

# Comparison of SAM testing coverage with Nagios testing

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*EGEE'09 Conference,*  
*21 - 25 September 2009, Barcelona*

## SAM

SAM sensors RPM

**lcg-sam-client-sensors**

*CE/WN, SRM(v2), Central-LFC, Local-LFC, FTS, WMS, CREAM-CE, VO-box, +*

**Gstat**

*Top-BDII, Site-BDII*

**APEL**

*CE*

*RED – critical services [availability]*

## Nagios

**grid-monitoring-probes-org.sam**

*CE/WN, SRM(v2), CREAM-CE, [WMS]*

**grid-monitoring-probes-org.bdii,**

**gstat-validation**

*Top-BDII, Site-BDII*

**grid-monitoring-probes-hr.srce**

*CE, WMS, MyProxy, DPM/DPNS, GridFTP, SRM, MON, +*

**grid-monitoring-probes-ch.cern**

*Central-LFC, Local-LFC, FTS*

**grid-monitoring-probes-org.sam.sec**

*WN (security)*

**grid-monitoring-org.ggus-probes**

*GGUS*

**APEL**

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# SAM currently tests (ops VO)

Service	SAM Sensor	# critical	# total
<b>CE</b>	<b>CE</b>	<b>7</b>	<b>29</b>
<b>SRM</b>	<b>SRMv2</b>	<b>8</b>	<b>8</b>
<b>Site-BDII</b>	<b>sBDII</b> (from GStat)	<b>2</b>	<b>10</b>
Top-BDII	BDII (from GStat)	1	1
Central-LFC	LFC_C	4	4
Local-LFC	LFC_L	3	3
FTS	FTS	3	4
VO-box	VOBOX	1	1
WMS	gRB	1	3
APEL	APEL (from APEL)	1	2
-	<i>host-cert</i> for most of above		

- **SAM to Nagios migration phase**
  - validate the new testing framework & show equivalence
- **Equivalence achieved for critical services**
  - CE
  - SRM
  - Site-BDII
- <https://twiki.cern.ch/twiki/bin/view/LCG/EGEEWLCGCriticalProbe>

<u>SAM/GStat Sensor</u>	<u>Nagios probe(s)</u>
sBDII	/usr/bin/gstat-validate-sanity-check /usr/libexec/grid-monitoring/probes/org.bdii/check_bdii_entries
<u>SAM Test</u>	<u>Nagios metric</u>
sBDII-performance	org.bdii.Entries
sBDII-sanity	org.gstat.SanityCheck

- **GStat 2 – improved/enriched set of tests**
- <https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#sBDII>

## SAM Sensor

SRMv2

## Nagios probe

org.sam.SRM-probe

## SAM Test

SRMv2-host-cert-valid

SRMv2-get-SURLs

SRMv2-ls-dir

SRMv2-put

SRMv2-ls

SRMv2-gt

SRMv2-get

SRMv2-del

## Nagios metric

hr.srce.SRM2-CertLifetime

org.sam.SRM-GetSURLs

org.sam.SRM-LsDir

org.sam.SRM-Put

org.sam.SRM-Ls

org.sam.SRM-GetTURLs

org.sam.SRM-Get

org.sam.SRM-Del

- **grid-monitoring-probes-org.sam** - probes development and jobs submission/monitoring framework
- <https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#SRM>

## SAM Test

## Nagios metric

CE-sft-job

org.sam.CE-JobSubmit

CE-host-cert-valid

hr.srce.GRAM-CertLifetime

## SAM Test

## Nagios metric

org.sam.WN-Bi

org.sam.WN-Bi

CE-sft-caver

org.sam.WN-CAver

CE-sft-softver

org.sam.WN-Csh

CE-sft-softver

org.sam.WN-SoftVer

CE-sft-lcg-rm

org.sam.WN-Rep

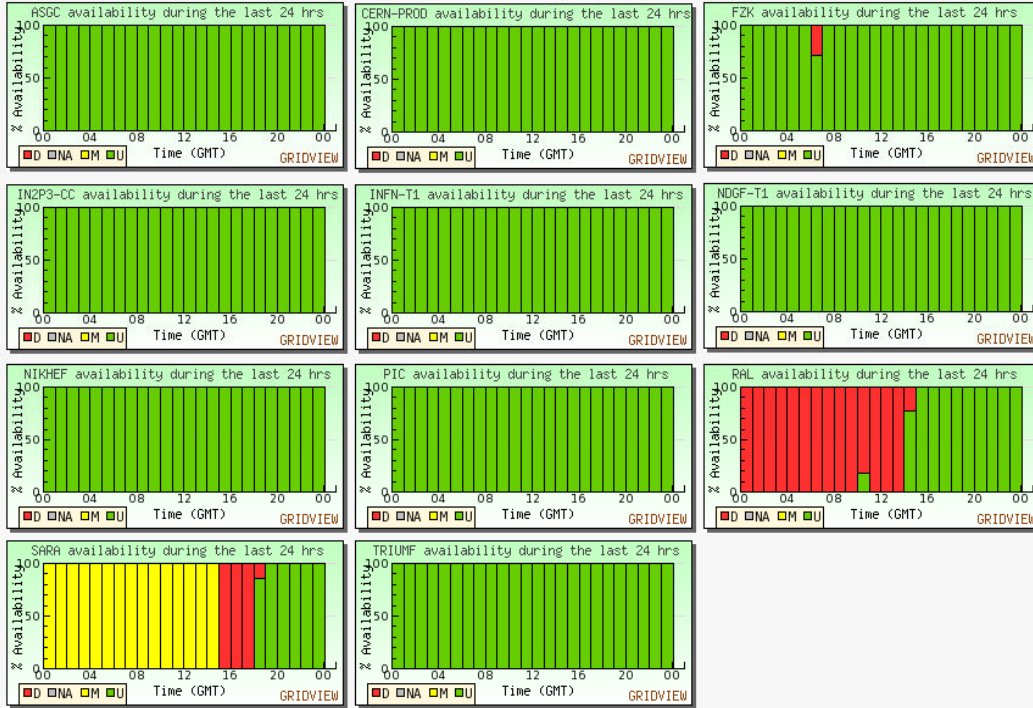
CE-sft-lcg-rm-\*..6

org.sam.WN-Rep\*..6

- **grid-monitoring-probes-org.sam** – probes development and jobs submission/monitoring framework
- <https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#CE>

## Tier-1/0 Site Availability VO:OPS (Current Status)

(Click on the Graph below to see Availability of Individual Services at the Site)



## -1/0 Site Availability VO:OPS (Current Status)

(Click on the Graph below to see Availability of Individual Services at the Site)





- **Tests scheduling**
  - SAM: “all-in-one-go”
  - Nagios: spread execution over N min
- **Frequent monitoring process that babysits submitted jobs (job status updates in Nagios Web GUI in “real time”)**
- **Bundle Nagios & send it to WNs as the WN checks’ scheduler**
- **Messaging System for test results from WNs to Nagios**
  - distributed cluster of ApacheMQs (well-known open-source product)
- **More info:**
  - [https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#Nagios\\_CE\\_testing](https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#Nagios_CE_testing)
  - [https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#Integration\\_of\\_WN\\_checks](https://twiki.cern.ch/twiki/bin/view/LCG/SAMProbesMetrics#Integration_of_WN_checks)

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- **grid-monitoring-probes-hr.srce** – quite a number of probes
  - DPM-probe, DPNS-probe, GRAM-probe, GridFTP-probe etc.
  - org.nmap.\* for all services
- Monitoring node healthiness – node local checks of different daemons and other components
- **TO DO:**
  - CREAM-CE - direct submission (in progress, top priority)
  - WMS probe - from synchronous to asynchronous
  - More flexible way of re-defining the submission/monitoring workflows of jobs

- **Nagios-based monitoring framework can produce results that are equivalent to SAM results**
- **Gained a lot of experience with writing probes/checks for Nagios**
- **In the process of extension of the current set of Nagios probes for grid services**
- **Quick migration of SAM tests to Nagios is possible via specifically developed wrappers (no, or minimal changes to SAM tests)**
- **Started with migration of HEP VOs SAM tests to Nagios**

