

# Integration of experiment specific test jobs with Site Functional Tests

*Piotr Nyczyk, Judit Novak  
CERN IT/GD*

*CERN, 6<sup>th</sup> September 2005*

- **Current SFT state (SFT2)**
  - SFT Client - test job submission
  - SFT Report
- **R-GMA data schema**
- **VO specific test jobs**
- **VO specific tests**
- **SFT documentation in Wiki**
- **New SFT report (in development)**
- **Future tasks**
- **Useful links**

- **SFT Client is a set of scripts with the following functionality:**
  - test “central” services like RB, SE for 3rd party replication tests, etc.
  - get the list of sites to be tested from R-GMA (GOC DB)
  - build and submit test jobs to sites
  - publish list of available tests
  - retrieve and publish the results to R-GMA using SFT Server
- **Contains a standard set of test scripts that can be extended easily with custom tests (VO specific)**
- **Simple installation and configuration on any UI**
- **Single parameter (SFT\_VO) that configures VO used for testing**
- **Single configuration file with list of tests to perform (optional arguments)**
- **Currently submitted by a cron job every 3 hours with “dteam” user’s certificate**
- **Tests are submitted to sites represented by CE and physically executed on WN in a batch farm**

- Currently shows only results of tests submitted by dteam VO
- Compact view with possibility for configuration (visible columns, critical tests)
- Links to detailed results of individual tests, tests description pages, site history view and site GOC DB record

## Site Functional Tests report

[Help page](#) [Configure view](#)

### Colours definition

SD	Scheduled downtime	#a3a3a3
JL	Job list match failed	#aab3ff
JS	Job submission failed	#f4876b
CT	Critical tests failed	#f9d48e
NT	Non-critical tests failed	#f2f98e
OK	OK	#b2f98e

### Test abbreviations

js	<a href="#">Job submission</a>
wn	<a href="#">WN host name</a>
ver	<a href="#">Software Version (WN)</a>
ca	<a href="#">CA certs version</a>
rgma	<a href="#">R-GMA</a>
bi	<a href="#">BrokerInfo</a>
csh	<a href="#">CSH test</a>
rm	<a href="#">Replica Management</a>
apel	<a href="#">Apel test</a>
votag	<a href="#">VO Tag management</a>
swdir	<a href="#">VO software directory</a>

### Summary

SD: 25 JL: 9 JS: 11 CT: 22 OK: 96 All: 163

#	St.	Region	Site Name	Site CE	js	wn	ver	ca	rgma	bi	csh	rm	apel	votag	swdir
1.	OK	SouthEasternEurope	AEGIS01-PHY-SCL	ce.phy.bg.ac.yu	O	I	O	O	O	O	O	O	W	O	O
2.	OK	Canada	ALBERTA-LCG2	lcgce01.nic.ualberta.ca	O	I	O	O	O	O	O	O	W	W	O
3.	OK	China	BEIJING-LCG2	lcg002.ihep.ac.cn	O	I	O	O	X	O	O	O	W	O	O
4.	OK	SouthEasternEurope	BG-INSRNE	ce.Linme.bas.bg	O	I	O	O	O	O	O	O	W	O	O
5.	OK	SouthEasternEurope	BG01-IPP	ce001.grid.bas.bg	O	I	O	O	O	O	O	O	X	O	O
6.	OK	SouthEasternEurope	BG02-IM	ce001.imbm.bas.bg	O	I	O	O	O	O	O	O	X	O	O
7.	OK	SouthEasternEurope	BG04-ACAD	ce01.grid.acad.bg	O	I	O	O	O	O	O	O	X	O	O
8.	CT	UK1	BHAM-LCG2	epgce1.ph.bham.ac.uk	O	I	O	O	O	O	O	X	W	O	O
9.	OK	SouthWesternEurope	BIFI	ce-egce.bifi.unizar.es	O	I	O	O	O	O	O	O	W	O	O
10.	OK	UK1	BITLab-LCG	dgc-grid-35.brunel.ac.uk	O	I	O	O	O	O	O	O	W	W	O
11.	SD	BNL	BNL-LCG2	lcg-ce01.usatlas.bnl.gov	X	??	??	??	??	?	??	??	??	??	??
12.	OK	UK1	BRISTOL-PP-LCG	lcgce01.phy.bris.ac.uk	O	I	O	O	O	O	O	O	X	O	O
13.	OK	CentralEurope	BUDAPEST	grid109.kfki.hu	O	I	O	O	X	O	O	O	W	O	O

- Currently only for tests submitted by dteam VO
- Configuration stored in a cookie
- Selection of:
  - tests to display (columns)
  - critical tests
  - regions to display
- Default configuration stored in SFT Server configuration file
- List of available tests hardcoded in configuration file but will be dynamically updated in future

## Site Functional Tests report

### SFT Configuration

[Help page](#)

**Select the tests to display:**

- sft-job
- sft-wn
- sft-softver
- sft-caver
- sft-rgma
- sft-brokerinfo
- sft-csh
- sft-lcg-rm

**Select the critical tests:**

- sft-job
- sft-wn
- sft-softver
- sft-caver
- sft-rgma
- sft-brokerinfo
- sft-csh
- sft-lcg-rm

**Select regions to display:**

- AsiaPacific
- BNL
- CERN
- Canada
- CentralEurope
- China
- FNAL
- France

Show all sites

Show only sites with problems

Show only sites that are OK

- Data schema for SFT was designed to support experiment specific tests
- R-GMA/MySQL is used as data transport layer
- Two main tables to store test definitions and results
- TestDef entries describe each individual test case and will allow for custom (exp. specific) tests discovery
- TestData tuples represent individual results identified by VO, test name and the destination node (CE or Site)

TestDef
testName
isVirtual
dataType
unit
friendlyName
testHelp
testTitle

TestData
VO
testName
nodeName
envID
status
summaryData
detailedData

- Each VO can submit their own test jobs using VO user's certificate
- Original tests used by "dteam" can be reused (but submitted under different VO) - results can be different! For example replication test may fail when running as "lhcb" even if it succeeds when running as "dteam"
- Experiments may provide their own custom tests
- Example:
  - tests submitted by "dteam" VO: sft-job, sft-rgma, sft-rm, sft-softver
  - tests submitted by "lhcb" VO: sft-job, sft-rm, *sft\_lhcb-dirac (VO specific)*
- Results will not overlap - "sft-rm" test executed as "dteam" and the same test executed as "lhcb" will result in two separate tuples with different VO attribute
- What does experiment need to submit tests?
  - UI with users account and certificate
  - SFT Client (from CVS) optionally with VO specific tests
  - cron job to submit test jobs

- **Very easy to add new (VO specific) tests to the framework:**
  - **test script** - in any scripting language, can do anything following just few rules: result as exit status (SFT\_OK: 10, SFT\_ERROR: 50, etc.), detailed log on stdout and stderr
  - **test definition file** - few key-value pairs: full name, abbreviation, link to help page
- **Tests definitions are published automatically to R-GMA when new tests are submitted**
- **First successful example: Dirac Installation test for LHCb by Roberto Santinelli**
  - simple wrapper to Dirac installation script
  - full log available (stdout, stderr)
  - just few minor issues/comments that will be added to SFT Wiki page



- Describes client/server installation, tests submission and adding new tests
- Primary source of information how to add new VO specific tests
- Experiments are welcome to edit the Wiki page and incorporate their observations and comments

**GOC Wiki** [Login](#)  [Titles](#) [Text](#)

[FrontPage](#)
[AdministrationFaq](#)
[SiteProblemsFollowUpFaq](#)
[GocDocs](#)
[OpDocs](#)
[VoDocs](#)
[RecentChanges](#)
[FindPage](#)

[HelpContents](#)
**Site Functional Tests**

Immutable Page [Show Changes](#) [Get Info](#) More Actions:

---

## Site Functional Tests

---

### Introduction

This page is intended to provide useful information about the Site Functional Tests framework for ROCs, CICs, VOs and all the people who are interested in using SFT framework to monitor grid sites. This includes all certified sites in EGEE/LCG infrastructure but also testing uncertified sites (for internal certification process performed by ROCs), monitoring sites that are part of gLite Pre-Production Service, and all other sites that are using LCG or gLite middleware.

---

### Installation and configuration

- [SFT Server installation](#)
- [SFT Client installation](#)

---

### SFT User's Guide

- [Submitting SFT test jobs](#)
- [Adding custom SFT tests](#)

---

### Known SFT Servers

- [SFT report for EGEE/LCG Production Grid](#)

[Save](#) [Refresh](#) [Reset](#) [Defaults](#)

[Help page](#)  
[Configure view](#)

### Overall selections

Select the VOs: Select regions to display:

lhcb  
magic  
marinegrid  
mice  
na48  
nadc  
ncf  
pheno

Japan  
NorthernEurope  
OSG  
Pakistan  
Russia  
SouthEasternEurope  
SouthWesternEurope  
UKI

Show all sites  
 Show only sites with problems  
 Show only sites that are OK

### Selections for VO dteam

Select the tests to display: Select the critical tests:

sft-lcg-rm-rep  
sft-lcg-rm-cr3  
sft-lcg-rm-cp3  
sft-lcg-rm-rep3  
sft-lcg-rm-del  
sft-apel  
sft-vo-tag  
sft-vo-swdir

sft-lcg-rm  
sft-lcg-rm-gfal  
sft-lcg-rm-cr  
sft-lcg-rm-cp  
sft-lcg-rm-rep  
sft-lcg-rm-cr3  
sft-lcg-rm-cp3  
sft-lcg-rm-rep3

### Selections for VO lhcb

Select the tests to display: Select the critical tests:

sft-lcg-rm-cr3  
sft-lcg-rm-cp3  
sft-lcg-rm-rep3  
sft-lcg-rm-del  
sft-apel  
sft-vo-tag  
sft-vo-swdir  
sft\_lhcb\_dirac-test

sft-lcg-rm-cr3  
sft-lcg-rm-cp3  
sft-lcg-rm-rep3  
sft-lcg-rm-del  
sft-apel  
sft-vo-tag  
sft-vo-swdir  
sft\_lhcb\_dirac-test

VO selection

Tests selection for chosen VOs

	SD	JL	JS
dteam	22	8	11
lhcb	22	79	14

	St.	Re
1.	OK	SouthEast
2.	OK	Canada
3.	JS	China
4.	OK	SouthEast
5.	OK	SouthEast
6.	OK	SouthEast
7.	OK	SouthEast
8.	OK	UKI
9.	OK	SouthWes
10.	OK	UKI
11.	SD	BNL
12.	OK	UKI
13.	CT	CentralEu
14.	SD	Canada

	St.	js	dirac-test
JL	X	??	
OK	Q	Q	
JL	X	??	
JL	X	??	
JL	X	Q	
JL	X	??	
JL	X	Q	
JL	X	Q	
JS	X	X	
OK	Q	Q	
JL	X	Q	
SD	X	??	
CT	Q	X	
OK	Q	Q	
SD	X	??	

[Help page](#)

[Configure view](#)

## Site Functional Tests report

2005-09-06 -- latest reports

VO specific tests

2005-09-05 08:44:05

### Checking the installation of dirac framework

```

Mon Sep 5 02:38:44 MDT 2005
lcgce01.nic.ualberta.ca:2119/jobmanager-lcgpbs-lhcb
hostname: thuner065
whoami: lhcb002
curdir: /localdisk/lcg/WMS_thuner065_01402_https_3a_2f_2fgdrb02.cern.ch_3a9000_2fkIFt8JQavVB-vGHqLINMHw
site: nic.ualberta.ca
VO_LHCB_SW_DIR: /opt/exp_software/lhcb
LCG_SITE_CE: nic.ualberta.ca
EDG_WL_JOBID: https://gdrb02.cern.ch:9000/kIFt8JQavVB-vGHqLINMHw
redhat release: Scientific Linux SL Release 3.0.3 (SL)
uname: Linux thuner065 2.4.21-32.0.1.ELhugemem #1 SMP Wed May 25 15:22:59 CDT 2005 i686 i686 i386 GNU/Linux
model name      : Intel(R) Pentium(R) III CPU family      1400MHz
cpu MHz         : 1396.496
model name      : Intel(R) Pentium(R) III CPU family      1400MHz
cpu MHz         : 1396.496
MemTotal:       1025408 kB
SPACE:          7170
    
```

DIRAC intallation OK

Mon Sep 5 02:38:55 MDT 2005

9.	OK	SouthWesternEurope	BIFI	ce-egce.bifi.unizar.es	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q	OK	Q	Q
10.	OK	UKI	BITLab-LCG	dgc-grid-35.brunel.ac.uk	OK	Q	I	Q	Q	Q	Q	Q	Q	X	W	Q	JL	X	Q
11.	SD	BNL	BNL-LCG2	lcg-ce01.usatlas.bnl.gov	SD	X	??	??	??	??	??	??	??	??	??	??	SD	X	??
12.	OK	UKI	BRISTOL-PP-LCG	lcgce01.phy.bris.ac.uk	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q	CT	Q	X
13.	CT	CentralEurope	BUDAPEST	grid109.kfki.hu	CT	Q	I	Q	Q	X	Q	Q	Q	W	Q	Q	OK	Q	Q
14.	SD	Canada	CARLETONU-LCG2	lcg02.physics.carleton.ca	SD	X	??	??	??	??	??	??	??	??	??	??	SD	X	??

[Help page](#) [Home](#)  
[Configure view](#)

## Site Functional Tests report

*history for ce-egEE.bifi.unizar.es*

Test summary

Team	SD	JL
dteam	22	8
lhcb	22	79

### Test abbreviations

csH	CSH test
swdir	VO software directory
rgma	R-GMA
dirac-test	Dirac Installation
wn	WN host name
ver	Software Version (WN)
ca	CA certs version
rm	Replica Management
votag	VO Tag management
js	Job submission
bi	BrokerInfo
apel	Apel test

### Colours definition

SD	Scheduled downtime	#a3a3a3
JL	Job list match failed	#aab3ff
JS	Job submission failed	#f4876b
CT	Critical tests failed	#f9d48e
NT	Non-critical tests failed	#f2f98e
OK	OK	#b2f98e

Test date	St.	js	wn	ver	ca	rgma	bi	csH	rm	apel	votag	swdir
2005-09-06 06:05:34	OK	Q	I	Q	Q	Q	Q	Q	Q	X	Q	Q
2005-09-06 03:05:39	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q
2005-09-06 00:05:32	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q
2005-09-05 21:05:16	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q
2005-09-05 18:05:29	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q
2005-09-05 15:05:10	OK	Q	I	Q	Q	Q	Q	Q	Q	W	Q	Q
2005-09-05 09:05:05	OK	Q	I	Q	Q	Q	Q	Q	Q	X	Q	Q
2005-09-05 06:05:36	JL	X	??	??	??	??	??	??	??	??	??	??
2005-09-05 03:05:41	JL	X	??	??	??	??	??	??	??	??	??	??
2005-09-05 00:05:35	JL	X	??	??	??	??	??	??	??	??	??	??

Test date	St.	js	dirac-test
2005-09-05 08:24:30	OK	Q	Q
2005-09-02 10:12:57	OK	Q	Q
2005-09-01 14:24:25	OK	Q	X
2005-09-01 11:55:01	OK	Q	X
2005-09-01 07:24:17	OK	Q	??

Rows displayed: 5

- **Move new SFT report into production (currently it is being tested by EIS team)**
- **Add new experiment specific tests and maintain *cron* based tests submission by VOs (VO responsibility)**
- **Integration with Freedom of Choice tool (FCR)**
  - FCR will discover VO specific tests using R-GMA
  - Possibility of filtering sites using “official” dteam results or VO specific ones (for example: *“Use sites that pass R-GMA test submitted by dteam and replication test submitted by Atlas”*)
- **Provide VO specific metric reports and summaries**
  - total number/percentage of “good” sites/resources for given VO per region

- **Site Functional Tests report (current)**  
<https://lcg-sft.cern.ch:9443/sft/lastreport.cgi>
- **Site Functional Tests report (development)**  
<https://lcg-sft.cern.ch:9443/sft-devel/lastreport.cgi>
- **SFT Wiki page**  
[http://goc.grid.sinica.edu.tw/gocwiki/Site\\_Functional\\_Tests](http://goc.grid.sinica.edu.tw/gocwiki/Site_Functional_Tests)