

# SAM Status Update



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- Execution environment
- Existing sensors
- VO specific tests
- Programmatic interface
- Open issues

- Submission
  - 2 UI, 2 BDII, 3 RB, 2 WMS - avoiding of SPOF, load balancing
  - runs tests for: OPS, Atlas, Alice, CMS
  - Quattor managed
- Data collection, processing, presentation
  - 1 SAM Server machine - soon 2 machines (Quattor components being written)
    - results publishing
    - SAM portal
    - programmatic interface (XML)
  - 2 GridView machines:
    - metric calculation
    - visualisation

- integrated sensors
  - CE, gCE
  - SE, SRM
  - LFC
  - FTS
  - VOBOX
  - VOMS
  - MyProxy
  - host-cert
- standalone sensors
  - Gstat
  - RB
  - VOBOX (alice)

- Job submission
  - testing UI → RB/WMS → CE/gCE → WN chain
    - errors may occur on any level
  - job submission failure → job logging info returned
- Replica Management
  - WN → default SE
  - 3rd- party replication
    - default SE → central SAM SE (CERN)
- CA certificate check (WN!)
  - new CA certificates released by EUGridPMA
    - SAM + middleware repository: immediate update
    - sites have 7 days to upgrade

- Software version check
- UNIX shell
  - bash + csh
  - environment variables
- RGMA
  - insert + read back data
  -
- **all tests above executed on site!**

- SE, SRM
  - same tests for both
  - file replication there and back (and deleted after)
- LFC
  - directory listing
  - directory creation for the VO
- VOBOX
  - gsissh test
- VOMS, MyProxy
  - only host-cert (“ping”)

- check if FTS endpoint is correctly published in BDII
- listing channels
  - ChannelManagement service
- transfer test
  - N-N transfer jobs following the VO use cases
    - tested T0 → all T1s (outgoing)
    - tested T1 ← other T1s (incoming)
  - checking the status of jobs
  - using pre-defined static list of SRM endpoints
  - Note: this test is relying on SRM availability



- multiple services
  - CE, gCE, SE, SRM, LFC, FTS, RB, VOMS, MyProxy, RGMA
- is the host certificate valid
- alarm raised after certificate expired
  - future: alarm raised 1 week before expiration

- Gstat (Sinica)
  - top-level BDII
    - accessibility (response time)
    - reliability of data (number of entries)
  - site BDII
    - accessibility (response time)
    - sanity checks (partial Glue Schema validation)
  - CE
    - free- and total number of CPUs
    - number of waiting- and running jobs
  - SE
    - used- and available storage capacity
- RB (RAL)
  - job submission
    - “important” RBs are tested using “reliable” CEs
  - measuring time of matchmaking

- Alice
  - VOBOX - standalone Alice test suite publishing to SAM
  - CE - standard set, but failing currently
  - work started to feed Monalisa via SAM programmatic interface (Alice alarms, operations)
- CMS
  - CE tests with additional CMS specific tests (sw. inst., MC, Squid, Frontier)
  - SE - standard set with CMS credentials
  - SRM-v1 - CMS specific tests for SRM (experimental?)
  - using programmatic interface to build experiment specific dashboard

- Atlas
  - CE, gCE, LFC, SE/SRM, FTS, VOBOX - standard set of tests executed with Atlas credentials
- LHCb (run from own UI)
  - CE standard set with LHCb specific tests
  - LFC - standard set
  - SRM-lhcb-health - more restrictive SRM test (metadata), will be considered to move into standard set
- HONE
  - CE standard set with CE-sft-hone-h1mc - software installation test (experimental?)

- HTTP+XML based interface to retrieve SAM data:
  - raw monitoring results
  - current status and history
  - availability numbers (calculated by GridView)
- Currently during process of standardisation
  - Grid Monitoring Data Exchange Standard (LCG Monitoring WG)
  - common format of URL and XML
- Used already by different types of users
  - VOs: Alice, CMS, experiments dashboard
  - sites: feed to local site monitoring/alarm systems
  - other: GoogleMap (RAL)
  - experimental data mining/expert system (Wuppertal)

- missing sensors
  - WMS, MyProxy
    - coordinated by TIC Team
  - VOMS
    - currently: only host-cert (“ping”)
    - standalone sensor by VOMS developers: to be integrated
    - analysis: what else is needed?
  - Tier1 DB
    - CERN DB Team
  - RGMA Registry
    - being developed at RAL
- adopting Standard Probe Format (by LCG Monitoring WG) - few months

- Recent instabilities in execution environment (timeouts) - solved after several updates
  - new GFAL library (longer timeout on BDII)
  - BDII update - indexing (optimised query processing)
  - SAM tests improvements (less queries)
- Inter-services and inter-tests dependency handling
  - will be addressed by experimental integration with Nagios (short term) or other solution in long term
- Temporary unavailability of SAM
  - will be addressed by new metrics calculation algorithm in GridView (code ready, in testing)
- Better grid topology description (distributed Tier1s ...)
  - will be addressed by LCG Monitoring WG (Topology DB)
  - then changes in SAM DB structure