59 for ex.)
- In the case of hourly calculations,
  - Total time = 6 x 10 minutes = 1 hour
  - If a SI or Site has the UP status t times during the hour, then
    UP time = t x 10 minutes
  - And so on for the other 3 statuses
- Therefore,
  total time = Up time + Down time+N/A time + scheduled downtime

Current algorithm: AVAILABILITY

- Computed Hourly and Daily (at the end of the hour, day)
- Service Instance Availability
  - Based on the statuses explained earlier
  - A floating point value representing the time the service instance is UP, according to the formula

$$\frac{\text{time up}}{\text{total time}}$$

  - Total time depends on the range
    - Hourly availability: 1h ; daily availability: 24h
- Same thing with Site Availability

Current algorithm: RELIABILITY

- Also computed hourly and daily
- Service Instance Reliability
  - A floating point value representing the time the service instance is UP, taking Scheduled downtime into account
  - The exact formula for this metric is:

$$\frac{\text{time up}}{\text{total time} - \text{maint. time} - \text{N/A time}} = \frac{\text{time up}}{\text{time up} + \text{time down}}$$

  - Same remarks as for the availability
- Site reliability computed in the same way

Change availability

History

Name: DUMMY

BDII Flag:

- ○ Yes
- ◉ No

Set the flag if you want the site removed from BDII when tests fail.

N/A Coefficient: 50

Set the percentage of N/A time that should be considered UP.

Tests:

Available tests

APEL-pub (APEL-pub)
APEL-sync (APEL-sync)
CE-CE-sft-brokerinfo (bi)
CE-CE-sft-caver (ca)
CE-CE-sft-crl (crl)
CE-CE-sft-csh (csh)
CE-CE-sft-lcg-rm-del (del)
CE-CE-sft-lcg-rm-free (sefree)
CE-CE-sft-lcg-rm-gfal (gfal)
CE-CE-sft-lcg-rm-rep (rep)
CE-CE-sft-posix (posix)
CE-CE-sft-rgma (rgma)

Choose all

Chosen tests

Select your choice(s) and click

CE-CE-sft-infosites (is)
CE-CE-sft-job (js)
CE-CE-sft-lcg-rm (rm)
CE-CE-sft-lcg-rm-cp (cp)
CE-CE-sft-lcg-rm-cr (cr)

Clear all

Delete | Save and add another | Save and continue editing | Save