

The CMS Top 5 Issues/Concerns wrt. WLCG services



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Baselines Services (Rep. 24.6.05):

CMS Priority A:
high priority and mandatory:

1) Storage Element

- Interfaces: SRM, gridFTP, POSIX-I/O, authentication, authorization/ accounting

2) Basic data transfer tools

- gridftp and srmCopy

3) Reliable file transfer service

- Wrapping basic gridFTP or srmCopy
- Providing overall scheduling, control, monitoring as well as reliability

6) Compute Element

- Defined set of interfaces to local resources,

Service	ALICE	ATLAS	CMS	LHCb
<i>Storage Element</i>	A	A	A	A
<i>Basic transfer tools</i>	A	A	A	A
<i>Reliable file transfer service</i>	A	A	A/B	A
<i>Catalogue services</i>	B	B	B	B
<i>Catalogue and data management tools</i>	C	C	C	C
<i>Compute Element</i>	A	A	A	A
<i>Workload Management</i>	B/C	A	A	C
<i>VO agents</i>	A	A	A	A
<i>VOMS</i>	A	A	A	A
<i>Database services</i>	A	A	A	A
<i>Posix-I/O</i>	C	C	C	C
<i>Application software installation</i>	C	C	C	C
<i>Job monitoring tools</i>	C	C	C	C
<i>Reliable messaging service</i>	C	C	C	C
<i>Information system</i>	A	A	A	A



Baselines Services (Rep. 24.6.05):

CMS Priority A:
high priority and mandatory:

7) Workload Management

- Overall WLMS essential for some experiments, but not all

8) VO agents

9) VOMS

- VO management system providing extended proxies describing roles, groups, and sub-groups

10) Database services

- For catalogues, VOMS, FTS, as well as experiment-specific components

15) Information system

Service	ALICE	ATLAS	CMS	LHCb
<i>Storage Element</i>	A	A	A	A
<i>Basic transfer tools</i>	A	A	A	A
<i>Reliable file transfer service</i>	A	A	A/B	A
<i>Catalogue services</i>	B	B	B	B
<i>Catalogue and data management tools</i>	C	C	C	C
<i>Compute Element</i>	A	A	A	A
<i>Workload Management</i> ■ ■	B/C	A	A	C
<i>VO agents</i>	A	A	A	A
<i>VOMS</i>	A	A	A	A
<i>Database services</i>	A	A	A	A
<i>Posix-I/O</i>	C	C	C	C
<i>Application software installation</i>	C	C	C	C
<i>Job monitoring tools</i> ■ ■	C	C	C	C
<i>Reliable messaging service</i>	C	C	C	C
<i>Information system</i>	A	A	A	A



Baselines Services (Rep. 24.6.05):

<i>Service</i>	<i>ALICE</i>	<i>ATLAS</i>	<i>CMS</i>	<i>LHCb</i>
<i>Storage Element</i>	A	A	A	A
<i>Basic transfer tools</i>	A	A	A	A
<i>Reliable file transfer service</i>	A	A	A/B	A
<i>Catalogue services</i>	B	B	B	B
<i>Catalogue and data management tools</i>	C	C	C	C
<i>Compute Element</i>	A	A	A	A
<i>Workload Management</i>	B/C	A	A	C
<i>VO agents</i>	A	A	A	A
<i>VOMS</i>	A	A	A	A
<i>Database services</i>	A	A	A	A
<i>Posix-I/O</i>	C	C	C	C
<i>Application software installation</i>	C	C	C	C
<i>Job monitoring tools</i>	C	C	C	C
<i>Reliable messaging service</i>	C	C	C	C
<i>Information system</i>	A	A	A	A

CMS Priority B:
Standard solutions required,
but experiments could select
different implementations:

3) Reliable file transfer service

- Wrapping basic gridFTP or srmCopy
- Providing overall scheduling, control, monitoring as well as reliability

4) Catalogue services

- Interfaces: POOL, DLI/SI, POSIX-I/O
- including a reliable asynchronous update service



Baselines Services (Rep. 24.6.05):

<i>Service</i>	<i>ALICE</i>	<i>ATLAS</i>	<i>CMS</i>	<i>LHCb</i>
<i>Storage Element</i>	A	A	A	A
<i>Basic transfer tools</i>	A	A	A	A
<i>Reliable file transfer service</i>	A	A	A/B	A
<i>Catalogue services</i>	B	B	B	B
<i>Catalogue and data management tools</i>	C	C	C	C
<i>Compute Element</i>	A	A	A	A
<i>Workload Management</i>	B/C	A	A	C
<i>VO agents</i>	A	A	A	A
<i>VOMS</i>	A	A	A	A
<i>Database services</i>	A	A	A	A
<i>Posix-I/O</i>	C	C	C	C
<i>Application software installation</i>	C	C	C	C
<i>Job monitoring tools</i>	C	C	C	C
<i>Reliable messaging service</i>	C	C	C	C
<i>Information system</i>	A	A	A	A

CMS Priority C:
Desirable to have common solutions, but not essential

- 5) Catalogue and data management tools
- 11) Posix-like I/O service
- 12) Application software installation
- 13) Job Monitoring tools
- 14) Reliable messaging/information transfer service



The CMS Top 5 Issues & Concerns

1) Storage Element: CASTOR functionality and performance

Issues & Concerns are:

- The single CASTOR request queue is a potential bottleneck
- Under the stress of data taking the global priorities must work and there is sufficient capacity in the system
- Performance for use-cases at CERN and at Tier-1 sites
- Disk mover limitations, use of xrootd tbd. ▀

2) Storage Element: SRM interface with functionality and performance

CMS especially interested in:

- Name space interaction will allow CMS to alleviate the need for local VO services for data management (if can be made to scale)
- SRM explicit delete
- good support for SRM copy in push mode
- capability to control access rights consistently across different SE's using VOMS



The CMS Top 5 Issues/Concerns

3) FTS servers

- transfers and queues monitor
- backup servers
- heartbeat and similar "service-is-up" monitoring

4) Workload Management

- Capable of fully utilizing available compute resources
 - Scaling to 200k jobs / day
- Strategy to converge on few (2-3) submission tools to be used as best fit
 - Candidates: gLite RB, Condor-G submission
- We need to improve the transparency of job submission and diagnosis for the users

5) Scalability, reliability and redundancy of information system.

- mitigate the dependency from central CERN BDII