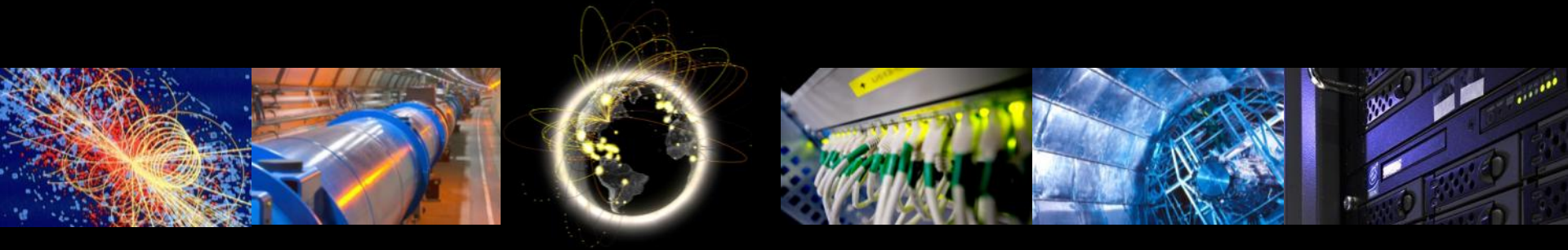


WLCG Operations and Tools TEG

Monitoring – Experiment Perspective

Simone Campana and Pepe Flix

Operations TEG Workshop, 23 January 2012



Summary of Recommendations

Item	Description	Effort	Impact
1.1	Create a WLCG monitoring coordination body	Very Moderate	Very Significant
1.2	Streamline experiment monitoring common frameworks	Moderate/ Significant	Significant
1.3	Network monitoring	Significant	Significant
1.4	Streamline availability calculation and visualization	Moderate	Significant
1.5	Bridge sites and experiments perspectives on availability and usability	Significant	Very Significant

Streamline Experiment Monitoring Common Frameworks

- **SAM** is already in use by 4 experiments
 - Discussed later
- **SSB** is used to publish additional quality metrics and site status by ATLAS and CMS
 - Possible interest from LHCb
- **CMS Site Readiness** offers very useful functionality
 - Site ranking, history plots, summary tables
 - Missing functionality/views should be imported into SSB
- SSB should be extended with a notification system
 - Commonality with SAM
- Look more in details the self-contained approach of Alice

Network Monitoring

- **PerfSONAR**-(PS/MND) should be installed at every WLCG site as part of the middleware
- Latency tests and throughput tests should be run regularly as part of the infrastructure
 - Frequency depending on the pair of sites, based on experiment requirements
- Measurements should be exposed both through and web portal and programmatically
- Proactivity of sites and network providers in sorting out network issues
- Network monitoring should be **centrally coordinated** in WLCG

Availability Calculation and Visualization

- **ACE** should be the used to calculate ALL availabilities ASAP.
- In the short term, **SUM** is going to be used by experiments to visualize the availability
 - It has been validated already
- As next step, experiments will validate **MyWLCG**
 - Supported anyhow for EGI (MyEGI)
- We **recommend** to end up with ONE system for the visualization

Bridge sites and experiments perspectives on Availability and Usability

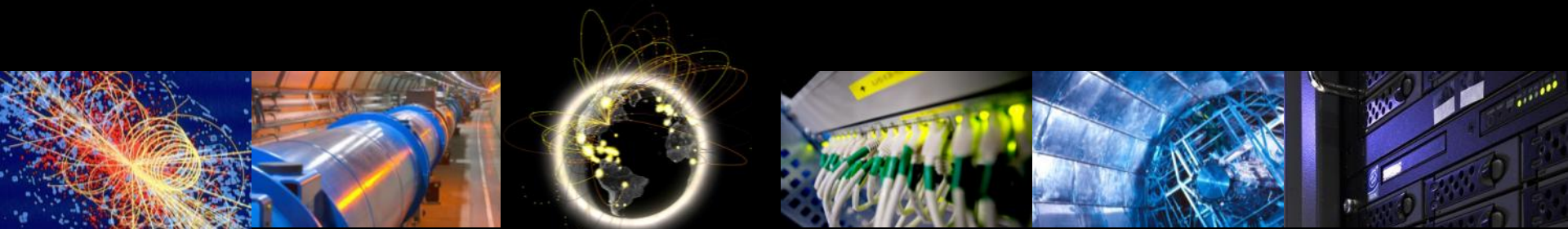
- **SAM Experiment Tests** are extended to include more realistic tests (see Dec. 14 GDB presentation)
 - Some tests will contribute to the availability
 - Properly agreed between experiments and sites, well documented
 - Some tests will not contribute to the availability
 - Will anyway be used by experiment ops and contact people at the sites
- **The SAM framework** is extended/enhanced to
 - Support finer granularity (e.g. the storage space token)
 - Support coarser granularity (e.g. the whole site)
 - Test services not in GOGDB (or adding a service in GOCDB should be simplified)
 - Provide a simple way for changing the result of a test and recalculate availability

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Monitoring – Sites Perspective

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Summary of Recommendations

Item	Description	Effort	Impact
1.6	Bridge sites and experiments perspectives on availability and usability	Significant	Very Significant
1.7	Provide a site-oriented view of experiment monitoring metrics	Significant	Very Significant
1.8	Improve middleware toward service monitoring	Significant	Significant

Bridge sites and experiments perspectives on Availability and Usability

- **Sites** are encouraged to look proactively at tests and quality metrics
 - Critical Tests at least
 - An experiment contact should look also at other tests and quality metrics
- **Sites** are encouraged to benefit from the notification system of SAM (and SSB)
 - Increases proactivity
 - Looks simpler if the site uses Nagios for internal monitoring. Can sites share experience?

Provide a site-oriented view of experiment monitoring metrics

- We miss the equivalent of the today's SSB experiment views tailored for sites
- Experiments and sites should agree on what is relevant
 - Start with a handful number of metrics
 - Start with SAM critical tests and blacklisting
 - Possibly extend to quality metrics and non critical tests
- Experiments should commit in providing and maintaining the information
 - Using existing framework (e.g. SSB) and infos therein would be a benefit
- Provide a flexible visualization interface
 - Showing metrics history
 - Allowing to select subsets of metrics

Improve middleware toward service monitoring

- Middleware providers should
 - Avoid tight integration with a specific fabric monitoring
 - Provide instead generic probes to be integrated in any framework
 - Improve logging to facilitate development of new probes
- Sites should share knowledge and code for fabric monitoring probes
 - Common repository?

Conclusions

- We do not propose a revolution but rather an evolution of the existing tools
 - Those tools we know, we are used to them, they work
- Network monitoring will require more work, but the process already started
- Coordination of efforts is an essential ingredient