

WLCG SAM3 Migration (Final Report)

MONIT Team

Overview

- Migration of WLCG Site Monitoring from **SAM3** to **SiteMon**
- **No major changes** for Management and Site Admins
 - Same ETF tests and Alice tests
 - Same profiles (the aggregation logic)
 - Same output of PDF monthly reports
- Just a different infrastructure handling the data

Reports

- Exact same look and feel as before
- Provided in most used formats: PDF and JSON
- Improved handling of UNKNOWN status
 - In the old infrastructure missing data was replaced by OK
 - Results can be “fixed” in new infrastructure with a recomputation
 - Or by improving ETF and/or site configuration
- *Question:* should the reports be reviewed at some point?



Availability of WLCG Tier-0 + Tier-1 Sites ATLAS

June 2020



Site Availability of WLCG Tier-0 + Tier-1 Sites ALICE

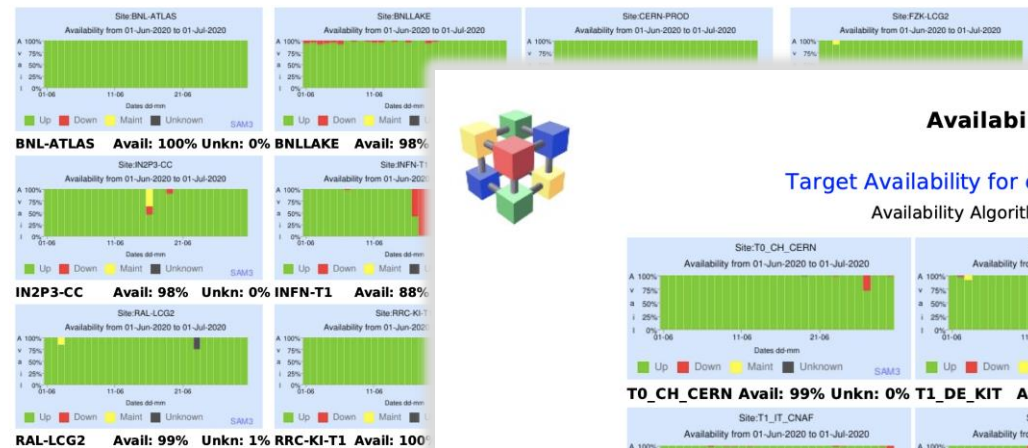
Jan-2020

Target Availability for each site is 97.0%. Target for 8 best sites is 98.0%

Target Availability for each site is 97.0%.

Colors: Red <90% Orange <97% Green >= 97%
Availability Algorithm: @ALICE_CE * @ALICE_VOBOX * all AliEn-SE

Availability Algorithm: (CREAM-CE + ARC-CE + HTCNDOR-CE + GLOBUS) * (all SRMv2 + all SRM + all GRIDFTP)

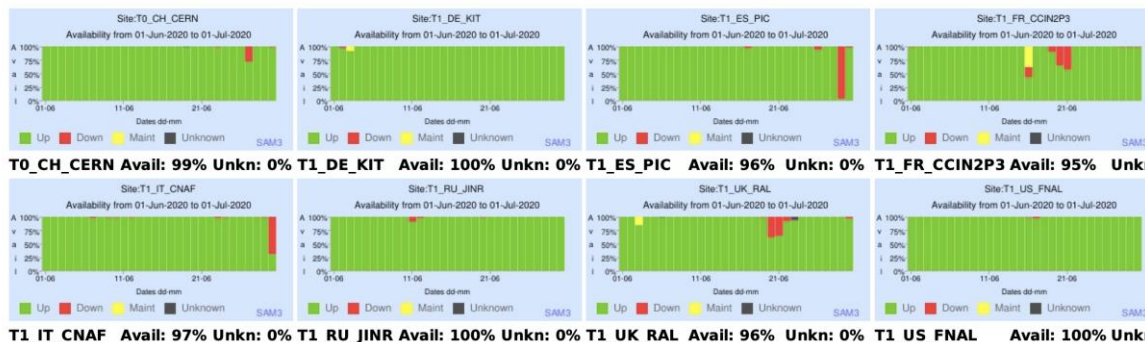


Availability of WLCG Tier-0 + Tier-1 Sites CMS

June 2020

Target Availability for each site is 97.0%. Target for 8 best sites is 98.0%

Availability Algorithm: (CREAM-CE + ARC-CE + HTCNDOR-CE) * all SRM



Site Mon Reports



Tier-2 Availability

Federation

Availability Algorithm:

Color coding:

Federation

Federation	Availability	Reliability
AT-HEPHY-VIENNA-UIBK	73%	78%
BE-TIER2	98%	98%
BR-SP-SPRACE	97%	97%
CH-CERN	100%	100%
CH-CHIPP-CSCS	100%	100%
CN-IHEP	100%	100%
DE-DESY-RWTH-CMS-T2	95%	95%
EE-NICPB	95%	95%
ES-CMS-T2	100%	100%
FI-HIP-T2	82%	83%
FR-GRIF	100%	100%
FR-IN2P3-CC-T2	88%	89%
FR-IN2P3-IPHC	99%	99%
GR-Ioannina-HEP	95%	95%
HU-HGCC-T2	99%	99%
IN-INDIACMS-TIFR	83%	100%
IT-INFN-T2	92%	92%
KR-KISTI-GSDC-02	99%	99%

T2-CENTRAL	Availability	Reliability
T2_US_Caltech	99%	99%
T2_US_Florida	99%	99%
T2_US_MIT	96%	96%
T2_US_Nebraska	94%	94%
T2_US_Purdue	100%	100%
T2_US_UCSD	92%	92%
T2_US_Wisconsin	96%	96%
TR-Tier2-federation	85%	85%
TW-CMS-T2	98%	98%
UA-Tier2-Federation	99%	100%
UK-London-Tier2	75%	75%
UK-SouthGrid	96%	97%

Site	SRM	GRIDFTP	Availability	Mar-2020	Apr-2020	May-2020
CA-EAST-T2	32300	2700	35%	97%	49%	0%
CA-WATERLOO-T2			12%	12%		
CA-WEST-T2	32300	2700	0%	97%	78%	64%
CA-SFU-T2			4%	4%		
CA-VICTORIA-WESTGRID-T2			98%	98%		64%
CH-CHIPP-CSCS	106000	2910	0%	96%	98%	83%
CSCS-LCG2				96%	98%	83%
UNIBE-LHEP			0%	96%	98%	83%
CN-IHEP	8000	400				

June 2020

SRM + all GRIDFTP)

Availability History

Month	Mar-2020	Apr-2020	May-2020
Availability	99%	100%	99%



Dashboards

- **Historical Profiles** dashboard
 - Availability/reliability plots
 - Status information for each site/endpoint/test
 - Selector for raw data vs corrected data
- **Historical Tests** dashboard
 - All raw test results from ETF and Alice
- **Latest Tests** dashboard
 - The latest test results from ETF and Alice

Available
from
Grafana
WLCG org

Computed availability/reliability (% per hour) **kept forever**
Computed status (ok, critical, etc) **kept for 1 year**
Raw test results **kept for 1 year**

VO | alice | Profile | ALICE_CRITICAL | Tier | 1 | Country | All | Federation | All | Site | All | Flavour | All | Hostname | All

Recomputations | status

More Dashboards | Website

SiteMon Historical Profiles

This dashboard shows the availability, reliability, and status computation from ETF tests. To use it:

1. Apply the desired selection using the filters on top (dashboard will also load faster).
2. Click on "Availability & Reliability", "Site Status", "Endpoint Status", or "Test Status" to see results. Scroll up/down for more results.

Availability & Reliability

Site ^	Availability	Reliability
CCIN2P3	100.00%	100.00%
CNAF	99.40%	99.40%
FZK	100.00%	100.00%
KISTI_GSDC	100.00%	100.00%
NDGF-T1	97.90%	97.90%
NIKHEF	98.80%	98.80%

— Availability — Reliability

08/26 12:00 08/27 00:00 08/27 12:00 08/28 00:00 08/28 12:00 08/29 00:00 08/29 12:00 08/30 00:00 08/30 12:00 08/31 00:00 08/31 12:00 09/01 00:00 09/01 12:00 09/02 00:00



Site Status

CCIN2P3:

CNAF:

FZK:

KISTI_GSDC:

NDGF-T1:

NIKHEF:

RAL:

RRC_KI_T1:

OK OK

OK

OK OK OK OK

Endpoint Status

[CCIN2P3] [AliEn-CE] ccwlcgalice03.in2p3.fr:

[CCIN2P3] [AliEn-CE] ccwlcgalice04.in2p3.fr:

[CCIN2P3] [AliEn-SE] ccxrdralice.in2p3.fr:

[CCIN2P3] [AliEn-VoBox-Test] ccwlcgalice03.in2p3.fr:

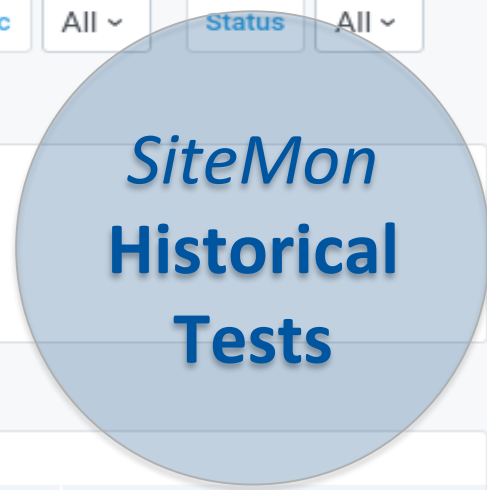
[CCIN2P3] [AliEn-VoBox-Test] ccwlcgalice04.in2p3.fr:

[CCIN2P3] [HTCONDOR-CE] cccondorce01.in2p3.fr:

[CCIN2P3] [HTCONDOR-CE] cccondorce02.in2p3.fr:

[CNAF] [AliEn-CE] ui01-alice.cr.cnaf.infn.it:

[CNAF] [AliEn-CE] ui02-alice.cr.cnaf.infn.it:



This dashboard shows all ETF test results. To use it:

1. Apply the desire selection using the filters on top (dashboard will also load faster).
2. Click on "Table" or "Timeline" to see results. Scroll up/down for more results.

Table

Timestamp	Status	Site ^	Flavour	Hostname	Metric	Summary														
09:06:12	OK	CCIN2P3	AliEn-SE	ccxrdralice.in2p3.fr	ADD_IPv6	Test OK														
09:06:12	OK	CCIN2P3	AliEn-Monitor	ccwlcgalice03.in2p3.fr	ServiceStatus	Service is running														
09:06:12	OK	CCIN2P3	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy Server	Proxy is ok														
09:06:12	WARNING	CCIN2P3	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy of the machine	proxy is running low														
09:06:12	OK	<table border="1"> <thead> <tr> <th>Timestamp ^</th> <th>Site</th> <th>Flavour</th> <th>Hostname</th> <th>Metric</th> <th>Status</th> <th>Summary</th> </tr> </thead> <tbody> <tr> <td>2020-09-02 11:06:12</td> <td>IN2P3-CC</td> <td>AliEn-VoBox-Test</td> <td>ccwlcgalice04.in2p3.fr</td> <td>Proxy of the machine</td> <td>WARNING</td> <td>proxy is running low</td> </tr> </tbody> </table>					Timestamp ^	Site	Flavour	Hostname	Metric	Status	Summary	2020-09-02 11:06:12	IN2P3-CC	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy of the machine	WARNING	proxy is running low
Timestamp ^	Site	Flavour	Hostname	Metric	Status	Summary														
2020-09-02 11:06:12	IN2P3-CC	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy of the machine	WARNING	proxy is running low														
09:06:12	OK																			
09:06:12	OK																			
09:06:12	WARN																			
09:06:12	WARN																			
09:06:12	OK	Time left: 21:16																		
09:06:12	OK	Time left: 21:16																		
09:06:12	OK	Time left: 21:16																		
09:06:12	OK	Time left: 21:16																		

Profiles

- Managed internally by the MONIT team
- All VO critical profiles initially added by MONIT
- Other profiles added later as requested by VOs

Profile Name	VO	Algorithm
ATLAS_CRITICAL	atlas	((CREAM-CE or ARC-CE or HTCONDOR-CE or GLOBUS) and ((SRMv2) or (SRM) or (GRIDFTP)))
CMS_CRITICAL	cms	((CREAM-CE or ARC-CE or HTCONDOR-CE) and (SRM))
CMS_CRITICAL_FULL	cms	((CREAM-CE or ARC-CE or HTCONDOR-CE) and (SRM) and (XROOTD))
CMS_FULL	cms	((CREAM-CE) and (ARC-CE) and (HTCONDOR-CE) and (VAC) and (SRMv2))
LHCB_CRITICAL	lhcb	((CREAM-CE or ARC-CE or HTCONDOR-CE or VAC) and (SRMv2))
ALICE_CRITICAL	alice	((ARC-CE or CREAM-CE or HTCONDOR-CE) and (AliEn-SE) and ((ARC-CE or CREAM-CE or HTCONDOR-CE) or ((AliEn-CE) and (AliEn-VoBox-Test))))

Recomputations

- Managed by Experiment representatives
- Based on Gitlab with one json doc per request
 - Added new option to create VO-wide requests
 - Built-in tracking of requests history
 - Detailed documentation provided in the repository

```
{  
  "vo": "atlas",  
  "dst_experiment_site": "IN2P3-LAPP",  
  "periods": [  
    { "start_time": "2019-12-01 12:00:00",  
      "end_time": "2019-12-01 12:13:00",  
      "status": "DOWNTIME" }  
  ]  
}
```


S site-monitoring-recomputations

Project ID: 75188

🔔 ☆ Star 0 🍴 Fork 0
🔗 70 Commits 🌿 11 Branches 🏷️ 0 Tags 📁 532 KB Files 💾 1,019 KB Storage

This project contains the site monitoring recomputation requests


master | site-monitoring-recomputations / + | History | Find file | Web IDE | Clone


Correction for the RAL production CEs accidentally absent from the VO feed.
 Maarten Litmaath authored 3 days ago | 5cea7052

README | CI/CD configuration | Add LICENSE | Add CHANGELOG | Add CONTRIBUTING | Add Kubernetes cluster

Name | master | site-monitoring-recomputations / alice / 2020 / 06 / RAL.json

 alice/2020
 atlas/2020
 cms/2020
 example/2019/
 lhcb/2020


Correction for the RAL production CEs accidentally absent from the VO feed.
 Maarten Litmaath authored 3 days ago

RAL.json 307 Bytes

```

1  {
2    "vo": "alice",
3    "dst_experiment_site": "RAL",
4    "periods": [
5      {
6        "start_time": "2020-06-12 00:00:00",
7        "end_time": "2020-06-20 16:00:00",
8        "status": "OK"
9      },
10     {
11       "start_time": "2020-06-21 08:00:00",
12       "end_time": "2020-06-30 23:59:59",
13       "status": "OK"
14     }
15   ]
16 }
```

Site Monitoring Recomputations repository

This repository proceeds and keeps track of SAM3 recomputation requests

Steps to follow in order to create a SAM3 correction request

- Create a JSON file containing an information about the VO, site name and time window you want to correct. This file must respect the following requirements:
 - to be stored under the corresponding directory structure: "VO/year/month"
 - to be named after the sitename you want to recompute: [site name].json
 - to be a valid JSON file
 - to provide the start/end timestamp values (within the month specified in the path)

Maintain the following fields: vo, dst_experiment_site, periods : { start_time, end_time, status }

Make sure status is one of: OK, WARNING, CRITICAL, DOWNTIME, UNKNOWN

Example filename: atlas/2019/08/IN2P3-LAPP.json

```

"vo": "atlas",
"dst_experiment_site": "IN2P3-LAPP",
"periods": [
  {
    "start_time": "2019-12-01 12:00:00",
    "end_time": "2019-12-01 12:13:00",
    "status": "DOWNTIME"
  },
  {
    "start_time": "2019-12-20 12:00:00",
    "end_time": "2019-12-22 12:13:00",
    "status": "OK"
  }
]

```



SiteMon Repo

Homepage

<http://cern.ch/monit-wlwg-sitemon>



Dashboards

WLCG MONIT dashboards



Reports

WLCG site availability and reliability reports



Profiles

Check the current active profiles



Recomputations

Take a look at how to send corrections for the site results

Status

- ✓ Presented the migration in multiple WLCG meetings
 - 07 May: WLCG Operations Coordination
 - 02 Jul: WLCG Operations Coordination
 - 08 Jul: WLCG GDB
 - 03 Sep: WLCG Operations Coordination
 - **14 Oct: WLCG GDB**
- ✓ Completed the implementation and deployment of SiteMon
 - Imported historical data for availability and reliability
 - Collected feedback and provided solutions
- ✓ New SiteMon fully replaced SAM3
 - Old dashboards and infrastructure shutdown
 - Reports **official since July** (~3 months)
 - Dashboards **official since mid September** (~1 month)

Further Improvements

- Test validity per profile (now is 24h for all profiles)
- Migrate topology enrichment from VOFeeds to CRIC
- Improve freshness of profile computations (now is 1h)
- Manage profile definition as time-series

Thank you !

In particular to all VO representatives for the feedback provided and the validation of the new tools together with Site Managers.

<http://cern.ch/monit-support>