



# SAM3 UI on top of WLCG-MON

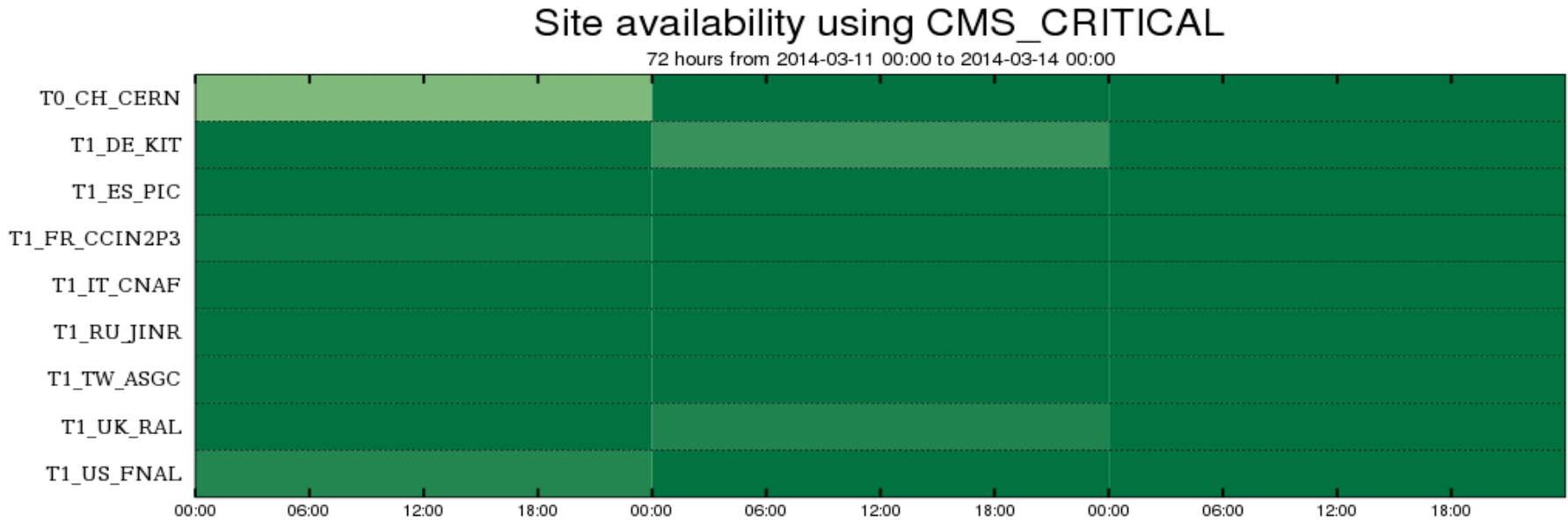
Ivan Dzhunov



# Recent developments

- Bug fixes / improvements
- Availability / reliability algorithms
- Downtime handling

# Aggregation marks old availabilities as UNKNOWN - Fixed



- KNOWN data since March 11<sup>th</sup> when profiles were redefined and aggregation was restarted
  - Since then data can be validated

# Latest results table

Sitename	Flavour	Host status in profile CMS_CRITICAL	Hosts	4	9	6	1
T2_DE_DESY	CREAM-CE	UNKNOWN	grid-cr3.desy.de	OK	W	OK	OK
		UNKNOWN	grid-cr1.desy.de	OK	W	OK	OK
		UNKNOWN	grid-cr4.desy.de	C	W	OK	C
		WARNING	grid-cr0.desy.de	OK	W	OK	OK
		WARNING	grid-cr2.desy.de	OK	W	OK	OK
	SRMv2	OK	dcache-se-cms.desy.de	7	8	3	
				OK	OK	OK	
T2_DE_RWTH	CREAM-CE	OK	grid-ce.physik.rwth-aachen.de	OK	OK	OK	OK
		UNKNOWN	grid-ce2.physik.rwth-aachen.de	OK	OK	OK	C
	SRMv2	OK	grid-srm.physik.rwth-aachen.de	7	8	3	
				OK	OK	OK	
T2_EE_Estonia	ARC-CE	WARNING	cream3.hep.kbfi.ee	OK	W	OK	OK
		WARNING	cream4.hep.kbfi.ee	OK	W	OK	OK
	SRMv2	OK	ganymede.hep.kbfi.ee	7	8	3	
				OK	OK	OK	
T2_ES_CIEMAT	CREAM-CE	OK	creamce03.ciemat.es	OK	OK	OK	OK
		WARNING	creamce02.ciemat.es	OK	W	OK	OK
	SRMv2	OK	srm.ciemat.es	7	8	3	
				OK	OK	OK	
T2_ES_IFCA	CREAM-CE	UNKNOWN	gridce03.ifca.es	OK	OK	OK	OK
		OK	gridce01.ifca.es	OK	OK	OK	OK
	SRMv2	OK	storm.ifca.es	7	8	3	
				OK	OK	OK	
T2_FL_HIP	ARC-CE	CRITICAL	nodeslab-0002.nlab.tb.hiit.fi	C	W	OK	C
		WARNING	jade-cms.hip.fi	OK	W	OK	OK

- Improved table load time by factor of 10
  - Now loads in few seconds

# History of test results

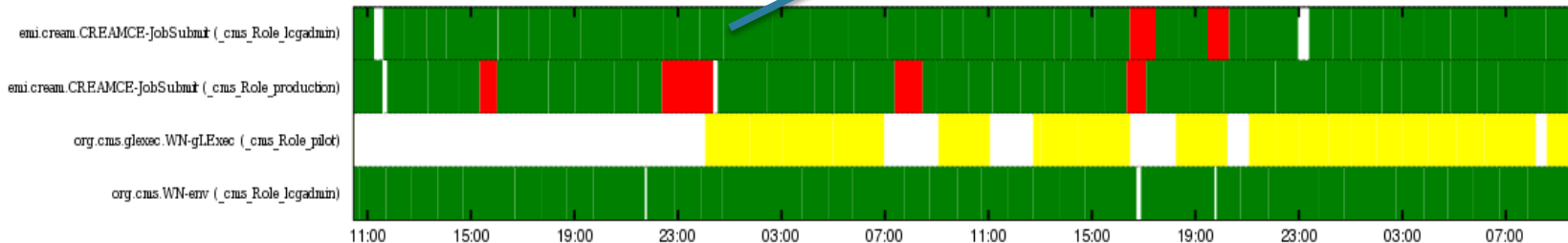
- Before we stored only status changes
  - Unable to see detailed output of recent test result
- Now store every test result

Detailed output of Metric Result

Field	Value
Hostname	grid-cr4.desy.de
Metric	emi.cream.CREAMCE-JobSubmit
VOFQAN	/cms/Role=lcgadmin
Service Flavour	CREAM CE
Timestamp	2014-03-11T00:45:34Z
Status	OK
	OK: success.

## Test history grid-cr4.desy.de using CMS\_CRITICAL

48 hours from 2014-03-10 10:27 to 2014-03-12 10:27



- This led to slow aggregation – because of huge number of intervals
  - Solution was to ‘compress’ data to status change before giving it to Aggregation component

# Availability/reliability algorithms

- Definition taken from current SAM
  - $\text{Availability} = \text{Up period} / (\text{Up period} + \text{Down period} + \text{SD period})$
  - $\text{Reliability} = \text{Up period} / (\text{Up period} + \text{Down period})$
  - Up period - OK or WARNING when no SD
  - Down period - CRITICAL when no SD
  - SD period – scheduled downtime with severity outage
- A/R calculation is implemented in WLCG-MON (from where SAM3 UI takes data)
  - works at site/service level
    - needs a site/service SD metric

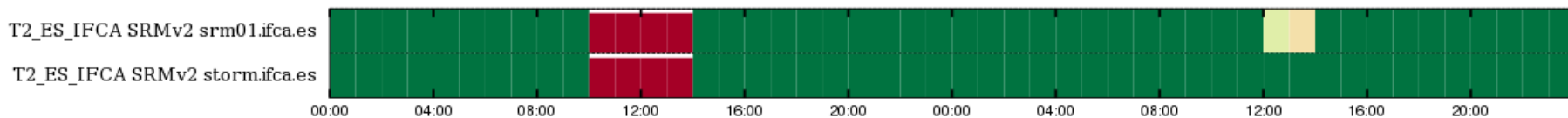
# Service downtime

- Service SD metric is implemented
  - GOCDB/OSG provide downtimes at service level
    - for monthly reports we are interested only in 'SCHEDULED OUTAGE'
  
- Service availability/reliability plots are ready
  - white stripe over interval in downtime

# Service availability/reliability plots

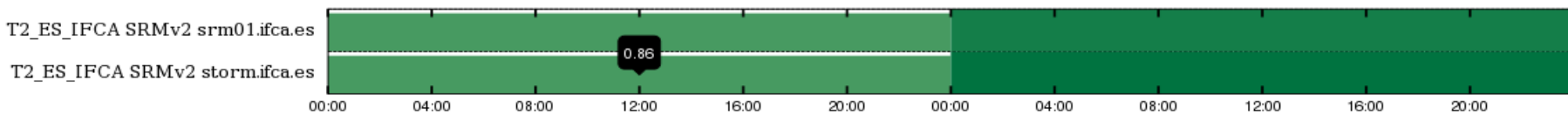
## Service availability using CMS\_CRITICAL

48 hours from 2014-03-11 00:00 to 2014-03-13 00:00



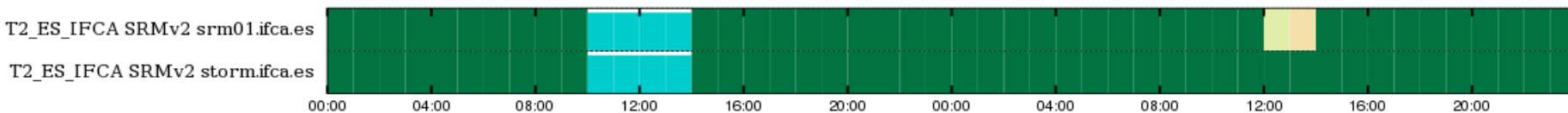
## Service availability using CMS\_CRITICAL

48 hours from 2014-03-11 00:00 to 2014-03-13 00:00



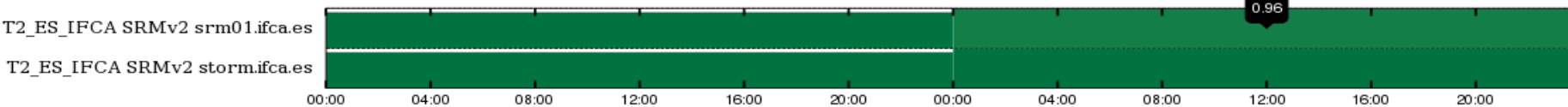
## Service reliability using CMS\_CRITICAL

48 hours from 2014-03-11 00:00 to 2014-03-13 00:00



## Service reliability using CMS\_CRITICAL

48 hours from 2014-03-11 00:00 to 2014-03-13 00:00





# Site downtime metric (per profile)

- Currently being implemented
- Definition taken from current SAM
  - works with profile's algorithm, i.e.  
 $(\text{OSG-CE} + \text{CREAM-CE} + \text{ARC-CE}) * (\text{OSG-SRMv2} + \text{SRMv2})$
  - propagation of service downtime to site downtime
    - when OR (+) operation :
      - at least one of the entries is in downtime and there is no entry that is in UP status {OK, WARNING}
    - when AND (\*) operation
      - at least one of the entries is in downtime and all others are in UP statuses {OK, WARNING}

# SAM3 UI latest features



<http://wlcg-sam-alice.cern.ch>

<http://wlcg-sam-atlas.cern.ch>

<http://wlcg-sam-cms.cern.ch>

<http://wlcg-sam-lhcb.cern.ch>

# WLCG-MON TODO list

- Site downtime metric - ongoing
- Validate data – ongoing
  - visitor Elena Tikhonenko working on it
- Monthly reports