



WLCG Services Monitoring: SAM

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ALICE T1/T2 tutorial for site admins

Outlook

- SAM and FCR: General Implementation
- SAM for ALICE: Requirements and Implementation
- SAM and MonaLisa
- Alarm System
- Summary



SAM and FCR infrastructure



- SAM: Service Availability Monitoring
 - Grid Services Monitoring System updated each Xh
 - Publication of the status of each Grid service based in
 - Standard tests defined by services team
 - Special test suites defined by VOs
 - Filtered by VOs and visible for all VO members
- FCR: Freedom of Choice for Resources
 - Access to the services tests
 - Availability to “black” or “white” sites that should appear in the VO BDII
 - Access ensured to certain persons only
 - Definition of Critical Tests
 - VO based decision

SAM and FCR for ALICE



■ SAM

- Used as monitoring system to check VOBOXES and LCG-CE
 - Specific ALICE tests for VOBOXES while standard ops tests for the LCG-CE
 - For the moment ONLY LCG-CE is considered in ALICE a critical sensor for availability calculation purposes
- We have established a new infrastructure onto SAM to fulfilled ALICE requirements

■ FCR

- Not used to black list any site
 - ALICE has already its own mechanism
- Set up for LCG-CEs and VOBOXES
 - For LCG-CE and VOBOXES we use it to define the list of Critical Tests

ALICE implementation in SAM

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- Implementation for VOBOXES
 - SAM developers implemented special sensors for VOBOXES
- Complete freedom; ALICE decides:
 - The test suite to run in VOBOXES
 - The VOBOXES to check
 - The Critical Tests set
 - All these parameters can be changed at any moment
- Implementation and visualization in MonaLisa
 - Interface SAM-MonaLisa
- Alarm system
 - Direct notification of problems to the sites

SAM implementation for VOBOXES



*Read file
voboxList*

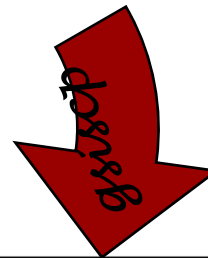
SAM gets it each 1h for a www area via wget

*SAM UI
run
WrapperOnUI
pick next vobox*



It is installed in SAM UI and copy is mandatory each 2h

*Particular VOBOX
copy and execute script
lcg_vobox_services_test*

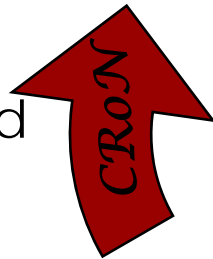


*Create locally all result
files for different tests
and pass them back to UI*

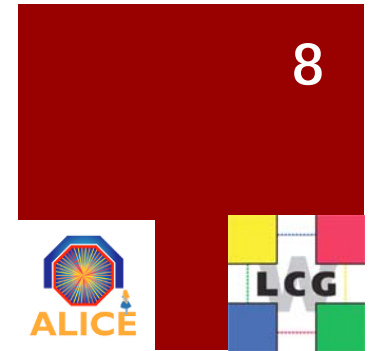


*Publish on SAM
According to
No. of tests
and timestamp*

Executed each 2h



Registration of VOBOXES in SAM DB



- VOBOXES have to be registered in SAM DB in order to be monitored. This excludes:
 - Native Alien Sites
 - Several sites which have not yet been registered in the GOCDB
- SAM developers implemented a registration procedure which ensures the freedom required by ALICE
 - ALICE creates the list of VOBOXES and put it in a [www](#) area
 - This list can be changed as much as needed
 - Each 1h a tool read that file and register new entries
 - Also deletes old entries not monitored for 1 week

The control wrapper



- Installed in the SAM UI
- Set of tools to manage the control of the test suite execution
 - Take the VOBOXES names from the list included in the www area
 - Launch the test suite to each site
 - Collect the results back
 - Publish the results in SAM
 - Executed each 2h as a cron
 - Ensure timeouts in the case a VOBOX is not accessible
 - All operations are grid-certificate based
 - The user proxy is also refreshed by the SAM cron



The test suite

- Included in *lcg_sam_vobox_test* *placed* in SAM UI
 - This script can be modified at any moment
 - the control wrapper copies it each time to all VOBOXES and also executes it
- Collects the results locally following a SAM readable infrastructure

```
testName: VOBOX-gsiscp
testAbbr: gsc
testTitle: Status of the gsiscp service
```

Definition file

```
envName: VOBOX-12345
```

Env file

```
nodename: vobox.ct.infn.it
testname: VOBOX-gsiscp
envName: VOBOX-12345
voname: alice
status: 10 (10="OK")
detaileddata: ...
```

Results file

10: OK

40: Warning

50: Error



List of tests

- VOBBOX: Tests checking proxies issues
 - Proxy renewal service of the VOBBOX
 - User proxy registration
 - VOBBOX registration within the MYPROXY server
 - Proxy of the machine
 - Duration of the delegated proxy
 - Access to the software area

- LCG-CE:
 - Access to the software area
 - Job submissions (via specific SAM WMS placed at CERN)

Visualization and interfaces



- Interfaced with MonaLisa, SAM results can be seen from the native ALICE system

Site	Delegated proxy	Proxy of the machine	Proxy Renewal	Proxy Server Registration	RB status	Software area	User Proxy Registration	WMS Status	gisup
1. Athens	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
2. Bari	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
3. Birmingham	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
4. Bologna	OK	OK	OK	OK	ERROR	OK	OK	ERROR	unknown
5. CERN/PS	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
6. CERN/SL	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
7. CERN/gLite	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
8. CNAF	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
9. Cugisnet	OK	OK	OK	OK	OK	ERROR	OK	ERROR	unknown
10. Catania	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
11. Clermont	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
12. Cybernet	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
13. CSC	OK	OK	ERROR	OK	OK	OK	OK	ERROR	ERROR
14. GUP DAPHA	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
15. GSI	OK	OK	OK	OK	OK	OK	OK	ERROR	ERROR
16. INEP	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
17. IPHD	OK	OK	OK	OK	OK	OK	unknown	ERROR	ERROR
18. IT EP	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
19. JINR	OK	OK	OK	OK	unknown	OK	OK	unknown	ERROR
20. KFSI	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
21. KISTI	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown
22. Kolata	ERROR	OK	OK	ERROR	ERROR	OK	ERROR	ERROR	ERROR
23. Kraske	OK	OK	OK	OK	ERROR	OK	OK	ERROR	ERROR
24. LCG	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
25. Legnano	OK	OK	OK	OK	OK	OK	OK	ERROR	unknown

Access to the SAM page

- Visible also from the generic UI in Dashboard (Pablo's talk)

The alarm system



- The SAM developers have created a tool able to send emails and SMS to the contacts persons at each site in the case that the CT fails
- We have installed it and tested from the SAM UI at CERN: and it works (also with phones abroad)
- Its implementation is trivial: In the cron job which launch the current SAM tests suite
- It needs just a config file that contains:
 - Name of VOBOX Contact person mail Phone

Current Status



- SAM infrastructure for ALICE was created together with Vikas Singhal and the SAM experts few years ago
- It needs immediately an upgrade in terms of infrastructure and tests
 - In order to ensure a good level of monitoring which can be trustable by the site admins
 - It will be in place before the real data taking this year and site admins will follow the upgrades through the ALICE TF lists and meetings
 - Creating together with the Dashboard team an infrastructure to provide information of jobs submitted via CREAM-CE