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This is a merger between Flavia's list of issues that the experiments have supported and Cal's list of requirements. There are fields in the table where the users can assign priorities and the developers can express estimated costs. Each VO should distribute a total of 100 "priority points" between the different issues. The units for the estimated costs are in person weeks.

Under the heading "Origin" you can find whether this item came from Flavia's list or from Cal's (FD/NA4). The list has also been extended with requirements from the VO Box discussions (marked VOB). You might notice that there are no security or deployment issues in this list. These will be prioritized by different means.

A few of the NA4 requirements have a considerable overlap with the issues summarized in Flavia's list. The difference is mostly that the NA4 requirements are more general.

Index	Issue/Requirement	Origin	ALICE	ATLAS	CMS	LHCb	Biomed	NA4	Sum	Res	Est
100	Security, authorization, authentication	FD	-	-	-	-	-	-	0	-	-
101 (was 101, 308, 501, 502, 503, 513, 572)	VOMS groups and roles used by all middleware; Support for priorities based on VOMS groups/roles; All user level commands must extract VO information from a VOMS proxy; Services must provide access control based on VOMS groups/roles. Critical is fine grained control to: files, queues and metadata; Ability to control access to data based on the schema with a granularity of entries and fields	FD, NA4	5	12	12	0	18	14	61	JRA1,SA3 tracked in: <a href="#">2926</a> , <a href="#">2927</a> , <a href="#">2928</a> , <a href="#">2935</a>	Short solution prioritized use VOMS Available the LCG Code for gLite (wait for first production 3.0 release) WMS See: J... docum Longe use G... define propag policie sites. I targett gLite infrast availa not int and te
103	Automatic handling of proxy renewal	FD	5	2	1	3	0	5	16	Sec.	0

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103a	proxy renewal within the service								16	JRA1	done
103b	establishment of trust between the service and myproxy								16	Sec tracked in <a href="#">2929</a>	
103c	find the right myproxy server								16	SA3 (configuration)	
104	Automatic renewal of Kerberos credentials via the GRID	FD	1	0	0	0	0	0	1		0
105	Framework and recommendations for developing secure experiment specific services	FD, VOB	0	3	1	4	0	0	0	8	
110	Information System	FD	-	-	-	-	-	-	0		-
111 (was 111, 130)	Stable access to static information; No direct access to the information system for any operation a) caching of endpoint information in the clients and b) not to need to go to the information system if the information is already available elsewhere (e.g. through parameters)	FD	0	6	0	6	0	0	12	tracked in <a href="#">3069</a>	0
120	Storage Management	FD	-	-	-	-	-	-	0		-
122	Same semantic for all SEs	FD	5	5	5	4	0	0	19	SRM group	0

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125	Disk quota management	FD	1	2	5	1	0		8	0	not be 2006 (CAS dCach
126	Verification of file integrity after replication	FD	1	5	3	2	0	0	11	JRA1 tracked in 2932 <a href="#">↗</a>	0
200	Data Management	FD	-	-	-	-	-	-	0	-	-
210	File Transfer Service	FD	-	-	-	-	-	-	0	-	-
213	Real-time monitoring of errors	FD	1	5	2	0	0	0	8		0
217b	SRM interface integrated to allow specification of lifetime, pinning, etc.	FD	2	2	2	1	0	0	7		0
218	Priorities, including reshuffling	FD	0	2	2	0	0	0	4		0
240	Grid File Catalogue	FD	-	-	-	-	-	-	0	-	-
243	Support for the concept of a Master Copy	FD	0	0	2	2	0	0	4		0
244	Pool interface to LFC	FD	0	5	5	0	0	0	10	pool	0
250	Performance:	FD	-	-	-	-	-	-	0	-	-
260	Grid Data Management Tools	FD	-	-	-	-	-	-	0	-	-
262a	POSIX file access based on LFN	FD	1	0	0	4	0	5	10	NA4 tracked in 2936 <a href="#">↗</a>	0
262b									0		

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	including "best replica" selection based on location, prioritization, current load on networks									research problem	
263	file access libs. have to access multiple LFC instances for load balancing and high availability	FD	1	0	0	2	0	0	3		0
264	reliable registration service	FD	0	1	0	0	0	0	1		0
265	reliable file deletion service that verifies that actions have taken place and is performant	FD	1	5	0	2	0	0	8		0
266	Staging service for sets of files	FD	0	2	0	0	0	0	2		0
300	Workload Management	FD	-	-	-	-	-	-	0	-	-
302	Single RB end point with automatic load balancing	FD	0	0	0	2	0	0	2		Design require issue. estima
303	No loss of jobs or results due to temporary unavailability of an RB instance	FD	0	5	2	1	0	0	8		Standards HA av now (machin dies, c up) Multip plus n file sy RB s NFS/A shared swap replac ones v name, status, within minute FTE*1 (JRA I N (~3 test
307	Latency for job execution and status	FD	0	0	2	0	0	0	2		Support SDJ a

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	reporting has to be proportional to the expected job duration											of mic is in th post g releas WMS
310	Interactive access to running jobs	FD	0	2	2	0	0	0	4			job fil in gLi For ba functi like to need ~ month design for ful functi
311 (was 311, 405)	All CE services have to be accessible directly by user code; Computing element open to VO specific services on all sites	FD	0	0	0	7	0	0	7	tracked in 3072 <a href="#">↗</a>		CEM alread gLite CREA protot targett gLite infrast availa not int and te
312	Direct access to status of the computing resource (number of jobs/VO ...)	FD	0	0	0	4	0	0	4			Using (in gL
313 (was 313, 314)	Allow agents on worker nodes to steer other jobs; Mechanism for changing the identity (owner) of a running job on a	FD	5	0	1	8	3	0	17	tracked in 3073 <a href="#">↗</a>		glexed availa library 3.0 O(1 F month it as a

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	worker node											usable WNs, securi to be o by site
320	Monitoring Tools	FD	-	-	-	-	-	-	0	-	-	-
321	Transfer traffic monitor	FD	1	1	1	1	0	0	4			0
322	SE monitoring, statistics for file opening and I/O by file/dataset, abstract load figures	FD	0	0	0	2	0	0	2			0
324	Publish subscribe to logging and bookkeeping, and local batch system events for all jobs of a given VO	FD	0	0	2	0	0	0	2			0
330	Accounting	FD	-	-	-	-	-	-	0	-	-	-
331	By site, user, and group based on proxy information	FD	3	5	1	0	0	5	14	all applications tracked in <a href="#">2941</a>	Suitab files fr LRMS and gl in firs <i>post-g</i> releas provid neede and granul APEL an eas collec repres mecha aggreg inform	
333	Storage Element accounting	FD	0	2	1	0	0	2	5			0
400	Other Issues	FD	0	0	0	0	0	0	0			0
402	Different SE classes, MSS, Disk with access for production managers, public disks storage	FD	0	2	1	4	0	0	7			0

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500	From Cal's list	NA4	-	-	-	-	-	-	0	-	-
510	Short Deadline Jobs	NA4	-	-	-	-	-	-	0	-	-
511	The release should support SDJ at the level of the batch systems	NA4	0	0	0	0	4	0	4		0
512	The resource broker has to be able to identify resources that support SDJs	NA4	0	0	0	0	4	0	4		In first <i>post-g</i> release WMS 511/4 satisfi
514	Modify system to ensure shortest possible latency for SDJs	NA4	0	0	1	0	5	0	6		design
520	MPI	NA4	0	0	0	0	0	0	0		0
521b	Publication of the maximum number of CPUs that can be used by a single job	NA4	0	0	0	0	2	5	7	NA4 tracked in 2938 <a href="#">↗</a>	0
530	Disk Space Specification	NA4	0	0	0	0	0	0	0		Handl inform pass-t via BL Availa protot the fir <i>post-g</i> release need a FTE n each s batch use it.
531	Specification of required shared disk space	NA4	0	0	0	0	0	5	5		As in
532	Specification of required local scratch disk space	NA4	0	0	0	0	1	5	6		As in
540	Publication of software availability and location	NA4	0	0	0	0	0	0	0		0

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541 (was 541,542)	Publication of the Java and Python version; Mechanism to find the required versions of those packages	NA4	0	0	0	0	4	4	8		0
550	Priorities for jobs	NA4	0	0	0	0	0	0	0	Job Priorities WG	0
551	Users should be able to specify the relative priority of their jobs	NA4	0	0	1	0	3	2	6		0
552	A VO should be able to specify the relative priority of jobs	NA4	0	5	1	0	0	2	8		0
553	VO and user priorities must be combined sensibly by the system to define an execution order for queued jobs	NA4	0	0	0	0	2	2	4		0
580	Encryption Key Server	NA4	0	0	0	0	0	4	4		0
581	Ability to retrieve an encryption key based on a file id	NA4	0	0	0	0	6	0	6		0
582	Ability to do an M/N split of keys between servers to ensure that no single server provides sufficient information to decrypt files	NA4	0	0	0	0	3	0	3		0
583	Access to these keys must be controlled by ACLs	NA4	0	0	0	0	6	0	6		0
590		NA4	0	0	0	0	0	0	0		0



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	Software License Management										
591	Ability to obtain licenses for a given package form a given server	NA4	0	0	0	0	2	3	5		0
592	Access to the server must be controlled via ACLs based on grid certificated	NA4	0	0	0	0	2	3	5		0
592	The system should know about the availability of licenses and start jobs only when a license is available	NA4	0	0	0	0	1	2	3		0
600	Database Access	NA4	0	0	0	0	0	0	0		0
601	Basic access control based on grid credentials	NA4	0	5	0	0	3	5	13	NA4 tracked in <a href="#">2937</a>	0
602	Fine-grained control at table, row and column level	NA4	0	0	0	0	3	5	8		0
603	Replication mechanism for data bases	NA4	0	0	0	0	2	0	2		0
604	Mechanism to federate distributed servers (each server contains a subset of the complete data	NA4	0	0	0	0	2	0	2		0
701	OutputData support in JDL	Savannah	0	0	0	0	0	0	0		From bug #.

Done or obsolete items

Index	Issue/Requirement	Origin	ALICE	ATLAS	CMS	LHCb	Biomed	NA4	Sum	Res	Estimated Cost
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102	VOMS supporting user metadata	FD	3	0	0	2	0	0	5		0	see det
112	Identical GLUE schema for gLite and LCG	FD	0	5	0	0	0	0	5		In the first <i>post gLite 3.0</i> release of WMS and gLite CE	
121	SRM used by all Storage Elements	FD	5	5	5	4	0	0	19	SA1 (being put in place)	0	SR spe Ba Se W Re
123	Smooth migration from SRM v1 to v2, gfal and FTS should hide differences	FD	1	5	5	4	0	0	15	JRA1 tracked in 2930 <a href="#">↗</a>	0	LF 12 sho me po co set
124 (was 124, 128)	Direct access to SRM interfaces; Highly optimized SRM client tools	FD	3	7	5	8	0	0	23	SA3 tracked in 2931 <a href="#">↗</a>	0	SR
127	Verification that operations have had the desired effect at fabric level	FD	0	0	0	2	0	0	2		0	LF to Sit thi
129	Python binding for SRM client tools	FD	0	5	0	1	0	0	6		0	
211	FTS clients on all WNs and VOBOXes	FD	5	5	0	4	0	0	14	SA3	0	For LF VO
212	Retry until explicit stopped	FD	3	5	3	0	0	0	9	JRA1	0	wi im on har spe
214	Automatic file transfers between any two sites on the Grid	FD	5	5	0	4	0	0	14	JRA1	0	no cat spe SU Th har
215 (was 215, 232)	Central entry point for all transfers; FPS should handle routing	FD	1	5	0	8	0	0	14	JRA1 tracked in 2933 <a href="#">↗</a>	0	LF to
216	FTS should handle proxy renewal	FD	5	1	3	3	0	0	12	JRA1 tracked in 2933 <a href="#">↗</a>	0	
217	SRM interface	FD	2	2	2	1	0	0	7		0	LF

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	integrated to allow specification of storage type, lifetime, pinning, etc.												Di of sh dif pin im
219	Support for VO specific plug-ins	FD	0	1	0	0	0	0	1		0		
230	File Placement Service	FD	-	-	-	-	-	-	0	-	-		AT con no no spe
231	FPS plug-ins for VO specific agents	FD	0	0	0	1	0	0	1		0		
233	FPS should handle replication	FD	0	0	0	1	0	0	1		0		che sou aut
234	FPS should handle transfers to multiple destinations	FD	0	0	0	1	0	0	1		0		LE to
241	LFC as global and local catalogue with a peak access rate of 100Hz	FD	5	5	5	4	0	0	19	testing	0		Sit go rol and cat sec of
242	Support for replica attributes: tape, pinned, disk, etc.	FD	1	1	3	0	0	0	5			0	
251	Emphasis on read access	FD	3	0	0	0	0	0	3		0		
252	Unauthenticated read-only instances	FD	3	2	0	4	0	0	9		0		Sit bec a D use get gu do
253	Bulk operations	FD	3	2	0	4	0	0	9		0		Sit asy del SR
261	lcg-utils available in production	FD	5	0	0	4	0	0	9		0		
301	Configuration that defines a set of primary RB's to be used by the VO for load balancing and allows defining alternative sets to be	FD	5	0	0	2	0	0	7			UIs may be configured to use a number of RBs (chosen randomly). To do it in a	

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	used in case the primary set is not available										smarter way will take ~1FTE month, but need specifications	
304	Handling of 10**6 jobs/day	FD	3	5	10	0	0	0	18	testing	bulk match-making: 6 FTE*months Upgrade to a new version of Condor (first <i>post-gLite 3.0</i> release) use CREAM CE (Prototype targetted to the gLite 3.0 infrastructure is available but not integrated and tested.)	LF me
305	Using the information system in the match making to sent jobs to sites hosting the input files AND providing sufficient resources	FD	0	2	0	0	0	0	2		done	
306	Better input sandbox management (caching of sandboxes)	FD	0	1	2	0	0	0	3		Sandbox as URL (gsiftp) in gLite 3.0 Download from http server is already possible. Some work needed for uploads: 2 FTE*months	
309	RB should reschedule jobs in the internal task queue	FD	0	0	2	0	0	0	2		Should be merged with 101	
323	Scalable tool for VO specific information (job status/errors/..)	FD	0	0	2	0	0	0	2		0	Sit the
332	Accounting by VO specified tag that identifies certain activities. These could be MC, Reconstruction, etc.	FD	0	0	1	0	0	0	1		0	
401	Read-only mirrors of LFC service at	FD	0	0	0	3	0	0	3		0	Sit pro

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	several T1 centers updated every 30-60 minutes												pro
403	XROOTD at all sites	FD	5	0	0	0	0	0	5	closed			do Sit EC rec
404	VOBOX at all sites	FD	5	2	0	2	0	0	9	VOBox WS	0		rec Al CM rec and AT com aw com NI wo no rec
406	dedicated queues for short jobs	FD	1	5	1	0	0	0	7	SDJ WG		should be merged with 511	
407	Standardized CPU time limits	FD	3	5	0	3	0	0	11	JRA1 tracked in 2942 <a href="#">↗</a>	0		Sit im sta pu inf ex pu tim sh tim sor tim
408	Tool to manage VO specific site dependent environments	FD	0	0	1	0	0	0	1			0	S a c
409	Rearranging priorities of jobs in the local queue	FD	0	2	0	0	0	0	2			Should be merged with 101	AT Re a p inc qu site rea pri alr at site tak

												high job submission system source dependencies essential development features already by batch and important
410	Package management	VOB	-	-	-	-	-	-	0	-	-	account record do to batch implementation initials also record
521a	Use a batch system that can handle the "CPU count problem"	NA4	0	0	0	0	3	5	8		0	record 3.0 arise a submission verification machine use. The that MI on the availability site browser job record the job run
522	Publication of wether the home directories are shared (alternatively transparently move sandboxes to all	NA4	0	0	0	0	3	0	3	JRA1 tracked in 2939 <a href="#">↗</a>	0	record 3.0

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	allocated nodes											
523	Ability to run code before/after the job wrapper invokes "mpirun"	NA4	0	0	0	0	2	5	7	JRA1 tracked in 2940	Job prologue executed before the job will be available in the first <i>post-gLite 3.0</i> release of WMS. An epilogue is also possible but developers need to know the required semantics	rec gli wi cor set by
560	Job Dependencies	NA4	0	0	0	0	0	0	0		0	Us Ap oft wo dep
561	Ability to specify arbitrary (non circular) dependencies between jobs inside a set of jobs	NA4	0	0	0	0	2	2	4		Done via DAGs	rec gli
562	Ability to query the state and control such jobs as a unit	NA4	0	0	0	0	2	0	2		0	rec gli
563	Ability to query and control the sub jobs	NA4	0	0	0	0	1	0	1		0	rec gli
570	Metadata Catalogue	NA4	0	0	0	0	0	0	0		0	Us ide bas me inf
571	Ability to add metadata according to user defined schema	NA4	0	0	0	0	6	5	11	SA3	0	
573	Ability to distribute metadata over a set of servers	NA4	0	0	0	0	3	0	3		0	

-- Main.markusw - 21 Dec 2005

-- Main.markusw - 06 Jan 2006 filled in the HEP and NA4 issues and requirements. There are still duplicates, especially in the area of short jobs

-- Main.markusw - 09 Jan 2006

-- Main.markusw - 10 Jan 2006

-- ErwinLaure - 03 Feb 2006 modified table according to discussion of Jan 18.

-- ErwinLaure - 13 Mar 2006 added savannah tasks and updates according to discussion of Feb. 22.

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-- ClaudioGrandi - 20 Dec 2006 added request from Savannah

-- ErwinLaure - 17 Mar 2008 - moved done/obsolete items to a separate list at the end

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Topic revision: r29 - 2008-06-11 - ErwinLaure



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