

WLCG Site Monitoring Migration

MONIT Team

Overview

- Migration of WLCG Site Monitoring (*SAM3*) to MONIT
- **No changes** from WLCG Management / Site Admins perspective
 - Same ETF test and Alice tests
 - Same profiles (aggregation logic)
 - Same PDF report output
- Just a different infrastructure handling the data

MONIT Site Monitoring

- Based on MONIT infrastructure
 - Test results from ETF + Alice
 - Enriched using VOFeed data
- Dashboards
 - In MONIT Grafana WLCG organization
 - Historical Profiles / Tests
 - Latest Tests
- Reports
 - Generated monthly and send to WLCG
 - All_Sites, Tier1_History, Tier1_Summary, Tier1_VO

SiteMon 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

Dashboards

- Available from **MONIT Grafana WLCG** organization
- **Historical Profiles**
 - Status information for each site/service
 - Selector for raw/corrected status
 - Stats info plots help identifying low availability/reliability
- **Historical Tests**
 - Overview / Details of the “raw” received ETF and Alice test
- **Latest Tests**
 - Overview / Details of the last received test result per site/service and metric
- **Data retention:**
 - site/service availability and reliability (% per hour) kept forever
 - site/service status (OK, CRITICAL, etc) kept for 1 year
 - “raw” test results kept for 1 year

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

Recomputations

More Dashboards Website

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

1. Apply the desire 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:



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:

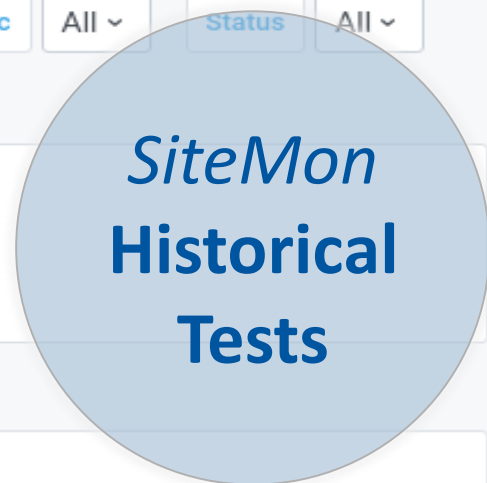
[CCIN2P3] [HTCONDOR-CE] cccondorce02.in2p3.fr:

[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 desired 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	<u>Test OK</u>														
09:06:12	OK	CCIN2P3	AliEn-Monitor	ccwlcgalice03.in2p3.fr	ServiceStatus	<u>Service is running</u>														
09:06:12	OK	CCIN2P3	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy Server	<u>Proxy is ok</u>														
09:06:12	WARNING	CCIN2P3	AliEn-VoBox-Test	ccwlcgalice04.in2p3.fr	Proxy of the machine	<u>proxy is running low</u>														
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	<p>Details</p>																		
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																		



Timeline

CCIN2P3 ccondorce01.in2p3.fr org.sam.CONDOR-JobSubmit-alice:



CCIN2P3 ccondorce02.in2p3.fr org.sam.CONDOR-JobSubmit-alice:



CCIN2P3 ccwlcgalice03.in2p3.fr Delegated proxy:



CCIN2P3 ccwlcgalice03.in2p3.fr Proxy Server:



CCIN2P3 ccwlcgalice03.in2p3.fr Proxy of the machine:



CCIN2P3 ccwlcgalice03.in2p3.fr ServiceStatus:



CCIN2P3 ccwlcgalice03.in2p3.fr alien proxy:



CCIN2P3 ccwlcgalice04.in2p3.fr Delegated proxy:



CCIN2P3 ccwlcgalice04.in2p3.fr Proxy Server:



CCIN2P3 ccwlcgalice04.in2p3.fr Proxy of the machine:



CCIN2P3 ccwlcgalice04.in2p3.fr ServiceStatus:



CCIN2P3 ccwlcgalice04.in2p3.fr alien proxy:



CCIN2P3 ccxrdralice.in2p3.fr ADD:



This dashboard shows the last ETF test result for each host/metric. To use it:

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



Table

Timestamp	Status	Site ^	Flavour	Hostname	Metric	Summary
11:42:46	OK	CCIN2P3	HTCONDOR-CE	ccocondorce02.in2p3...	org.sam.CONDOR-JobSubmit-alice	<u>OK: COMPLETED.</u>
11:38:09	OK	CCIN2P3	AliEn-SE	ccxrdralice.in2p3.fr	ADD	<u>Test OK</u>
11:38:09	OK	CCIN2P3	AliEn-SE	ccxrdralice.in2p3.fr	GET	<u>Test OK</u>
11:38:09	OK	CCIN2P3	AliEn-SE	ccxrdralice.in2p3.fr	GET_IPv6	<u>Test OK</u>
11:38:09	OK	CCIN2P3	XRootD.Redirec...	ccxrdralice.in2p3.fr	GET	<u>Test OK</u>
11:38:09	OK	CCIN2P3	XRootD.Redirec...	ccxrdralice.in2p3.fr	ADD_IPv6	<u>Test OK</u>

Stats

Sites
9

Flavours
9

Hostnames
61

Metrics
12 9

Reports

- Output format
 - PDF, JSON
- UNKNOWN status
 - In the old infrastructure missing data was replaced by OK
 - Leading to availabilities of $>100\%$ in SAM3
 - ex. (OK: 100%, UNKNOWN: 4%)
 - Main source of difference between new SiteMon and SAM3
 - Results can be “fixed” in new infrastructure with a recomputation



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

June 2020



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

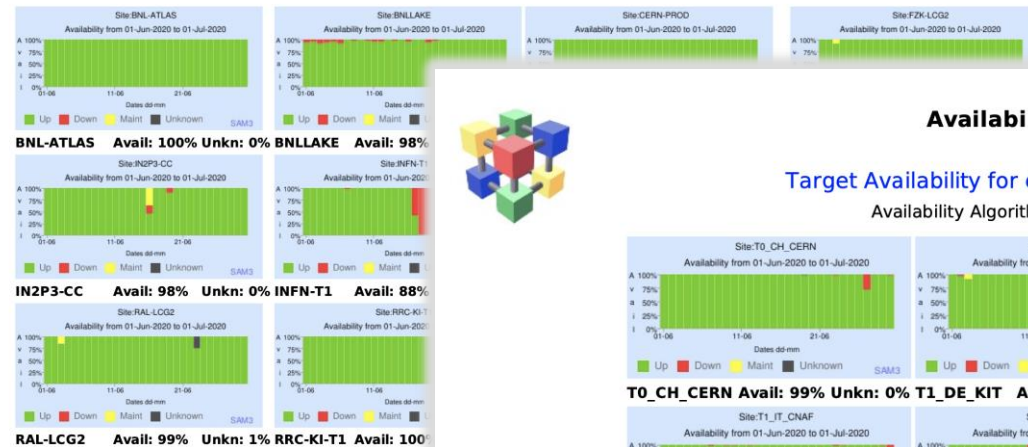
Jan-2020

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)

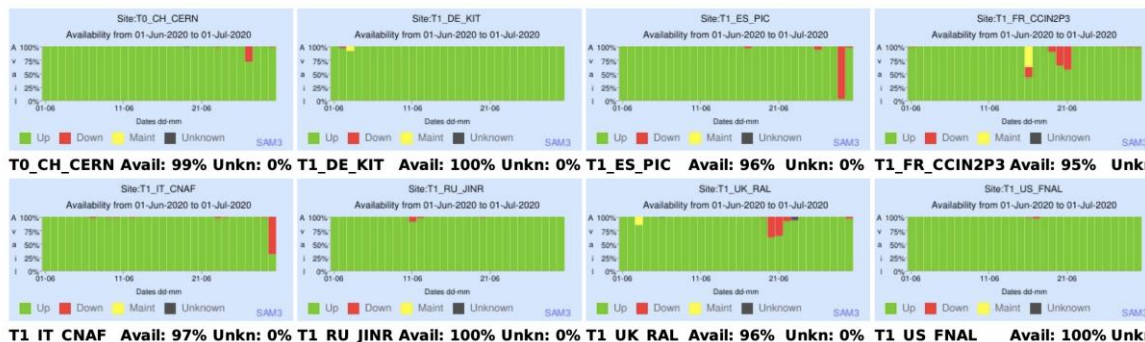


Availability of WLCG Tier-0 + Tier-1 Sites CMS

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



SiteMon Reports



Tier-2 Availability

Federation

Availability Algorithm:

Color coding:

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-LATINAMERICA	100%	100%
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%

CA-EAST-T2	32300	2700							
CA-WATERLOO-T2			12%	12%	35%	97%	49%	0%	
CA-WEST-T2	32300	2700							
CA-SFU-T2			4%	4%	0%	97%	78%	64%	
CA-VICTORIA-WESTGRID-T2			98%	98%	0%	97%	78%	64%	
CH-CHIPP-CSCS	106000	2910							
CSCS-LCG2			99%	99%	0%	96%	98%	83%	
UNIBE-LHEP			54%	54%	0%	96%	98%	83%	
CN-IHEP	8000	400							

SRM + all GRIDFTP)

Availability History

Month	Mar-2020	Apr-2020	May-2020
0%	99%	100%	99%

June 2020



Profiles

- Managed internally by the MONIT team
- Good opportunity to clean legacy profiles
- VO critical profiles initially added by MONIT
- More profiles have been already added on request

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))))

- Please open a SNOW ticket for further missing profiles

Recomputations

- Managed by Experiment representatives
- Based on Gitlab, one simple 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

🔔 0 ☆ 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 }

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

Content: 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

Status



Implement SiteMon availability / reliability computation

- Recomputation and downtime integration
- Dashboards creation in Grafana WLCG organisation
- Report generation



Presenting to WLCG coordination meeting

- Presentation delivered on 17 March 2020
- Status update delivered on 2 July 2020
- GDB delivered on 8 July 2020



Deliver SiteMon reports in parallel to the SAM3

- Already covered May and June reports
- Reports also sent to site managers



Deliver SiteMon official reports

- Done for July



Import historical data used in the reports

- Done only for availability/reliability numbers

Status

- **Collect and implement feedback**
 - Dedicate meeting with each VO representatives
 - Working on users feedback for the last months
 - Drilldown functionality, look&feel improvements, correcting corner cases...
 - Current blocker
 - Improve management of non WLCG sites
 - Future improvements
 - Profile specific test validity, faster computations...

Migration plan

- **July**
 - 03:** Draft reports for *June* from **SAM3** and **SiteMon** infrastructure
 - 16:** Final reports for *June* from **SAM3** infrastructure
- **August**
 - 03:** Draft reports for *July* from **SiteMon** infrastructure
 - 31:** **Final** reports for *July* from **SiteMon** infrastructure
 - ~~**17:** Stop old dashboards but keep infrastructure running~~
- **September**
 - 14-21:** Tentative dates to stop old dashboards
 - 31:** Retire the old infrastructure (dashboards and reports)

Thank you !

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