



LHC Computing Grid Project

Quarterly Status and Progress Reports

2007 Q1

11 May 2006

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31.03.2007		WLCG High Level Milestones - 2007												
ID	Date	Milestone	ASGC	CC IN2P3	CERN	FZK GridKa	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm												
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations												
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to users as standard operations												
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes												
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiments												
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published												
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the VOs. Job Priorities in use by the VOs.												
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.												
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the Experiments												n/a

31.03.2007		WLCG High Level Milestones - 2007												
ID	Date	Milestone	ASGC	CC IN2P3	CERN	FZK GridKa	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the Experiments.												
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.												
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites												
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%												
WLCG-07-14	Dec 2007	Site Reliability above 93% Considering all 11 Tier-1 sites												
WLCG-07-15	Dec 2007	Best 8 Sites above 95% Eight sites should reach a reliability above 95%												

QUARTERLY STATUS REPORT				
Project Name			Date	
LCG Service			28.3.2007	
Report Period			Author Name	
2007Q1			Jamie Shiers	
Milestones for the Quarter			Status	Comments
SC4-NW-6	31.07.06	Perform disk - tape transfers to 6 Tier1 centres at full nominal rates for the sum of the VOs supported by the site in question.	Postponed 31.10.06	This milestone has been superceded by Milestone 1 for Q1 for 2007.
SC4-NW-7		Demonstrate stable disk-disk and disk-tape transfers at full nominal rates for pp running to the majority of Tier1 sites, using a combination of experiment and DTEAM driven transfers	Partially done - see comments.	This milestone has been superceded by Milestone 1 for Q1 for 2007.
SC4-SRV-1		On a site-by-site basis, agree a plan for obtaining the required level of service stability and data rates, assuming that one or more sites do not fully meet the above targets.	On-going	Dependent on previous milestones and hence also carried forward.
Summary of Progress				
General Status	<p>The services that will be in place as from 1st April or shortly thereafter, for the preparations for the Full Dress Rehearsals have been clarified. These include LFC 1.6.3 which brings support for bulk methods, FTS 2.0, partial support for VOMS roles in job scheduling and 3D Services for conditions and LHCb's LFC. Progress continues to be made on better scheduling and announcing of service interventions, as well as attendance at the weekly joint operations meeting. Storage services continue to cause problems and must be addressed with urgency in the coming quarter.</p>			
	<p>The experiments' activities continue to grow significantly and the role of service coordination is rapidly reaching overload. The agreed Service Coordinator on Duty (SCOD) role should be established well prior to the Dress Rehearsals and staffed on a rotating basis from appropriate experts from the Tier0. This will help to avoid mis-understandings regarding release and other service issues, which if not addressed will continue to place a huge drain on the service support staff - effort that we simply cannot afford to waste in this critical period prior to first data taking.</p>			
Middle ware Services	<p>With respect to the services required for the experiments' 2007 Dress Rehearsals, LFC 1.6.3 has been released and deployed at CERN and some of the Tier1s. This version supports the bulk methods required by ATLAS and its production deployment at ATLAS Tier1 sites is being actively followed up both through the weekly joint operations meeting as well as ATLAS channels.</p>			
	<p>FTS 2.0, which implements the improvements agreed at last October's workshop at SARA, has been deployed on a pilot service at CERN and will also be deployed in pre-production at a number of outside sites. It will not be deployed in production by 1st April but should be deployed shortly thereafter- assuming no major issues are found in pre-production. At least one minor release prior to the start of the Dress Rehearsals in July is to be foreseen. DPM 1.6.3, which implements the agreed SRM 2.2 methods, has also been released and will be stress tested at a number of Tier2 sites. Progress on the support for VOMS roles in job scheduling has also been made, with at least partial support in production at the main sites.</p>			

MSS	Notwithstanding the support of the agreed SRM 2.2 methods in the DPM 1.6.3 production release, as well as progress reflected by the regularly testing of the various SRM implementations, the previous targets which would allow SRM 2.2 implementations to be tested sufficiently early to allow for production use for the LHC engineering run in 2007 are now in question. Problems seen with the main storage systems, including file corruption under certain conditions with dCache, as well as stability, functionality and performance problems with CASTOR, suggest that priority should be given to these critical issues, as opposed to new functionality - which can be expected to introduce a further period of instability - again addressing the immediate needs of the 2007 engineering run.
WAN OPN	
FTS	In addition to the FTS 2.0 release described above, the FTS service at CERN has been split into one serving the WLCG Tier1 sites and another serving the Tier2s. This allows for better separation of the different tasks, as well as improved tuning of service parameters according to the specific requirements. The old Tier2 channels will be switched off by the end of April 2007.
3D DB Services	Good progress has been made on deploying the hardware required for production distributed database services. The dates by which the main services - initially LFC and conditions - continue to slip with a new target for the ATLAS conditions of April 15th. This is due to a new release date for the corresponding ATLAS software. Some issues with Oracle streams behaviour in the case of site outages have been seen and have been escalated to Oracle. For the conditions application in particular, a rapid resolution of these problems is considered essential by ATLAS. A number of stop-gap solutions and work-arounds are being discussed, but none appear to satisfy the basic requirements, hence the urgency for a solution from Oracle to these problems. The date by which the ATLAS TAG application requires a production service needs to be clarified. In particular, should this application form part of the 2007 Dress Rehearsals, this must be established without delay. The overall resource requirements will in future form part of the overall resource requirement tables maintained by WLCG.
24x7 Support	A proposal for 24x7 on-call service for the main physics services at CERN has been prepared and submitted to the CERN management. The goal is to implement such on-call well prior to the 2007 engineering run.
Other	
Outstanding Issues and Problems	
The primary issues of this quarter are 1) the failure to achieve concurrent multi-VO Tier0-Tier1 transfers at the agreed percentage of the nominal rates; 2) delays in the delivery of the residual services (target 1st April) to be ready for experiment testing and preparations for the summer's Full Dress Rehearsals; 3) increasingly urgent issues related to our service model that must be addressed prior to the ramp-up in activity expected with the FDRs. The actions and proposed milestone changes to address these issues are given below.	
Milestones Changes and Actions	
Building on the experience from the Service Challenges, a programme has been proposed to repeat the multi-VO Tier0-Tier1 transfer tests of last November, in which concurrent transfers from at least ATLAS and CMS are performed to common sites (possibly also including BNL & FNAL) under realistic conditions and at an agreed fraction of clearly stated nominal data rates (e.g. 50% to be consistent with CMS' CSA07 goals). In this respect, it will be necessary to agree on the sizes of the ATLAS raw/esd/aod, as well as the number of copies of each that are exported and the fraction that is delivered to each ATLAS Tier1 site. The schedule of these tests will be coordinated through the LCG Experiment Coordination Meeting (LCG ECM) and operational issues followed up on via the weekly joint operations meeting. Until such transfers are successfully demonstrated, more complex goals, such as including concurrent Grid production at the various sites, and given the on-going CASTOR2 problems at the Tier0, cannot realistically be scheduled.	

The status of the delivery of the residual services is being closely monitored at the GDB / MB level. Whilst the full roll-out of all of these services is not expected to be completed even this year, good and steady progress is being made, both in the incremental delivery of new features, as is the case of the DPM/LFC, and in experiment testing / validation, e.g. for the FTS 2.0 service. To address the service issues, it is proposed that the Service Coordinator on Duty be established immediately on a trial basis, before formalising its role and responsibilities. As a minimum, a regular high-level service report should be prepared, as well as attendance at daily and weekly operations meetings. It is considered extremely critical that the current cracks in service operation and delivery - e.g. lack of clear and up-to-date information - are corrected rapidly. If left unaddressed the inevitable 'asymmetric' pressures of the ramp-up to LHC startup can be expected to cause major service problems.

References and Hyperlinks

Milestones for Next Quarter		Status	Comments
FTS-07-01	Demonstrate Tier0-Tier1 data export at 65% of full nominal rates per site using experiment-driven transfers.		<i>Mixture of disk / tape endpoints as defined by experiment computing models, i.e. 40% tape for ATLAS; transfers driven by experiments</i> <i>Period of at least one week; daily VO-averages may vary (~normal). .</i>
			Based on the revised data volumes and rates, the percentage of data that ATLAS will write to tape as part of their Tier0 export drops to about 30%. This is due to the increased ESD size. During the week starting March 26, good export rates were achieved first by CMS and later also by ALICE. ATLAS encountered major problems using CASTOR2 at CERN which significantly impacted both their internal Tier0 activities as well as data export. A task force has been established to address these issues but as a bare minimum, this milestone will need to be repeated during Q2 using whatever stop-gap or remedial solutions have been found by then.
			More fundamentally, the interference between various activities that an experiment needs to carry out needs to be urgently addressed. Not only has this been shown to affect CASTOR2 and LFC services, but can also be expected to affect Tier1 sites and be compounded by the intensive activities that can be expected prior to as well as after the LHC startup. In addition, cases of data corruption have been seen at BNL. The causes are understood and a small number (one per mil) of corrupted files are expected to exist at all sites running dCache. This raises significantly the requirement for continual data integrity checks - an issue that needs to be resolved before the amount of data increases
FTS-07-02	Demonstrate Tier0-Tier1 data export at 50% of full nominal rates (as above) in conjunction with T1-T1 / T1-T2 transfers		Inter-Tier transfer targets taken from ATLAS DDM tests / CSA06 targets. Both ATLAS and CMS have demonstrated good progress on inter-Tier transfers. Nevertheless, the major issues that the Tier0 faces must first be resolved before this milestone can be fully met, as it applies not only to all VOs concurrently but also to simultaneous transfers not only from Tier0 to Tier1s but also between the other tiers at the required rates.
FTS-07-03	Demonstrate Tier0-Tier1 data export at 35% of full nominal rates (as above) in conjunction with T1-T1 / T1-T2 transfers and Grid production at Tier1s		Each file transferred is read at least once by a Grid job Some explicit targets for WMS at each Tier1 need to be derived from above. The above WMS targets are still out-standing. This milestone is conditional on the successful completion of the two previous milestones and is hence carried over.

		Provide SRM v2.2 endpoint(s) that implement(s) all methods defined in SRM v2.2 MoU, all critical methods pass tests	A specific SRN QR report will be added from now on.	Good progress was made with the basic tests and use cases, particularly in the 2nd half of the quarter. Although DPM has been released with support for the relevant SRM 2.2 methods, the timescale for production releases of the SRMs for CASTOR2 and dCache is still unclear, particularly in view of the other concerns affecting those systems (Tier0 scalability issues and data corruption respectively).
Comments and Additional Information				

QUARTERLY STATUS REPORT								
Project Name					Date			
ASGC					31.03.2007			
Report Period					Author Name			
2007Q1					Jason Shih			
Milestones for the Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
ASGC-29	13.07.06 20.12.06 28.02.07 30.05.07	split fts channels into two different servers				delay	experiement users need separate channel on different box to avoid interference from other transfer activities (comment 10)	
ASGC-31	13.07.06 07.12.06 28.02.07	production/SC CASTOR merged				cancel	to save management effort, we're planning to merge two different castor fabrics together.	
ASGC-43	15.12.06 15.05.07	glite CE installation				delay	glite CE implementation have been postponed, till late of Jan, after new blade system ready and another CE up and functional well	
ASGC-45	15.02.07	performance and stability validation with new regional centers and Tier2				complete	have been delay due to the earthquake in Taiwan, majority of the submarine cables are broken now.	
ASGC-46	30.03.07	new data center construction				delay	the design planning wss delay at beginning, and plan to complete in first quarter of 2007.	
ASGC-47	10.1.07	deploy new Castor V2 environment				complete		
ASGC-46	14.1.07 15.05.07	glite WMS installation				delay		
ASGC-48	15.2.07	migration of Castor V1 to new V2 fabrics				cancel		
ASGC-49	14.1.07 20.05.07	migration of LFC catalogue from mysql to Oracle				delay		
ASGC-51	30.03.07	24x7 support scenarios verified and tested				ongoing	First phase will start 24x7 on-call Grid engineer rotation. Later this year technicians will be hired to extend on-site coverage to weekends.	
ASGC-52	15.01.07	Job priority implementation				done	this have been done since 4th quarter of 2006, due to basic requirement for CMS CSA06 as well as running Atlas production jobs	
ASGC-53	15.01.07	Automatic Accounting				done	the settings was part of the LCG configuration, and system by default will parse the GK logfile, as well as batch system logfiles and update the new accounting information into local RGMA server.	
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm				delay		

WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	done	
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	done	

Summary of Progress

General Status	<p>item 31 have been cancel, due to the possible unsolvable technical error when merging the catalogue (MySQL and Oracle). Data migration via internal transfer links have been proposed to eliminated the possible defects in oracle catalogue.</p> <p>Apel accounting data have been published into central archiver since last year.</p> <p>item 47 & 48, castor v2 production system have been onlined since mid of Mar. currently, only CMS loadtest exercises have been carried out on it. consider migrating also production data of atlas after mid of May.</p> <p>priority for deploying gCE and WMS have been reset, and we plan to evaluate Cronus system prior to gCE. next check point will be mid of May.</p> <p>current LFC service base on MySQL performance normally, we're considering postponing the migration.</p>
Middle ware Services	
CPU Farm	till mid of Apr, we have 500 cores in farm, and part of them are Xeon woodcrest 2.0GHz, which provide 2.1KSI2k. Total computing capacity is around 700KSI2k.
MSS	280TB tape system mount to CASTOR v2, and stressly tested by CMS in LoadTest start from late Mar., 60MB/s migration throughput have been validated with 3 tape drives (4 in total, one in spare).
WAN OPN	2.5Gbps direct to AMS and another 2.5 to CHI then AMS (with 2G from AMS to CERN). These circuit will be decommissioned. The new bid will include a 2.5 to CHI to AMS (backup link) and a primary 10G to AMS. Then we should connect to CERN via 10G via Dante.
FTS	couple of new channels added to provide flexibility of performance tuning, from which link we can adjust the concurrent file number as well as number of parallel streams to avoid impact to other channels.
3D DB Services	
Procurement	annual procurement of 2k7 (computing plus stoage, disk and tape) resource expansion have been proposed. Paper work plan to be done mid of May. New resources plan to be installed end of Jun.
24x7 Support	delay in 16x7 OP people. Drafting generic OP procedures of critical/core services are been done in parallel.
Other	

VO Boxes Installations at the End of the Quarter

VO	Status	Comments
ALICE		
ATLAS	done	
CMS		
LHCb		

Capacity Available at the End of the Quarter								
CPU	Disk	N => D	Tape	N => T	Comments			
kSI2K	TB	MB/sec	TB	MB/sec				
696	286	130	280	80				
Outstanding Issues since Last Report								
Milestones Changes and Actions								
References and Hyperlinks								
New Milestones Proposed								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
ASGC-50	30.09.07	24x7 monitoring and support operation					in progress	Development of new service plugins for the site monitoring system and integration with notification and asset management system.
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and					delay	we're drafting the standard operation procedures for OP people hired, and will first try 16x7 service hour in phase 1
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations						
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes						
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment						
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published					done	Job priority settings have been applied base on the implementaion guideline provided by Jeff.
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.						
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.						
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.						

WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT									
Project Name					Date				
CC-IN2P3					31.03.2007				
Report Period					Author Name				
2007Q1					Fabio Hernandez				
Milestones for the Quarter									
ID	Date	CPU	Disk	N=>Disk	Tape	N=>Tape	Status		
		(kSI2K)	(TB)	MB/sec	(TB)	MB/sec			
IN-06-18	30.06.06 31.12.06 31.12.07	Improve monitoring of the site's grid services and progressively integrate them into the existing operational procedures for 24x7 service of the whole site.					Ongoing	This is an ongoing task and will likely remain so at least until the end of the year. The machine-level monitoring of the infrastructure for the grid services is in place. The alarming system is progressively completed as a better understanding of each one of the core grid services is acquired and new situations arise. Initial versions of the system-level monitoring is already being used on a daily basis for some services like FTS and SRM. CERN's Lemon is being evaluated for monitoring other core grid services (CE, BDII, VOMS, etc.) although some technical difficulties have been encountered in the process. This work is ongoing.	
IN-06-Q4-2	31.12.06 30.09.07	Tier-1 grid services fully integrated into the existing 24x7 operational procedures					Ongoing	Noticeable progress for SRM/dCache and FTS: a set of recipes and its associated supporting tools have been progressively written targeted to the on-call service. Procedures are being developed for the other core grid services.	
IN-06-Q4-3	31.12.06 30.07.07	Works for upgrading machine room power and cooling completed.					Ongoing	The project for upgrading the machine room's cooling and power capacity is ongoing. Although it is slightly behind schedule, it is progressing well. At the end of the quarter the new diesel generator and the new UPS systems are in the final phase of installation. The cooling infrastructure is being also upgraded. The works are expected to be finished by July.	
IN-06-Q4-5	30.11.06 30.05.07	Perform a new campaign of data transfer tests with the upgraded FTS service and compare results with previous tests.					Rescheduled	This task had been postponed for manpower availability reasons. A new campaign of tests of data transfer between tier-1 and its associated tier-2s will be performed. The goal is to test the stability of the system during a 2-week period. The nominal data rates will be scaled down to the currently limited capacity of the network links between the involved sites.	

IN-06-Q4-6	15.12.06 30.03.07 25.04.07	Migration of LFC service to the Oracle 10g cluster performed.	Rescheduled	The currently MySQL-backed local LFC catalogues will be moved to Oracle. The impacted VOs are Atlas and Alice.
IN-06-Q4-7	31.12.06 30.06.07	Most pre-production grid services will run on virtual machines.	Ongoing	Pre-production FTS service is using a virtual machine. Other services like site BDII, CE and LFC will follow.
IN-06-Q4-8	15.12.06 23.03.07	Configuration of the dCache database modified for improving operation.	Canceled	This work is not needed anymore because of the database schema modifications already included in the installed version of dCache (v1.7.x).
IN-06-Q4-9	15.12.06 15.06.07	Initial version of BQS-backed gLite CE ready for testing	Ongoing	The BLAH-to-BQS Globus jobmanager adaptor is in an internal testing phase. Developing the adaptors for a BQS-backed CE for CREAM remains our objective but this requires more work and given the time constraints it has been decided to do an intermediate work based on the BQS-specific Globus jobmanager currently in production with the LCG CE.
IN-06-Q4-11	31.12.06	Hardware configuration for the Oracle cluster upgraded.	Complete	3 4-processor nodes for serving Oracle databases for LHC experiments are in operation.
IN-07-Q1-01	22.02.07 15.05.07	An assesment of the status of integration of the critical site grid services to the site normal operations will be finished	Ongoing	This task could not be finished as planned during the first quarter. However, this work is ongoing.
IN-07-Q1-02	22.03.07	The new tape library hardware installed and initial integration tests performed.	Complete	The new tape library was delivered as planned and initial test successfully performed.
IN-07-Q1-03	25.03.07	Initial versions of tools for operating dCache at different levels (operator, administrator, on-call) deployed	Complete	Roles and its associated actions have been defined for dCache operators, administrators and on-call engineer. Some tools for supporting the task association to these roles have been developed. See also comments for milestone IN-06-Q4-2.
IN-07-Q1-04	30.03.07 30.05.07	When applicable, the hardware for grid services (pre-production, internal testing, production) upgraded by more recent and powerful one or by virtual machines.	Ongoing	This is done for production FTS and scheduled for other production grid services. Problems with the delivery of the hardware devoted to this task delayed its completion.
IN-07-Q1-05	30.03.07 30.06.07	Internal tests of HPSS v6 performed.	Ongoing	An software update is necessary for HPSS in order to integrate the new tape drives into production. At the time of writing this milestone, using HPSS v6 was the only possibility but since then things have evolved and we have found ways to use the new hardware with the current production version of HPSS. The latter is the way we are exploring and the tests are still ongoing.

IN-07-Q1-06	25.01.07	Evaluation process for compute nodes completed	Complete	Observed performance metrics of candidate compute nodes for the procurement campaign of 2007 have been collected. They will be used to select the best bid of the currently open call for tenders.
IN-07-Q1-07	30.01.07	Formal process for the procurement of computed nodes launched.	Complete	Call for tenders is running until 20/04/2007. Delivery is expected by 21/06/2007, all being well.
IN-07-Q1-08	01.03.07	Formal process for the procurement of disk servers launched.	Complete	Call for tenders is running until 04/05/2007. Delivery is expected by 10/07/2007, all being well.
IN-07-Q1-09	30.03.07	The accounting records for non-grid jobs will be automatically sent to the APPEL repository.	Complete	The accounting records for both grid and non-grid jobs ran at the site are automatically sent to the APEL repository for all EGEE-supported VOs, including the 4 LHC VOs.
IN-07-Q1-13	15.03.07	Initial deployment of a glexec placeholder for LHCb	Complete	A placeholder for 'glexec' deployed at the request of LHCb. To be used by the pilot jobs, this tool will allow the logging of the information of the actual individual to who the job belong to.
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm	Complete	The 24x7 service for the site is defined and operational since many years, based on a on-call service during out of office hours. The work currently underway is the integration of the core grid services into this framework.
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	Complete	See comments for milestone IN-07-Q1-09. Some discrepancies between the information sent to the APEL repository and the information published through the EGEE accounting portal have been regularly observed: manual interventions to selectively republish the accounting records is necessary too often. Experts from the site are in regular contact with the GOC accounting portal on this issue. An automatic way to check that the information sent actually matches the information received and stored by the repository is highly desirable.
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	Complete	The hardware and software infrastructure is in place. Tests performed by the experiment and by the LCG 3D team are satisfactory.

Summary of Progress								
General Status	During this quarter we suffered a severe unscheduled power outage. As a result, the site was not completely operational during several days. Some corrective actions were taken for preventing this kind of incidents, including taking a fraction of the compute farm machines out of the UPS circuits to maintain under control the power consumption in those circuits. Several difficulties were also observed for doing the necessary works for upgrading the power infrastructure while maintaining the site in a fully operational state.							
Middle ware Services	The dCache/SRM hardware was upgraded and the whole system reconfigured. Additional more powerful machines were setup for supporting the components of the SRM service. Since then, an improved stability of the service has been observed.							
CPU Farm	Nothing special to report. Continuous work for improving the support of grid-specific features directly in the site batch system, BQS.							
MSS	Internal reconfiguration of HPSS necessary to cope with the planned capacity increase and for using the new high capacity tape medium of the new robotics system.							
WAN OPN	Network link in operation since January 2006. Nothing special to report this quarter.							
FTS	Nothing special to report. Continuous improvement of the monitoring tools of the FTS activity.							
3D DB Services	More hardware added to the Oracle cluster used by LHC experiments. The infrastructure for database replication is ready and have been tested.							
Procurement	Procurement process for compute nodes and disk servers are underway.							
24x7 Support	Grid services are progressively being integrated into the existing 24x7 service of the site.							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status	Comments						
ALICE	In Operation							
ATLAS	In Operation							
CMS	In Operation							
LHCb	In Operation							
Capacity Available at the End of the Quarter								
CPU	Disk	N=>Disk	Tape	N=>Tape	Comments			
(kSI2K)	(TB)	(MB/sec)	(TB)	(MB/sec)				
1171	340		510					
Outstanding Issues since Last Report								
Upgrading the facility (cooling and power) while maintaining the site in fully operational conditions is particularly difficult. Several problems have been solved but more have to be faced in the quarter to come which is the final phase of the project.								
Milestones for Next Quarter								
ID	Date	CPU	Disk	N=>Disk	Tape	N=>Tape	Status	Comments
		(kSI2K)	(TB)	(MB/sec)	(TB)	(MB/sec)		
IN-07-Q1-10	30.04.07	A mechanism for assigning priorities to the execution of grid jobs based on VOMS groups/roles in place				Ongoing	A temporary solution for assigning priorities to grid jobs based on the VOMS roles and groups is in place and have been tested by Atlas and CMS. This information needs to be correctly published in the site information system.	

IN-07-Q1-11	15.06.07	Call for tenders for the compute nodes finished. Provider selected.		
IN-07-Q1-12	15.07.07	Call for tenders for the disk servers finished. Provider selected.		
IN-07-Q2-01	15.05.07	A read-only replica of the central LFC for LHCb in operation.		LHCb asked us to deploy a read-only replica of the CERN hosted central LFC.
IN-07-Q2-02	15.06.07	A spare (real or virtual) machine for FTS service for availability purposes ready for operation		
IN-07-Q2-03	01.06.07	A set of spare (real or virtual) machines for core grid services ready for operation		We plan to prepare a set of machines to take over the main machines supporting the site core grid services, for availability reasons.
IN-07-Q2-04	30.06.07	New tape library integrated to HPSS and in production		
IN-07-Q3-01	30.09.07	Improving the organisation of dCache-managed storage zones for the experiments	Ongoing	This is ongoing work aims to improve the internal organisation of the storage zones within dCache. Experiments representatives are involved in this work.
IN-07-Q3-02	30.07.07	New compute capacity added: +116 kSI2000 for reaching the pledge for 2007 for the tier-1 (1216 kSI2000).		This is additional capacity purchased in the procurement campaign in 2007.
IN-07-Q3-03	30.07.07	Additional disk capacity in production (+400 TB) for reaching the pledged disk capacity of 729 TB.		This is additional capacity purchased in the procurement campaign in 2007.
IN-07-Q3-04	30.07.07	Additional tape capacity in production (+235 TB) for reaching the MSS pledged capacity of 745 TB.		This is additional capacity purchased in the procurement campaign in 2007.
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations		
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations		
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes		

WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment		
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published		
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.		
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		It is difficult to plan for a milestone without a clear associated schedule. Our capacity to meet it will depend on when the middleware will be released for SL4: summer period is a difficult one in France for such a major change in the site.
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT										
Project Name					Date					
CERN					31.3.2007					
Report Period					Author Name					
2007Q1					Bernd Panzer-Steindel					
Milestones for the Quarter							Status	Comments		
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments		
		kSi2K	TB	MB/s	TB	MB/s				
DATA RECORDING										
CASTOR 2										
DR-9	31.01.06 (2.1) 31.11.06 (2.2)	Castor 2 with SRM 2.1 available for installation on sites outside CERN This requires the sites running Castor to plan the migration to Castor 2 The version of SRM to deliver is 2.2 not 2.1 anymore					delivery of 2.2 and not 2.1	Details about the new planning and status can be found here :http://agenda.cern.ch/askArchive.php?base=agenda&categ=a057132&id=a057132s5t16%2Ftransparencies%2FSRM-v22-ML.ppt Part of this new planning is the delivery of version 2.2 and not anymore 2.1		
DAQ - TIER 0 - TIER 1										
TAPE EQUIPMENT ACQUISITION										
TAPE-4	31.01.07	Full tape equipment configuration for start-up installed and in operation This is expected to include 200 drives.					completed	we have since end of the year 100 drives in operation (50 from IBM and 50 from Storagetek). The number 200 was from the very first estiamtes 3 years ago. From the current understanding and the experiment requirements 100 drives will be sufficient. In addition we have agreement s with the vendors for buying more drives when necessary, this can be done within about 3 month.		
COMPUTER CENTRE										
CC-2	31.05.06 30.11.06 30.06.07	Cooling and ventilation upgrade complete					essentially complete	The new cooling and ventilation system is in operation with automation allowing remote monitoring. The only outstanding item with a potential impact on the centre's ability to support the required equipment load is the completion of some additional ducting, expected to be finished by 30/06/07		
CC-3	30.06.06 18.07.06	First part of the physics service UPS installed (1200 KW)					completed	The new UPS system entered production on the 27th of July.		
CC-4	30.09.06 31.01.07	Second part of physics service UPS (+800 KW)					<u>completed</u>	the full UPS upgrade to 2.5 MW was done by mid February		

CC-5	01.01.07	Definition and planning of the operational coverage		CERN has a 24x7 operator presence and a 24x7 piquet service capable of resolving most routine problems. This coverage is operational and shown to be capable of supporting the services during CERN's Christmas shutdown. Engineer level coverage is only available on a best efforts basis out of working hours at present, but a proposal to improve this coverage will be presented to CERN management in February.
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PROCESSOR AND DISK ACQUISITION

ID	Date	CPU	Disk	N=>D	Tape	N=>T		
		kSI2K	TB	MB/s	TB	MB/s		
MOU-1	01.07.06	2400+1000	230+540	1600	1500+0	800		from WLCG MoU do not edit
ACQ-2	15.09.06	2400+1000	230+540		1550+0			the acquisition of the extra 1000 KSI2000 was delayed and cut due to budget constraints. After the late delivery hardware problems were found and thus these resources were not available in Q4
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm				Done	Fully implemented.	
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.				Done	Accounting data is published via APEL but the system can still not cope correctly with the multiple-CE configuration at CERN. Monthly report data thus cannot yet be extracted from the APEL repository.	
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)				Done		

Summary of Progress

General Status	
Middle ware Services	
CPU Farm	New capacity installed; default service is now SLC4 based. LSF 7 is being evaluated and a migration schedule will be discussed at an appropriate time.

MSS	<p>In general, the MSS is performing okay. Well known issues are</p> <ul style="list-style-type: none"> - the ability to correctly handle mixed loads, adequately isolating production work from the load of general users. This is being addressed as we attempt to reach the ATLAS targets - readiness of the SRM v2.2 interface; here there has been much progress during the quarter with essentially all basic and use case tests successful. Realistic stress-testing of the interface requires delivery of certain optimisations to the underlying Castor stager which are expected to be deployed in April. 							
DAQ								
Procurement	Full 2007 capacity has been installed. Procurement process is underway for equipment required for 1H08.							
24x7 Support	The Tier0/1 has well established procedures for 24x7 support that have been shown to be adequate to resolve issues at the incident rate currently observed. A reinforced level of 24x7 support may be provided dependent on a more general CERN discussion on organisational and administrative issues (see CC-5).							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status		Comments					
ALICE	ok							
ATLAS	ok							
CMS	ok							
LHCb	ok							
Capacity Available at the End of the Quarter								
CPU	Disk	N=>D	Tape	N=>T	Comments			
kSI2K	TB	MB/s	TB	MB/s				
7500	1288	3000	11000	3000	All equipment needed for 2007 was installed in the CC by the end of January. Increased batch capacity was made available by the end of February. While the disk space increase went slower than expected, as we have to upgrade the firmware of about 3000 WD disks.			
Outstanding Issues since Last Report								
Milestones Changes and Actions								
References and Hyperlinks								
New Milestones Proposed								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
WLCG-07-02	Apr 2007	24x7 Support Tested						
		Support and operation scenarios tested via realistic alarms and						

WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations		
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade,		
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment		
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published		Fully implemented (c.f. reports of Jeff Templon to the MB/GDB).
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.		Fully implemented.
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT								
Project Name					Date			
FZK / GridKa					31.03.2007			
Report Period					Author Name			
2007Q1					Holger Marten			
Milestones for the Quarter								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
GK-06-18	31.07.06 31.12.06 31.03.07 30.06.07	Analysis & classification of Tier-1 services concerning 24x7 availability and system stability available for GridKa				in progress new date 30.06.07	This work had to be synchronised with "optimization of monitoring" (GK-06-33) and the current, yet not finalized implementation of storage classes, and is thus rescheduled.	
GK-06-26	Dec 06 31.01.07	Installation of LAN cabling for hardware 2007				in progress new date 31.01.07 Done	Done. All cables for 2007 complete.	
GK-06-28	31.10.06 28.02.07 30.06.07	GridKa - SARA/NIKHEF T1-T1 WAN connection operational				in progress new date 30.6.07	The routing policy through SARA/NIKHEF is still under discussion.	
GK-07-1	Jan-07	LAN active components: delivery, installation and tested				Done	Done. All active LAN components for 2007 complete.	
GK-07-18	31.01.07	Automatic CPU accounting through APEL implemented				Done	There is still a discrepancy between number of local accounted OPS jobs and those accounted by APEL. A respective bug ticket has been submitted (#20105)	
GK-07-2	Feb-07	CPU: delivery, installation, configuration				Done	160 dual CPU, dual core Woodcrest machines delivered and installed.	
GK-07-3	Feb-07	Disk: delivery, installation, configuration				Done	All disks for 2007 have been delivered, rack-mounted and installed. Roll-out for VOs has started.	
GK-07-10	28.02.07 31.05.07	FTS 2.0 installed				delayed; New date 31.5.2007	FTS 2.0 not available	
GK-07-11	15.03.07	Definition and setup of missing transfer channels				Done	All tests with associated Tier-2s done. Other Tier-2s are handled through star-channels	
GK-07-12	31.03.07 31.05.07	SRM 2.2 and dCache installation completed				delayed; New date 31.5.2007	SRM 2.2 and new dCache not available	

GK-07-4	31.03.07	New LAN, CPU and tape hardware components tested and operational to be delivered to users.					Done	All CPU and tape for 2007 complete and delivered to users.
GK-07-19	31.03.07	Job priorities for groups/roles implemented in PBSPro					removed	This milestone has been inserted upon request of the reviewers of Q4-2006 not recognizing that we already defined GK-07-14 and GK-07-16 below.
GK-07-5	01.04.07	1864	280		1007		Done	CPU and Tape complete and operational according to updated experiment requirements.
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm						This milestone is not in line with our own running processes. See progress summary below.
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.					Done	Done at GridKa; See milestone GK-07-18
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)					Done	Complete and operational since September 2006. See last quarterly report and progress summary.
Summary of Progress								
General Status	<p>All CPU and tape resources pledged for 2007 are complete and have been delivered to users on April 2nd. The installation comprises more than 2500 CPU cores (about 60% for WLCG) and is installed with SL3-gLite3.0 on top of SL4 (new nodes) and SL3-gLite3.0 on SL3 (old nodes) until the final gLite3.1 release is available. The disk hardware for 2007 has been delivered to GridKa, is rack-mounted and currently being tested. Roll-out for VOs has started. The mass storage system is running the latest release of dCache v1.7 on top of TSM in production, and a dCache v1.8 / SRM 2.2 version is currently tested on the GridKa pre-production system. All other grid services (FTS, VO-Boxes, 3D data bases, LFC, ...) are in production and have been tested during the last months together with associated Tier-2s. The 10 Gbps OPN to CERN is in place since 2006 and has recently been extended in production with a 10 Gbps backup link for automatic failover via CNAF in Bologna. Two other links (to IN2P3 and SARA/NIKHEF) are still to be finalized.</p>							
	<p>Resource planning at GridKa for 2008 is finished, respective pledges have been aligned with the central tables (MoU, Megatable etc.) through WLCG management, and procurement of the hardware will start in Q2/2007.</p> <p>There is a slight mismatch between GridKa-internal and WLCG time scales for the rollout of 24x7 operations. However, respective procedures and tools are currently designed, tested and implemented in parallel with the implementation of the final services and hardware, and GridKa staff is already taking actions during weekends and vacation time based on these tools.</p>							
Middle ware Services	All services up and running. Urgently waiting for the next (final) releases of packages on SL4, FTS 2.0, SRM 2.2 with new dCache							

CPU Farm	All CPUs for 2007 have been delivered to users, i.e., MoU pledges for FZK/GridKa 2007 are complete. New CPUs have been installed with the WN package of the SL3-gLite3.0 build on top of SL4. The remaining CPUs are still running the same gLite packages but on top of SL3.
MSS	<p>Disk Disk for MoU capacity 2007 is delivered to GridKa and rack-mounted. Configuration and roll-out to VOs has started.</p> <p>Tape Tape according to MoU capacity 2007 is complete and delivered to users. More than 16 drives in two robots are available.</p> <p>The whole installation is running dCache v1.7. Urgently waiting for v1.8 and SRM 2.2.</p>
WAN OPN	<p>The following links are complete and in production: GridKa - CERN (T0) 10 Gbps GridKa - T2s 10 Gbps Internet GridKa - INFN (T1) 10 Gbps GridKa - Czech T2 1 Gbps dedicated to Prague via Geant2 GridKa - Polish T2s 1 Gbps dedicated Cross Border</p> <p>The GridKa - INFN link is now designed as a failover for the CERN - GridKa connection. The automatic failover is implemented and has recently been successfully tested by simply switching off the CERN-GridKa link for a few minutes during normal production time.</p> <p>The following actions are ongoing: GridKa - SARA/NIKHEF (T1) 10 Gbps (lightpath active; layer-3 routing still pending; milestone GK-06-28) GridKa - IN2P3 (milestone GK-06-31) information on cost is available, the link will be set up; currently the last miles between France and Germany is implemented by the NRENs.</p>
FTS	Channels to all T0/T1 and associated T2s are set up and have been tested. Urgently waiting for the "final" version FTS2.0.
3D DB Services	Complete and operational since September 2006. A third Oracle machine for Atlas has been ordered and will be set up as soon as available. However, this is uncritical for the current service.
Procurement	All procurements for 2007 done. Calls for tender for 2008 starting soon.
24x7 Support	<p>24x7 Operations (milestones GK-06-18, 06-33, 07-8) A concept for 24x7 operations has been defined, and cost estimates have been presented to and approved by the GridKa OverView Board on November 17, 2006. A 2-step procedure is foreseen that consists of:</p> <p>Until about June 2007 (GK-06-18 rescheduled; GK-06-33 and 07-8):</p> <p>1.1 Improve the 24x7 monitoring and operational procedures to prepare 3 on-call circles for networking, storage and middleware services, respectively. A new dashboard showing basic Ganglia, Nagios and SFT results has been developed. It is intended to publish the method during CHEP 2007.</p> <p>1.2 Operators on-duty covering weekend and holiday periods with operations on a very basic level to test and improve methods in 1.1. under realistic conditions. These operators on-duty are in place since Christmas 2006.</p> <p>From July onwards:</p> <p>2.1 Ramp up with on-call services for operations.</p> <p>2.2 24x7 operations implemented by end of September 2007 (milestone GK-07-17).</p>

Other								
VO Boxes Installations at the End of the Quarter								
VO		Status			Comments			
ALICE		installed			glite 3.0			
ATLAS		installed			glite 3.0			
CMS		installed			PhEDEX up and running; migration of DB proxy to new hardware under discussion for beginning of next year			
LHCb		installed			Core software installed by GridKa, rest by LHCb			
Capacity Available at the End of the Quarter								
CPU	Disk	N=>D	Tape	N=>T	Comments			
kSI2K	TB	MB/sec	TB	MB/sec				
1864	300	400	1007	200	All CPU and tape resources for 2007 complete and delivered to the users. Disk 2007 is delivered to FZK/GridKa and rack-mounted, and roll-out to VOs has started. 400 MB/s WAN to disk and 200 MB/s WAN to tape has been demonstrated at the end of 2006.			
Outstanding Issues since Last Report								
Changed Milestones								
GK-06-18 classification of systems concerning 24x7 availability; synchronized with GK-06-33								
GK-06-28 GridKa - SARA/NIKHEF WAN connection; rescheduled								
GK-06-31 GridKa - IN2P3 T1-T1 WAN connection operational; rescheduled after cost information is available now								
GK-07-10 FTS upgrade to v2.0; rescheduled								
GK-07-12 SRM2.2 and dCache v1.8 upgrades; rescheduled								
GK-07-19 Job priorities for groups/roles implemented in PBSPro; removed because there were already two other milestones on this								
Added Milestones								
GK-07-20 start procurement of racks for hardware 2008								
GK-07-21 start procurement of CPUs for April 2008								
GK-07-22 start procurement of LAN hardware and cabeling for 2008								
GK-07-23 delivery of racks for hardware 2008; installation for chilled water and electricity								
GK-07-24 start procurement of tapes and drives for 2008								
GK-07-25 installation of LAN cabeling for hardware 2008								
References and Hyperlinks								
Milestones for Next Quarter								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
GK-06-31	31.12.06 30.04.07 30.06.07	GridKa - IN2P3 T1-T1 WAN connection operational					waiting for cost information new date 30.4.07 new date 30.06.07	Cost information now available; the link will be set up; see progress summary above
GK-07-13	30.04.07	Storage classes implemented						
GK-07-14	30.04.07	Mapping of job priorities on the batch software installed						

GK-06-33	31.12.06 30.06.07	24x7 monitoring complete and operational					in progress new date 30.06.07	see progress summary above
GK-07-6	30.06.07	CERN - GridKa (T0-T1) OPN backup link operational					removed	see QR4-2006
GK-07-8	31.03.07 30.06.07	24x7 operation scenarios verified, tested and operational					new date 30.06.07	
GK-07-9	30.06.07	gLite CE installed and tested						gLite CE hasn't yet been tested by developers; currently no better time scales available
GK-07-15	30.06.07	Transfer channles tested to all Tier-1s and Tier-2s						Done for all Tier-1s; remaining work depends on readyness of Tier-2s; currently no better date available
GK-07-16	30.06.07	Configuration and maintenance of the job priorities implemented as defined by the VOs						
	01.07.07	2010	910		1050		planned to be pledged (WLCG MoU)	
GK-07-7	01.07.07	1864	878	400	1007	400	All 2007 resources according to updated experiment requirements complete and operational.	
WLCG- 07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations						This new milestone is not in line with our own, already started processes. See progress summary above.
WLCG- 07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations						This new milestone is not in line with our own time scales. Full 24x7 support will be available not before end of September.
WLCG- 07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes						
WLCG- 07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment						
WLCG- 07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published						

WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.						
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.						
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.						
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites						
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%						
GK-07-17	30.09.07	Full 24x7 operations in place						
GK-07-20	May 07	start procurement of racks for hardware 2008						
GK-07-21	Aug 07	start procurement of CPUs for April 2008						
GK-07-22	Sep 07	start procurement of LAN hardware and cabling for 2008						
GK-07-23	Nov 07	delivery of racks for hardware 2008; installation for chilled water and electricity						
GK-07-24	Nov 07	start procurement of tapes and drives for 2008						
GK-07-25	Dec 07	Installation of LAN cabling for hardware 2008						
		2008						
	01.04.08	7140	3300		3470		planned to be pledged (WLCG MoU)	
	01.04.08	5095	2660		2545		MoU 2008 resources partially complete and operational.	
	01.10.08	7140	3260		3445		All MoU 2008 resources complete and operational.	
<p><i>The values listed as "MoU numbers 2007 to be provided on 1.7.2007" in this report are not correct (see also QR4-2006. They have already been corrected to 1864 kSI2k CPU, 878 TB disk and 1007 TB disk via Chris Eck.</i></p> <p><i>The values listed as "MoU numbers 2008 to be provided on 1.4.2008" in this report are not correct (see also QR4-2006. The GridKa resources will be provided in two different steps in April and October 2008, respectively. The above correct numbers (for October 2008) have already been reported to Chris Eck.</i></p>								

QUARTERLY STATUS REPORT								
Project Name					Date			
INFN					31.03.2007			
Report Period					Author Name			
2007Q1					Luca dell'Agnello, Tiziana Ferrari			
Milestones for the Quarter								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
CN-06-15	16.06.06	configuration of all T1-T1 FTS channels for ATLAS					done	a tuning of channel parameters have ben performed in collaborations with VOs
CN-06-16	30.06.06	Implementation of the CNAF-FZK backup connection via cross-border fibres, involving GARR, DFN and SWITCH					done	
CN-06-18	30.06.06	Testing of new StoRM features					canceled	this task was merged with task CN-06-27
MOU-1	01.07.06	1800	850	200	850	200	from WLCG MoU	
CN-06-21	30.09.06	LCG3d service in production					done	Read-only replica of LFC for LHCb is in production since Q4 2006. Also read-only replicas of Conditions DBs for ATLAS and LHCb are in production since Q4 2006.
CN-06-22	31.10.06	1350	approx 350 TB	200 MB/s	450 TB	depends on the number of STK 9940B to be		the delivery of additional disk space and WNs has been delayed to 2007 (see CN-06-40 and CN-07-14)
CN-06-27	30.09.06 31.12.06	tests with StoRM					on going	A new release of StoRM (SRM interface for POSIX file systems) compliant with srm 2.2 specifications has been implemented and completed with all methods required by the WLCG MoU. Basic functional tests and Interoperability tests, in the framework of GSSD LCG wg, have been performed and since the end of last March also stress tests are on going. Moreover a pre-production testbed has been installed and tests involving VOs are on going. This activity will continue until "satisfaction" i.e. whenever migration to SRM 2.2 will take place (accordingly with the decision taken at WLCG level).
CN-06-30	30.09.06	tests with Gpbox (INFN development)					rescheduled	this task has been rescheduled due to other priorities
CN-06-32	30.09.06 31.12.06	new disk (400 TB) in production					done	the delivery of hardware was delayed to end of October and hence the production phase to November 2006. Actually the validation process in November gave unsatisfactory results: after some iterations with the vendor (and a huge delay), we got an additional controller pair in order to fulfill with the throughput requirements. The production phase started last January.

		1350	approx 350 TB	200 MB/s	450 TB	depends on the number of STK 9940B to be purchased	The delivery of additional disk space has been delayed (see CN-06-40). The new CPU provisioning is foreseen to be fully in place during Q1 2007 (see CN-07-14).
CN-06-34	31.10.063 1.12.06	24x7 Site Procedures and Concepts Defined and Documented				canceled	this task has been merged with task WLCG-07-01
CN-06-37	15.11.063 1.12.0631. 05.07	installation of LEMON monitoring tool both for farm, storage (CASTOR and GPFS) and db.				on going	the basic installation for the storage resources is completed. During Q2 2007 the service will be consolidated with new performant hw for the Oracle db back-end. After this has been done, the present monitoring tool (redeye) used for wns will be merged
CN-06-38	15.11.061 0.02.07	new disk for db back-end for 3D (17 TB FC technology) in production				done	this task was rescheduled to the first half of February due to delay in delivery of various components of the hw. It has then been completed at the end of February 2007.
CN-06-39	30.11.06	24x7 Monitoring and Support Operational				canceled	this task was merged with task CN-06- 34
CN-06-40	30.11.061 5.02.07	new disk tender (400 TB raw) in production				canceled	this task was merged with task CN-06- 32
CN-06-41	30.11.06	increase of number of disk servers for CASTOR				done	a small tender to buy hw is foreseen at the end of October
CN-06-42	30.11.063 1.03.07	deployment for production of new dedicated hw for db services (including 3D services)				done	This task has been rescheduled due to delay in hw delivery (see CN-06- 38). The consolidation on Oracle clusters of LFC, FTS and the 3d services has been completed accordingly to the new schedule.
CN-06-43	30.11.06	tender for high density CPU racks started				done	the tender has been completed and we foresee to have at least part of the racks in the first half of Q2.
CN-06-47	30.11.063 1.03.0730. 04.07	24x7 Support Scenarios Verified and Tested				on going	see WLCG-07-01 and WLCG-07-02
CN-06-49	31.12.063 1.03.0730. 06.07	additional chiller installed and new electric plant in preparation of next year infrastructural upgrade				delayed	this task, preliminary to the installation of high density racks (see CN-07-13), has been delayed for logistic issues: it should be installed at the end of Q2.
CN-07-01	31.03.07	1350	350	200	450	80	done
CN-07-02	20.01.07	second instance of CASTOR stager installed				done	this stager is used to test new releases of CASTOR before production phase and will be used for tests with CASTOR srm 2.2 (see also CN-07-07)
CN-07-03	31.01.07	first schema of storage classes implementation for LHC experiments ready				done	Up to now for LHC experiments only the t1d0 and t0d1 storage classes have been implemented both with CASTOR.
		Our plan is to provide, as srm 2.2 will be deployed, the t0d1 storage class with StoRM (which only implements srm 2.x specifications). In preparation of this, during the month of March, a validation process of our storage infrastructure has been performed in order to stress both the hardware level (network, servers, controllers and disks) and the storage systems (GPFS, CASTOR) on which the storage classes are being implemented.					

CN-07-04	31.01.07	technical request for tender for new tape library ready	done	
CN-07-05	10.02.07	automatic accounting reporting	canceled	this task was merged with task WLCG-07-08
CN-07-06	15.02.07	migration of db services to new dedicated hw	done	see CN-06-42
CN-07-07	28.02.07	tests with CASTOR srm 2.2 in pre-production environment	rescheduled	this task has been rescheduled due to the delay in the release of the component: we foresee to start the tests in the second part of April 2007
CN-07-08	28.02.07	tests with StoRM in pre-production environment	canceled	this task was merged with task CN-06-27
CN-07-09	28.02.073 1.05.07	new 9940b drives for tape library in production	rescheduled	the purchase of the additional 9940b drives for the tape library has been delayed due to administrative reasons.
CN-07-10	28.02.07	job priorities implementation	done	this task has been delayed to the end of Q1 since we had to patch and test the lcg-info-dynamic-provider plug-in specific for our local batch system manager (LSF). In addition, a yaim-based configuration mechanism is still missing, resulting in manual configurations and potentially problems from the installation and configuration point of view. Still, mapping of local job priorities to VOMS roles associated to VO-specific shares has been completed, specifically for ATLAS, and associated info is now published into the BDII.
CN-07-11	15.03.07	upgrade to SL4	rescheduled	this task has been rescheduled due to delays in the release of the middleware and will be completed, for WNs and UIs at least, presumably by April 2007 (see WLCG-07-11)
CN-07-12	31.03.073 0.04.07	tests with conditions db for ATLAS completed	rescheduled	this task has been rescheduled by the 3D group to second half of April
CN-07-13	31.03.073 0.06.07	first infrastructure upgrade completed	delayed	An high density zone with 36 racks (equipped with forced cooling) will be installed to host present storage systems and WNs while the main Tier1 area is upgraded. This action has been delayed to the end of Q2.
CN-07-14	31.03.073 1.05.07	production phase of 2006 CPU tender	delayed	The new CPUs should be operational by May 2007. The delay was due to
CN-07-15	31.03.073 1.05.07	CASTOR srm 2.2 ready for production	rescheduled	the CASTOR srm 2.2 end-point (for storage classes t1d0 and t1d1) will be
CN-07-16	31.03.071 5.05.07	StoRM ready for production	rescheduled	the StoRM (srm 2.2) end-point (for storage class t0d1) will be tested and

WLCG-07-01	Feb 2007 new Apr 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm	on going	We have documented and implemented (with on call people) 24x7 support for emergency and infrastructure problems. The alarm system for grid services and farming issues is also in place and we are documenting and organizing the corresponding 24x7 support. We foresee to complete it by April 2007
WLCG-07-08	Mar 2007 new Apr 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	on going	Since at INFN sites the collecting of accounting data is done through DGAS, a procedure, dgas2apel, have been developed to publish these data to APEL. The procedure has been tested at CNAF and at other INFN sites since early January 2007. We plan to fix the last remaining bugs, pertaining to interworking with RGMA and APEL, by April 2007
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	done	
Summary of Progress				
General Status	We have started the process for the infrastructural upgrade which will be completed at the end of Q1 2008. As first phase, the present resources will be moved in a temporary location which is being currently equipped with newly acquired racks and a new electrical plant. We will be ready to move the resources at the end of Q2, but, in agreement with the experiments, we will proceed to the moving next September.			
Middle ware Services	Presently at CNAF there are 5 production (gLite 3.1) WMS servers and 4 production RBs. Also there are 2 Top-level BDII for Italian grid. During Q1, we have installed HLR at our site for the INFN Tier1 grid (and local) accounting. We have consolidated the layout of LHCb LFC read only replica (see 3d db services section).			
CPU Farm	During Q1 2007, we have improved the stability and the availability of the system reducing the number of production CEs but making them redundant. We have verified that the system formed by the CEs and the local batch system can scale up to 20K pending jobs without any loss of efficiency. We have implemented the VOviews configuration as requested by ATLAS.			
MSS	Our MSS system is composed by 2 different storage systems: CASTOR and GPFS (GPFS will be user together with StoRM to implement the t0d1 storage class). During Q1 2007, we have validated our storage infrastructure from the HW level up to the storage systems themselves. We plan to test the SRM interfaces for both during Q2.			
WAN OPN	2 independent 10 gbps paths are active on the OPN, one with the T0 the other one with FZK configured as backup for the other. Another 10 gbps link, the access to GARR network, is used for trasfers with T2s.			
FTS	We are consolidating the FTS service migrating it on more robust and redundant HW. During Q1 2007 we have moved the Oracle db on a cluster and we have started splitting the components of the service onto several servers (3 at the end of Q1). We have also started the procurement of additional HW in order to improve the robustness of the service. During Q1 we have also formed a group (1 FTE) responsible of managing the service.			

3D DB Services	<p>During Q1 2007 we have installed, tested and deployed the new storage for the production databases and 3 new clusters have been installed.</p> <p>The new production setup now now composed by:</p> <ul style="list-style-type: none"> a 2-nodes cluster dedicated to LHCb (LFC read-only replica and Conditions Database) a 2-nodes cluster dedicated to ATLAS (Conditions Database) a 3-nodes cluster hosting the grid services database backends (FTS and LFC) <p>various single instances for Castor databases and Lemon.</p> <p>In the same period the LFC LHCb Read-Only Replica has been extensively tested demonstrating stability and robustness of the replica.</p> <p>Key components for the stabilization of the service are the new Grid Console (installed on a RAC environment) providing a powerful monitoring and alarm system and RMAN improving backup performance and reliability. This backup tool is in pre-production, but backups with Data Pump import/export are available.</p>							
Procurement	<p>During Q1 2007 we have prepared the tenders for the procurement of a new tape library foreseen for Q3 2007 and for an additional amount of disk storage (both for LHC and non LHC experiments).</p>							
24x7 Support	<p>We have implemented 24x7 support for emergency and infrastructure problems (with on call people). The alarm system for grid services and farming issues is also in place and we are documenting and organizing the corresponding 24x7 support.</p>							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status			Comments				
ALICE	installed							
ATLAS	installed							
CMS	installed							
LHCb	installed							
Capacity Available at the End of the Quarter								
CPU	Disk	N=>D	Tape	N=>T	Comments			
kSI2K	TB	MB/s	TB	MB/s				
1350	350	200	450	100				
Outstanding Issues since Last Report								
References and Hyperlinks								
New Milestones for Future Quarters								
ID	Date	CPU	Disk	N=>D	Tape	N=>T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
		1350	500	300	650	120		
CN-07-17	30.04.07	RMAN backup in production for db service						
CN-07-18	31.05.07	debug of CMS and ATLAS FTS channels to and from T2s						this task will be done in collaboration with experiment contacts
CN-07-19	31.05.07	3D Tier1 sites recovery tests						
CN-07-20	31.05.07	upgrade of CASTOR to version 2.1.3						the actual deployment date depends of course on the release data. After the release date we will test it for a week before the installation in production.

CN-07-21	31.05.07	tests with FTS 2		the preproduction version of FTS 2, when available, will be installed on the preproduction testbed.
CN-07-22	15.06/07	consolidation of FTS		a migration of the services (currently on 3 servers) to newly acquired HW is foreseen for the middle of Q2
CN-07-23	30.06.07	consolidation of CASTOR		We plan to investigate the recommended setup in terms of db and number of instances
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations		
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations		
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade,		
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment		
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published		
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.		
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT								
Project Name					Date			
NDGF					31.03.2007			
Report Period					Author Name			
2007Q1					Michael Gronager			
Milestones for the Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
		683	170 (189)		172 (225)			Numbers in parenthesis are present but has to be connected to the dCache storage system to be accessible
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm					Partly	Operational setup for office hours with levels complete. 24X7 to follow.
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.					Not met – new date – June 2007	SGAS is under setup and a link to APEL under development.
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)					Partly	Note that this service is only a minimal setup – a bigger setup will follow in 2008
NDGF-07-7	28.02.07 15.05.07	SAM test integration					Postponed – new date	A dedicated developer now address this
NDGF-07-4	31.03.07	SRM-enabled storage: Development, Installation, support					DONE	Production system running in production
NDGF-07-4.2	Was 31.03.07 new 31.05.07	Exposing already SRM enabled SE installations like dCache/DPM through an NDGF single SRM entry point					Partly	Due to missing available space this action is only partly done
NDGF-07-4.3	28.02.07	Adding First site to Production dCache installation – The Niels Bohr Institute					DONE	
NDGF-07-4.4 (was NDGF-4.3)	15.03.07	Adding Second site to Production dCache installation – University of Oslo					DONE	
Summary of Progress								
General Status	The distributed dCache storage system is now in place. The central installation is up and the University of Copenhagen site has been added. Further, University of Oslo has been added to the system. Full participation in T0-T1 transfer tests and T1-T1 do. Conducted ATLAS. The 3D service is up, though running on minimal hardware. Still there is some problems in enabeling ALICE at the sites, mainly due to poor ALICE support of the heterogeneous Nordic grid environment.							

Middle ware Services	Enabled GridFTP2 in the dCache middleware stack, added patch Globus and ARC to supports this too to enable direct inter Tier-1 site transfers.				
CPU Farm	Several farms installed and operational				
MSS	See general. However, we still need to enable tape at sites. Tape is installed and ready, but we await the dCache 1.8 (or a backport to 1.7.1) will be done. This will be done in 2007Q2.				
WAN OPN	Enabled all traffic from CERN to go through the OPN link.				
FTS	Rock solid – nothing further to add				
3D DB Services	Certified and performing 3times required level, even though this is a very minimal setup. A bigger setup will gradually be put in operation during 2007.				
Procurement	Procurement is ongoing at Tier-1 participating sites. Copenhagen and Oslo has bought and installed equipment for storage and computing. A tender for hardware to the Swedish sites is on the way. Expected operation in Q4.				
24x7 Support	Initial negotiations with national e-Science centers has begun. The plan is to have experts on call in business hours 365 days a year. The off business hours support will be carried out by the NORDUnet NOC in Stockholm already running 24x7 services for Nordic network operations. Nagios is under installation to enable simple procedural actions by 24x7 personnel.				
Other					
VO Boxes Installations at the End of the Quarter					
VO	Status		Comments		
ALICE	Partly		Installed at NBI, Bergen, Jyväskylä, Aalborg sites. In full production in Jyväskylä other sites under debugging		
ATLAS	Operational				
CMS	To be supported in 2008		Development of a CMS VOBOX capable of submitting directly to ARC has been initiated – however, as no CMS resources will be committed in 2007 no further milestones on this exists		
LHCb	Not supported				
Capacity Available at the End of the Quarter					
CPU	Disk	N => D	Tape	N => T	Comments
kSI2K	TB	MB/sec	TB	MB/sec	
683	130 (189)		(240)		Numbers in parenthesis indicates whats present, but not yet connected to the MSS
Outstanding Issues since Last Report					
SAM tests are not implemented yet. Task still ongoing and milestone has been updated					
Milestones Changes and Actions					

References and Hyperlinks								
New Milestones for Next Quarters								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/sec	TB	MB/sec		
NDGF-07-4.2	Was 31.03.07 new 31.05.07	Exposing already SRM enabled SE installations like dCache/DPM through an NDGF single SRM entry point					Partly	Due to missing available space this action is only partly done
NDGF-07-0.5	15.08.07	24x7 operation and support fully in place and operational						24x7 will utilize the NORUnet NOC in Sweden which has already 24x7 operation
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations						
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations						
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes						
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment						
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published						
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.						
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.						
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.						
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites						

WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%						
Comments and Additional Information								

QUARTERLY STATUS REPORT									
Project Name					Date				
SARA-NIKHEF					31.03.2007				
Report Period									
2007Q1					Jeff Templon				
Milestones for the Quarter									
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments	
		kSI2K	TB	MB/s	TB	MB/s			
SN-06-17	30.09.06	purchase 3 STK9940B tape drives							We don't know if this is still relevant, it was a long time ago, suggest to delete it. We have enough tape drives to handle current demand.
SN-06-21	30.10.06 01.04.07	Install High Availability systems at NIKHEF : RB, VOMS, CE						in progress	Test systems have been set up and installed as the various systems; still unresolved issues. No estimate of completion date.
SN-06-29	28.11.06	3D service operational and available						done	
SN-06-19	31.12.06	24 x 7 site procedures and concepts defined and documented						no action	no action has been taken on this item as of yet. No estimate of completion date.
SN-07-01	1.2.07	Start process for european bids on large purchases						in progress	draft documents are under construction, and a firm has been identified to assist us in the tender process
SN-07-15	23.02.07	Implementation of Job Priorities						done	
SN-07-02	15.02.07	purchase 10 TB disk storage						done	
SN-07-03	27.02.07	558	100	450	100	90	done		
SN-07-04	01.03.07	install 150 kSI2K at SARA						done	still to work out how allocation to HEP is going to be done
SN-07-05	01.03.07	700	100	450	100	90	done		
SN-07-06	10.03.07	install 150 kSI2K at Groningen						in progress	at moment faced with many infrastructure problems (power, cables etc). Does not affect delivery of promised CPU to LHC expts.
SN-07-07	10.03.07	850	100	450	100	90	in progress	see above	
SN-07-08	15.03.07	add 10 TB disk storage						done	
SN-07-09	15.03.07	850	110	450	100	90		see above	
SN-07-10	30.03.07	publication of call for bids to EU						not done	tendering process delayed by organizational issues within BIG GRID; these are now solved. Expect 45 day delay

WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm	not done	see comments above.
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	done	
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	done	not sure if experiments have certified it. They have not complained.

Summary of Progress

General Status	Good.
Middle ware Services	Continuing work on hardening dCache operation (ie watchdog scripts). Work on HA Linux to harden torque/maui service on site. Much work in collaboration with DPM developers on pool-selection issues; main problem is lack of ability to separate production and normal ATLAS users.
CPU Farm	GINA cluster installed at SARA.
MSS	
WAN OPN	Continuing issues on routing protocols for OPN vs WAN. Appears a solution has been found, not yet tested.
FTS	
3D DB Services	SARA now full participant in 3D.
Procurement	Tender writing committee exists and has started; collaboration with consulting firm to ensure a hiccup-free tendering process.
24x7 Support	All 24x7 activities have been directed at service hardening.
Other	

VO Boxes Installations at the End of the Quarter

VO	Status	Comments
ALICE	OK	Still waiting for ability to have pooled SGM accounts.
ATLAS	OK	
CMS	n/a	
LHCb	OK	

Capacity Available at the End of the Quarter

CPU	Disk	N => D	Tape	N => T	Comments
kSI2K	TB	MB/s	TB	MB/s	
					see Renshall tables.

Outstanding Issues since Last Report

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Milestones Changes and Actions								
References and Hyperlinks								
New Milestones for Future Quarters								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
SN-07-11	02.04.07	install 100 kSI2K at NIKHEF						
SN-07-12	09.04.07	950	110	450	100	90		
SN-07-13	15.04.07	install 20 TB storage						
SN-07-14	15.04.07	950	130	450	100	90		
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations					continuos	We have enough real situations to get tests. We are continually refining all the measures to deal with off-hours downtimes.
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations					done	We certainly provide 24x7 support as defined in the LCG MoU. As far as extra 24x7 service meaning on-call people, we don't have it and do not plan to provide it unless it is proven necessary.
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes					stalled	No action taken so far. No estimate for completion available.
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment					stalled	No action taken so far. No estimate for completion available
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published					Done	
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.					Done	
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.					Done	

WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.	not yet relevant	When was this agreed?
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				
Were asked to comment on APEL publication: this is already done.				

QUARTERLY STATUS REPORT								
Project Name					Date			
PIC					31.03.2007			
Report Period					Author Name			
2007Q1					Gonzalo Merino			
Milestones for the Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
PIC-06-51	15.11.06 01.03.07	Load test on the dedicated 1Gbps WAN with dteam transfers done				done 14/03/2007	After successful tests on the new 1Gbps dedicated link, on 14-Mar-2007 the whole traffic to/from PIC is derived to that new link.	
PIC-06-46	20.11.06 02.02.07	Place order for disk expansion				done 15/02/2007	10 sunfire X4500 servers ordered to SUN	
PIC-06-36	15.10.06 15.12.06	Segregate T0-T1 and T1-T1 traffic to dedicated 1Gbps WAN				done 14/03/2007	After successful tests on the new 1Gbps dedicated link, on 14-Mar-2007 the whole traffic to/from PIC is derived to that new link.	
PIC-06-49	20.12.06 01.04.07 01.05.07	Disk capacity upgrade deployed				delayed to 01/05/2007	Targeting total disk capacity 180TB. The new disk servers were received by mid-march. Currently undergoing testing. To be deployed in production in the next days (start of May)	
PIC-06-50	20.12.06 31.01.07	Tape capacity upgrade deployed				done 16/01/2007	1000 extra 9940B tapes bought arrived on 16-Jan-2007.	
PIC-06-41	01.12.06 15.02.07 01.06.07	24x7 site procedures and concepts defined and documented				delayed 01/06/2007	Currently studying the proper and legal way to pay extra hour to personnel to be able to implement on-call shifts mechanism. Procedures definition paused until this legal issue is clarified.	
PIC-07-50	01.01.07	APEL Automatic accounting in production				done	We add this milestone explicitly just for completeness. PIC accounting is in APEL since more than one year now. The consistency with the manual reporting has been checked.	
PIC-07-40	08.01.07	Lambda Geneva-Madrid requested by RedIRIS to GEANT				done	RedIRIS informs us that this part of the path PIC-CERN, under the GEANT2 management domain, will be operative from end-April.	
PIC-07-44	30.01.07 15.08.07	LCG-3D hardware purchased				moved to 15/08/2007	A test instance using hardware already at PIC has been deployed on March 2007. It will be used for the tests before summer and a tender to buy the definitive hardware will be launched in parallel.	

PIC-06-37	15.10.06 15.02.07 15.06.07	Demonstrate automation of error recovery on FTS/SRM transfers using INGRID	delayed to 15/06/2007	Some automatic FTS error recovery has been tested, but the integration with the SRM endpoints monitoring is still pending. So far the only sustained FTS transfers have been intensively tested with the CMS Spanish T2s starting on March 2007. We need to accumulate some experience in constant FTS transfers running before start implementing automatic recovery procedures.	
PIC-07-47	15.02.07	Job prioritisation deployed in PPS	done 15/03/2007	JPWG guidelines implemented in the PPS CE and successfully tested.	
PIC-07-41	19.02.07 01.05.07	Lambda Geneva-Madrid operational	delayed 01/05/2007	RedIRIS informs us that this part of the path PIC-CERN, under the GEANT2 management domain, will be operative from end-April.	
PIC-07-45	30.02.07	LCG-3D service ready for testing	done 01/04/2007	Two test instances, one for LHCb and one for ATLAS, are ready to be tested at PIC.	
PIC-07-2	01.03.07 15.05.07 15.07.07	24x7 monitoring and support operational	delayed to 15/07/2007	Delayed due to PIC-06-41	
PIC-07-48	01.03.07	Job prioritisation tested in PPS by experiments	done 15/03/2007	The CMS contact person at PIC did some testing of this in the PPS. No problems were detected.	
PIC-07-49	15.03.07	Job prioritisation deployed in production	done 05/04/2007	JPWG guidelines implemented in production and published in the IS through VOviews. For the moment, the 80% for atlas-production is implemented. In contact with CMS and LHCb to try and get from them their specific JP needs.	
PIC-07-1	30.03.07 01.10.07	Stop Castor1 service for LHC experiments	delayed to 01/10/2007	Final decision on the MSS sw to be adopted to be taken in Apr-2007. After this, let some months to allow experiments to migrate their valuable data to the new system. New final date to completely stop castor1 service for LHC experiments set to 1-Oct-2007.	
PIC-07-43	30.03.07	WAN: LHC OPN @ PIC in production	delayed to 15/06/2007	Mistake from previous QR. The due date for this milestone should have been delayed until one month after we get the 10GE at PIC (PIC-07-42).	
PIC-06-24	01.11.06 30.03.07		300	delayed to 15/06/2007	The deployment of RedIRIS-10 (PIC-06-23) does not increase the WAN input at PIC. Last mile still missing. Delayed till PIC-07-43 is done.

PIC-07-46	30.03.07	LCG-3D service in operation	dropped	As indicated by PIC-07-45, two instances (ATLAS and LHCb) of the 3D service are ready for the experiments to test. The subsequent certification of the service by the experiments and its production status are tracked through the global milestones WLCG-07-09 and WLCG-07-10 appearing this quarter. Therefore we do not see the need of keeping this PIC milestone.
PIC-07-14	30.03.07	Place tender for disk expansion	dropped	After the last disk purchase (PIC-06-49) we think we will not need a tender during Q2-2007 to get to our disk capacity pledge for Jul-2007 of 218TB. Due to this, we drop this tender milestone and use directly to PIC-07-17 for tracking this Q2 purchase.
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm	delayed 01/06/2007	Corresponds to PIC-06-41.
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	done	This has been in place since a long time. The consistency between the Batch reported data and APEL has been checked.
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	expected 01/06/2007	As indicated by PIC-07-45, two instances (ATLAS and LHCb) of the 3D service are ready for the experiments to test. Now waiting for ATLAS and LHCb 3D-challenges to test them. Hope this happens before June.
Summary of Progress				
General Status	<p>The availability of the main services (CE and SE) has improved substantially from March, thanks to the deploy of two head nodes on the lcg-CE and the implementation of crons for automatic recovery of dcache-1.6 (SRM-disk service).</p> <p>The WAN link to PIC was moved from the shared-1Gbps to a dedicated-1Gbps. The final 10Gbps link is expected in mid-May as already reported in previous QRs. For the moment, we believe this is not a problem, since given our current size we see our service testing capacity is not being limited by the WAN bandwidth.</p>			
Middle ware Services	<p>LFC service for ATLAS: we currently provide this service with a 1 single server containing both front-end and backend MySQL DB. The users tell us that the response is too slow, but we do not see the node cpu or i/o loaded. Would like more feedback from ATLAS or other ATLAS-T1s to try and understand where the bottleneck is and if this is a generic feature or happens only in our deployment. Planning to move it to Oracle backend, probably in the next quarter. Not clear if this will improve the situation wrt the reported slow response.</p>			
CPU Farm	<p>In early March, two lcg-CE head nodes were deployed in front of the Batch system. This has improved a lot the stability of the service. Before doing this, our single lcg-CE was very often overloaded with lots of jobs submitted in a short period of time, and the service was very difficult to recover after this.</p> <p>A glite-CE service has been in production since almost one year now, as an alternative to the lcg-CE. However, we do not see it being used, and the SAM monitoring for it seems still not reliable. Due to this, we do not consider this service to be "in production" regarding our level of support. Waiting for the experiments to certify it.</p>			

MSS	<p>In early 2007, seeing that the deployment of Castor2 was being much more difficult than originally foreseen, we decided to explore an alternative solution for managing the MSS: dcache+Enstore. During the 1st quarter, a test instance of the two systems (dcache+Enstore and castor2) have been deployed at PIC for end-to-end testing purposes.</p> <p>Final decision on which MSS sw to be adopted to be taken in Apr-2007. After this, let some months to allow experiments to migrate their valuable data to the new system. New final date to completely stop castor1 service for LHC experiments set to 1-Oct-2007.</p>
WAN OPN	<p>The 10GE link is expected to arrive to PIC by mid-May (PIC-07-42), as reported in previous QRs. Milestones PIC-07-42 and PIC-06-24, which represent the deployment of the OPN in production should happen about one month after we get the 10GE link at PIC. They therefore depend on PIC-07-42. This dependence was not appearing in the past report by mistake. It has been corrected now. Overall, we expect to have operational the 10GE OPN link by mid-June, and be able to test it during the FDRs.</p> <p>As a previous step before getting the definitive 10GE link, on 14-Mar-2007 the whole PIC traffic was derived from the former 1Gbps shared with the university to a new 1Gbps fully dedicated to PIC. CMS and ATLAS bulk transfers carried out since then have shown we can essentially fill up the complete available bandwidth on this 1Gbps link.</p>
FTS	<p>Channels configured following the LCG directives: one per T1, with destination at PIC, one per T2 for PIC-T2 transfers, and one STAR-PIC for T2-PIC uploads.</p> <p>The service has been mostly tested in a "stress mode" by CMS. Currently we have one server as a front-end (P4 3.4GHz, 4GB RAM) and one server with the oracle backend (Dual Xeon 3.2GHz, 4GB RAM). The front.-end server appears to be CPU overloaded when many CMS transfers are ongoing. We are currently moving to two front-end nodes, with more powerful hardware.</p> <p>The Oracle backend will be also moved to two servers, with a RAC configuration similar to that in the 3D service, once this one is well established.</p>
3D DB Services	<p>At the beginning of February we hired an Oracle DBA whose first job at PIC must be to catch up with the deployment of the 3D service. By the end of the Q1-2007 there is already a test instance of the 3D service running at PIC for which the Oracle streams have been tested successfully with CERN. This test instance consists of 4 servers (2 for ATLAS and 2 for LHCb) attached to about 3TB of shared storage. The plan is to use this set up for the 3D service tests to be performed by the experiments before summer.</p> <p>In parallel, a tender is being prepared to buy the definitive hardware in which this service and the other Oracle backends (FTS, LFC...) will have to run after summer.</p> <p>Regarding milestones, we have dropped our internal milestone PIC-07-46 since we understand that the deployment of the 3D service in production and the certification by the experiments is tracked now by the global milestones WLCG-07-09 and WLCG-07-10 appearing this quarter in the QR. However, it is not completely clear to us how to manage these global milestones in our QR. If a delay appears for PIC, should we quote it in the "status" column, or only comment about it in the "comments" column?</p>
Procurement	<p>DISK: Ten new disk servers SUN X4500 were acquired through tender. They were received by mid-march and are currently undergoing test and certification. This might take a bit longer than normal since these servers might have to run on Solaris OS to get their best performance. Up to now we have not run any service on Solaris OS at PIC so we need to gain some experience. The deployment of these servers will bring the total amount of available disk space at PIC up to at least 180TB.</p> <p>A draft roadmap for future (1 year) disk procurement milestones has being drawn and is mapped to future milestones below.</p> <p>TAPE: 1000 extra 9940B tapes bought arrived on 16-Jan-2007. These will be allocated to the experiments gradually according to their needs. By the end of Q1-2007 there are still about 130TB of 9940B tapes ready to be allocated.</p> <p>The roadmap for future milestones for purchasing Tape is still to be defined with more detail, waiting for deciding on which tape and library technology to go for.</p> <p>CPU: The roadmap for future milestones for purchsing CPU is still to be defined with more detail. Waiting for the outcome of the discussions on which is the most appropriate benchmark unit to measure</p>

24x7 Support	Currently studying the proper and legal way to pay extra hours to personnel to be able to implement on-call shifts mechanism. Procedures definition paused until this legal issue is clarified.							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status				Comments			
ALICE								
ATLAS	in production				A second server was reserved since months now for the new version deployment, but this never happened. The new version deployment seems to be happening at CERN. We would like ATLAS tells us as soon as they can whether they decide to stop the vbox service at the T1s.			
CMS	in production							
LHCb	in production							
Capacity Available at the End of the Quarter								
CPU	Disk	N => D	Tape	N => T	Comments			
kSI2K	TB	MB/s	TB	MB/s				
510	70		161					
Outstanding Issues since Last Report								
As outstanding issues for this quarter we might mention two, already described above:								
<p>1- Concerns about the complexity of castor2 (too complex for the PIC size?) and the difficulty to get it running in a somewhat stable mode, given its continuous development. In Q1-2007, decided to explore an alternative solution based on dcache+enstore. Planning to decide on the final system by end April 2007. We are aware of the criticality of this system, this is the reason why we launched a plan-b exploration last quarter. Whatever is the outcome of our final choice, we will put all of our "storage" effort on deploying it and decommission the alternative (note that we are currently running castor1 and dcache in production for tape and disk, respectively)</p> <p>2- The definition of 24x7 procedures is stopped at this moment, waiting for the outcome of the exploration of the legal issues to be able to establish on-call shifts with the current PIC staff. This is resulting more complex than foreseen, given that the PIC staff is hired through two different legal entities: IFAE and CIEMAT.</p>								
Milestones Changes and Actions								
Milestone changes already documented in the respective "comments" column.								
New Milestones for Future Quarters								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
PIC-07-41	19.02.07 01.05.07	Lambda Geneva-Madrid operational					delayed 01/05/2007	RedIRIS informs us that this part of the path PIC-CERN, under the GEANT2 management domain, will be operative from end-April.
PIC-06-49	20.12.06 01.04.07 01.05.07	Disk capacity upgrade deployed					delayed to 01/05/2007	Targeting total disk capacity 180TB. The new disk servers were received by mid-march. Currently undergoing testing. To be deployed in production in the next days (start of May)
PIC-07-42	28.02.07 15.05.07	WAN: ANELLA 10Gbps dedicated lambda operational					delayed to 15/05/2007	Finally, on the first week of January 2007 we get written confirmation that the "last mile" 10Gbps connection has been ordered to the network provider company. From this moment, a fixed time period of 18 weeks seems to be needed until the actual delivery of the link.

PIC-06-41	01.12.06 15.02.07 01.06.07	24x7 site procedures and concepts defined and documented				delayed 01/06/2007	The manpower to perform this task could not be allocated yet.
PIC-06-37	15.10.06 15.02.07 15.06.07	Demonstrate automation of error recovery on FTS/SRM transfers using INGRID				delayed to 15/06/2007	Some automatic FTS error recovery has been tested, but the integration with the SRM endpoints monitoring is still pending. So far the only sustained FTS transfers have been intensively tested with the CMS Spanish T2s starting on March 2007. We need to accumulate some experience in constant FTS transfers running before start implementing automatic recovery procedures.
PIC-07-43	30.03.07 15.06.07	WAN: LHC OPN @ PIC in production				delayed to 15/06/2007	Mistake from previous QR. The due date for this milestone should have been delayed until one month after we get the 10GE at PIC (PIC-07-42).
PIC-06-24	01.11.06 30.03.07 15.06.07			300		delayed to 15/06/2007	The deployment of RedIRIS-10 (PIC-06-23) does not increase the WAN input at PIC. Last mile still missing. Delayed till PIC-07-43 is done.
PIC-07-17	15.05.07	Place order for disk expansion				delayed to 30/04/2006	Direct purchase targeting to reach at least the Jul-07 pledge target of 218TB.
PIC-07-23	01.06.07	Place tender for disk expansion				reviewed in Q1-2007	Target total disk capacity 390TB
PIC-07-20	30.06.07	Disk capacity upgrade deployed				reviewed in Q1-2007	Total disk capacity 220TB
PIC-07-22	30.06.07	Place tender for cpu expansion					Target total CPU capacity 790ksi2k
PIC-07-24	30.06.07	Place tender for tape expansion					Target total tape capacity 470TB
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations					
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations					
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes					
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment					
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published				done 05/04/2007	JPWG guidelines implemented in production and published in the IS through VOviews. For the moment, the 80% for atlas-production is implemented. In contact with CMS and LHCb to try and get from them their specific JP needs.

WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.		
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
PIC-07-44	30.01.07 15.08.07	LCG-3D hardware purchased	moved to 15/08/2007	A test instance using hardware already at PIC has been deployed on March 2007. It will be used for the tests before summer and a tender to buy the definitive hardware will be launched in parallel.
PIC-07-2	01.03.07 15.05.07 15.07.07	24x7 monitoring and support operational	delayed to 15/07/2007	Delayed due to PIC-06-41
PIC-07-3	15.04.07 01.09.07	24x7 support scenarios verified and tested	delayed to 01/09/2007	Delayed due to PIC-06-41
PIC-07-1	30.03.07 01.10.07	Stop Castor1 service for LHC experiments	delayed to 01/10/2007	Final decision on the MSS sw to be adopted to be taken in Apr-2007. After this, let some months to allow experiments to migrate their valuable data to the new system. New final date to completely stop castor1 service for LHC experiments set to 1-Oct-2007.
PIC-07-32	15.07.07	Place tender for disk expansion	reviewed in Q1-2007	Target total disk capacity 560TB. Tender might be not needed if direct purchase from CIEMAT.
PIC-07-25	15.08.07	Place order for cpu expansion		
PIC-07-26	15.08.07	Place order for disk expansion	reviewed in Q1-2007	PIC-07-23 ordered
PIC-07-27	15.08.07	Place order for tape expansion		
PIC-07-35	01.09.07	Place order for disk expansion	reviewed in Q1-2007	PIC-07-32 order. May be direct purchase through CIEMAT.
PIC-07-28	30.09.07	CPU capacity upgrade deployed		Total CPU capacity 790ksi2k
PIC-07-30	30.09.07	Tape capacity upgrade deployed		Total tape capacity 470TB

PIC-07-51	01.10.07	Place tender for disk expansion	reviewed in Q1-2007	Target total disk capacity 730TB.
PIC-07-31	20.10.07	Place tender for cpu expansion		Target total CPU capacity 1080ksi2k
PIC-07-33	20.10.07	Place tender for tape expansion		Target total tape capacity 700TB
PIC-07-34	20.11.07	Place order for cpu expansion		
PIC-07-36	20.11.07	Place order for tape expansion		
PIC-07-29	15.12.07	Disk capacity upgrade deployed	reviewed in Q1-2007	PIC-07-23 deployed. Total disk capacity 390TB. Plan to receive hw by 15-Sep. Target to have it in production before Christmas.
PIC-07-37	20.12.07	CPU capacity upgrade deployed		Total CPU capacity 1080ksi2k
PIC-07-38	20.12.07	Disk capacity upgrade deployed	reviewed in Q1-2007	PIC-07-32 deployment. Total disk capacity 560TB
PIC-07-39	20.12.07	Tape capacity upgrade deployed		Total tape capacity 700TB
PIC-08-01	15.01.08	Place order for disk expansion	reviewed in Q1-2007	PIC-07-51 order
PIC-08-03	01.02.08	Place order for disk expansion	reviewed in Q1-2007	Target total disk capacity 850TB. Tender might be not needed if direct purchase from CIEMAT.
PIC-08-02	15.03.08	Disk capacity upgrade deployed	reviewed in Q1-2007	PIC-07-51 deployed. Plan to receive hw by 15-Feb-2008. Total disk capacity 730TB.
PIC-08-04	01.04.08	Disk capacity upgrade deployed	reviewed in Q1-2007	PIC-08-03 deployed. Total disk capacity 850 TB.

Comments and Additional Information

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QUARTERLY STATUS REPORT								
Project Name					Date			
RAL					31.03.2007			
Report Period					Author Name			
2007Q1					Andrew Sansum			
Milestones for the Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
RAL-30	15.02.06 16.12.06 31.03.07	dCache Upgraded to support SRM 2.1. (dCache continues to back end into RAL ADS tape system)					Closed	We expect a release of dcache supporting SRM 2..x later in the year. Once it is available we will upgrade in a timely manner. [Oct06] It seems increasingly unlikely that we will receive a new release of dcache in time to allow sufficient testing to reach the target date.
		[Jan07]dCache 1.7 was released in October, however effort to carry out the upgrade was not available after the departure of one member of staff and a change in priorities within the Grid Services team as we prioritised CASTOR and reliability and availability of the Grid infrastructure over dCache enhancements. SRM 2.2 is already available on our new CASTOR service.[Apr 07]dCache has been upgraded to version 1.7 but it does not offer the full SRM 2.2 functionality. We do not now expect to run a full SRM 2.2 implementation on dCache and the item has been closed.						
RAL-63	2007Q1 15.7.07	Installation of UPS for a rack of critical servers					Delayed	This was not considered a priority and the work was delayed as effort was committed to disk rollout and starting new staff in post.
RAL-57	15.08.06 15.04.07	980	223	300	664	310		This level of Cpu and disk resource is expected to be allocated in April although we have not received requests for tape capacity at this level.
RAL-66	14.12.06 14.06.07 30.05.07	Service running SL4					Ongoing	We will review this date in the light of timelines for middleware support of SL4 and project requirements
		[Oct06] In the absence of a planned date for the release of the middleware - the target date looks increasingly unlikely. [Jan07]Lacking a timetable for the middleware supporting SL4 it is impossible to accurately schedule this task. [Apr07]Now rescheduled to have a trial service available by end of May. We can not meet a WLCG timetable of 30 days for this work (WLCG-07-11)						
RAL-68	14.12.06 31.03.07 31.06.07	RAL attached to SuperJanet 5 commodity network at 10Gb/s. Tier-1 able to obtain approximately 50% of total available bandwidth.					Delayed	Connection of RAL to SJ5 was delayed after UKERNA decided to connect RAL resiliently direct to the SJ5 backbone rather than via our TVN regional network.
		[Apr 07]RAL is now routing Tier-2 traffic over the 10Gb production SJ5 links. There remains a bottleneck of 1Gb/s between the main site router the T1 is connected to and the SJ5 site access router. This is planned to be upgraded to 2Gb (for the T1) before the end of April and a 10Gb bypass put in place within a few months (exact schedule yet to be confirmed).						

RAL-71	30.10.06 28.02.07 31.05.07	24x7 Site procedures and concepts Defined and documented					Delayed	This work has been delayed as insufficient effort was available owing to the late disk migration and need to handle 3 new staff starting.
RAL-72	30.11.06 31.03.07 31.06.07	24x7 Monitoring and Support operational					Delayed	This work has been delayed as insufficient effort was available owing to the late disk migration and need to handle 3 new staff starting.
RAL-73	31.12.06 31.05.0 31.07.07	24x7 Support Scenarios Verified and tested					Delayed	This work has been delayed as insufficient effort was available owing to the late disk migration and need to handle 3 new staff starting.
RAL-69	14.01.07	Nominal date for GRIDPP3 approval					Complete	GRIDPP3 has been approved. Tier-1 staffing is planned to increase by approximately 4 FTE from April 2008. Reasonable success has also been achieved wrt hardware budget, but we are now working through the capacity planning to make new estimates of what we can deliver to WLCG.
RAL-58	15.09.06 15.03.07	2nd Disk Upgrade (300TB) In Production					Complete	Equipment has been installed (November) and vendor testing has been completed (after having to resolve similar problems with the drives similar to previous delivery). Our acceptance tests are running and we are on track to meet our target date of March.[Apr 2007]Completed
RAL-07-01	15.01.07	775	171	150	286	150	Completed	Allocation to LHC experiments by the GRIDPP user board for January 2007. It fully meets all LHC experiment requests received. [Apr 07] Completed in March
RAL-07-02	31.01.07	3rd Disk Upgrade (200TB) Received					Completed	Equipment is scheduled for delivery on 17th January [Apr 07]Completed
RAL-07-03	15.02.07	735	186	300	298	150	Completed	Allocation to LHC experiments by the GRIDPP user board for February 2007. It fully meets all LHC experiment requests received. [Apr 07]Completed in March
RAL-07-04	15.03.07	736	221	300	311	150	Completed ?	Allocation to LHC experiments by the GRIDPP user board for March 2007. It fully meets all LHC experiment requests received.[Apr 07]Completed in early April. Bandwidth to disk has not been tested at 300MB/s but is theoretically possible given the number of disk servers now available. Need combined experiment tests of CASTOR to demonstrate this.

RAL-07-05	31.03.07	3rd Disk Upgrade (200TB) in production	Completed	As this delivery is identical to previous hardware we expect deployment to be fast[Apr 2007]Completed
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm		Now scheduled for end of may 2007
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.	Completed ?	Accounting data is published in APEL. At present our reporting is from our own internal accounting system. We understand that the second part of this milestone will be completed centrally.
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)	Completed	Oracle service is in production. We believe that the experiments are satisfied with the RAL configuration.
Summary of Progress				
General Status	Work has focused on deploying the new disk capacity, getting the CASTOR service fully operational and addressing problems impacting our SAM availability.			
Middle ware Services	No major changes. Work continues to improve availability. Problems with UK top level BDII were resolved by increasing the numbebr of BDII servers from 1 to 3.			
CPU Farm	Nothing to report			
MSS	CASTOR deployment is not going well. Although from time to time CASTOR works well for CMS and we have begun to test both ATLAS and LHCb we have a number of major outstanding issues and bugs that we have not been able to resolve. We have so far failed to deploy a new release of CASTOR on our test platform that passes all tests (since before Christmas) - we believe we should have a new release working soon. We are also increasingly concerned about the lack of support for d1t0 (which has major cost and performance implications for us) and perceive that CERN's priorities lie elsewhere than addressing this issue. Although we are continuing to work to get a fully functional CASTOR deployed we are also beginmning to consider alternative products. All outstanding issues with our disk hardware have been resolved.			
WAN OPN	RAL has just connected to SJ5 production network at 10Gb/s. Tier-1 bandwidth to SJ5 is limited to 1Gb/s because of our path through the firewall. This will be upgrade to 2Gb/s in April and we expect a bypass to be put in place to give us 50% share of 10Gb access by the end of June.			
FTS	No major issues with current service. We plan to take part in beta tests of the most recent release.			
3D DB Services	In production. Presently short on disk capacity for conditions data after demand was much higher than expected. We plan to borrow additional xcapacity until we can purchase more.			

Procurement	We completed small procurements of 3 additional T10K drives (total now 6) and a further 350TB of media. These procurements were agreed in January and do not appear in the Q4 report. We are beginning planning for procurements for H/W to meet 2008 requirements - no firm schedule exists yet.							
24x7 Support	We have not been able to schedule this work. Effort was not available because of the workload relating to the disk and CASTOR deployment and the effort needed to support a further 3 new staff starting.							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status		Comments					
ALICE	?		No status available until 17th April					
ATLAS	?		No status available until 17th April					
CMS	OK		Up to date - recently moved to new hardware					
LHCb	?		No status available until 17th April					
Capacity Available at the End of the Quarter								
CPU	Disk	N => D	Tape	N => T	Comments			
kSI2K	TB	MB/s	TB	MB/s				
Outstanding Issues since Last Report								
Our major concern is our inability to deploy a CASTOR service that meets the needs of the experiments								
Milestones Changes and Actions								
References and Hyperlinks								
Milestones for Next Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
RAL-66	14.12.06 14.06.07 31.05.07	Service running SL4						We will review this date in the light of timelines for middleware support of SL4 and project requirements [Oct06] In the absence of a planned date for the release of the middleware - the target date looks increasingly unlikely.[Jan07]Lacking a timetable for the middleware supporting SL4 it is impossible to accurately schedule this task.[Apr 07]Now plan to complete this earlier than expected.
RAL-75	18.12.06 30.06.07	1300	151	150	236	75		There is insufficient allocation of CPU to meet this milestone until June 2007. However sufficient physical capacity exists and if demand is sufficient it may be demonstrated in January. Disk and Tape capacity should be met in January.
RAL-76	31.03.07 30.06.07	1300	640	300	1080	150		This capacity will only be deployed at this time if real experiment demand exists.
RAL-77	6 weeks after release for production	gLite CE deployed					ongoing	We will deploy a gLite CE within 6 weeks of it being released as fit for production. [Jan07]We have commenced a test deployment of gLite but have no schedule yet to deploy it into the production service.

RAL-07-06	15.04.07	926	290	150	360	150		Allocation to LHC experiments by the GRIDPP user board for April 2007. It fully meets all LHC experiment requests received.	
RAL-07-07	15.05.07	810	316	300	384	150		Allocation to LHC experiments by the GRIDPP user board for May 2007. It fully meets all LHC experiment requests received.	
RAL-07-08	15.06.07	810	322	300	390	150		Allocation to LHC experiments by the GRIDPP user board for June 2007. It fully meets all LHC experiment requests received.	
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations							
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations							
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes							Will not be done until the end of May
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment							Will not be done until the end of June
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published					complete		
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.							
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.							
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.							

WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT								
Project Name						Date		
TRIUMF						31.03.2007		
Report Period						Author Name		
2007Q1						Reda Tafirout		
Milestones for the Quarter							Status	Comments
ID	Date	CPU kSI2K	Disk TB	N => D MB/s	Tape TB	N => T MB/s	Status	Comments
TF-06-24	22.12.06	24/7 Site Procedures and Concepts Defined and Documented				Done	Completed, but the document will evolve with time.	
TF-07-01	31.01.07	additional storage / dCache servers (add 12 TB)				Done	expand storage capacity by an additional 12 TB to suit ATLAS needs	
TF-07-02	15.02.07	24/7 Monitoring and Support Operational				ongoing		
TF-07-03	01.02.07	Infrastructure work / renovation				ongoing	start of infrastructure work to host the Tier-1 centre for computing resources of 2007 and beyond. Infrastructure work to be completed for July. An innovative cooling solution was ordered.	
TF-07-04	30.02.07	24/7 Support Scenarios Verified and Tested				ongoing		
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm				Done		
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.				Done		
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)				Done	Oracle RAC in place and tested. Streaming tests from CERN successful. Not fully certified by ATLAS. Plan is for April.	
Summary of Progress								
General Status	Grid services have been provided with a high availability and reliability for ATLAS production in general. Our site reliability and availability is somewhat satisfactory when compared to the overall but still needs improvements. Not all SAM failures are single ended so a significant number of them is also due to CERN (e.i. Timeouts to sam-bdii.cern.ch). We are still improving our monitoring suites.							
Middle ware Services	During this quarter we have done two upgrades: Glite 3 update 15 and 18. We also deployed a new SRM node with a better hardware and upgraded to the latest dCache version (1.7).							

CPU Farm	No changes on the CPU side. We added some queue sharing to take into account the Canadian ATLAS VO role, which was recently created.	
MSS	Worked on various improvements to our HSM/tape interface with our dCache system. We are now writing data to tape in a permanent way. Although we have at the moment two small tape libraries with a total online capacity of only 12 TB, the HSM interface that was developed will be effectively used on the larger system that will be acquired during the summer. We are working right now on a version that would re-order tape staging requests for a higher efficiency (this will be important for data reprocessing).	
WAN OPN	We are now using a 5 GigE link between TRIUMF-CERN as our dedicated production LHC OPN link. We have also a backup 1 GigE link as a failover which was successfully tested. We have also 3 dedicated 1 GigE links to our Canadian Tier-2 centres.	
FTS	FTS is fully configured with various production channels, all being used and working properly. FTS server machine is using a local Oracle DB which will be eventually moved to the Oracle RAC sometime in the late summer or fall.	
3D DB Services	Oracle RAC solution fully configured and tested. Few streaming tests were conducted by CERN 3D team. Results are satisfactory at present. The current load and functionality of FTS service is satisfactory.	
Procurement	We've added ~12 TB on February 1st to our dCache production system. We added 2 file servers with direct attached disks.	
24x7 Support	We have now a document describing our monitoring system and various procedures to be followed. The document will mature as we acquire more hardware.	
Other	With respect to the ATLAS computing model, about 4-5 TB of AOD data have been replicated to TRIUMF.	
VO Boxes Installations at the End of the Quarter		
VO	Status	Comments
ALICE	Na	Experiment not supported
ATLAS	In production	Latest DDM software installed (done automatically). VOBOX service running stably.
CMS	Na	Experiment not supported
LHCb	Na	Experiment not supported

Capacity Available at the End of the Quarter						Comments		
CPU	Disk	N => D	Tape	N => T				
kSI2K	TB	MB/s	TB	MB/s				
305	24	250	12	50	KSI2K numbers are as of what is provided by vendors on spec.org. We are quoting this capacity until a new unit is worked out by the benchmarking working group.			
Outstanding Issues since Last Report								
Milestones Changes and Actions								
References and Hyperlinks								
New Milestones for Future Quarters						Status	Comments	
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
TF-07-04	July 2007	Hardware acquisition to meet MoU target for 2007					To be configured and put into production in July 2007. Request for Proposal issued March 27 for first major computing hardware purchase.	
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations						
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations						
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade,						
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment						
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published						
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.						
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WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		
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WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT								
Project Name						Date		
BNL - US ATLAS						31.03.2007		
Report Period						Author Name		
2007Q1						Michael Ernst		
Milestones for the Quarter								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
UA-29	15.08.06 15.12.06 1.3.07	Demonstrate sustained T1/T2 DQ2/FTS based transfers at required rates for first 3 Tier 2's					Delayed	Sustained transfers have been done but not at final required rates
UA-31	08.9.06 31.03.07	Establish automated accounting reporting					Completed	Done via OSG
UA-32	22.09.06 31.10.06	Establish production 3D service					Completed	Scheduled by central 3D project for Oct
UA-36	1.12.06	Complete revision of site capacity evolution in context of new LHC schedule requirements					Completed	Results of this will establish the scale of procurments below
UA-53	15.11.06 1.3.07 30.6.07	Complete physics infrastructure specification and planning					Delayed	Specification of infrastructure requirements is complete but the Laboratory planning process continues
UA-07-01	1.1.07 1.4.07 30.6.07	24x7 Monitoring and Support Operational					Delayed	A result of delays in the above documentation and in hiring in support of this activity
UA-07-02	1.2.07 30.6.07	24x7 Support Scenarios Verified and Tested					In Progress	Scoped out relevant scenarios and began testing of procedures in the area of grid and storage services
UA-07-03	1.1.07	Begin Procurement of MSS upgrade including disk cache, tape drives and servers					Completed	
UA-07-04	1.1.07	Begin Procurement of LAN upgrade					Completed	
UA-07-05	1.2.07	Begin Procurement of CPU/dCache disk upgrade					Completed	
UA-07-06	1.2.07 31.7.07	Begin Procurement of central disk upgrade					Delayed	Dependent on results of storage evaluation project. BNL has products from several vendors installed and is running a comprehensive evaluation program
UA-07-07	1.2.07	MSS upgrade order placed					Completed	
UA-07-08	1.2.07	LAN upgrade order placed					Completed	
UA-07-09	1.4.07	CPU/dCache disk upgrade order placed					Completed	Adds 850kSI2k
UA-07-10	1.4.07 31.7.07	Central disk upgrade order place					Delayed	see UA-07-06

UA-07-11	1.4.07	Complete physics infrastructure installation and commissioning					Completed	Plan has been completed and presented to BNL
UA-07-12	1.3.07 30.4.07	MSS upgrade installed					Delayed	Order has been placed, delivery expected by 15
UA-07-13	1,4,07 15.5.07	MSS upgrade operational					Delayed	Equipment is expected to be operational by 1 May
UA-07-14	1.3.07 15.5.07	LAN upgrade installed					Delayed	Expected date is 15 May
UA-07-15	15.5.07	LAN upgrade operational					Delayed	Expected date is 15 May
UA-07-23	31.03.07 15.6.07	2560	1100	400	603	400	Delayed	Due to "Continuing Resolution" budget became available end of February
	01.04.07	2558	1108	200	603	200	Delayed	
IS-3	01.04.07	LHC Service Commissioned						
WLCG-07-01	Feb 2007 May '07	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm					Delayed	Work in progress. 24x7 support is in place for RHIC, existing procedures are being extended for specific ATLAS needs. Expected to be complete by 30 Aril
WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.					Completed	Accounting data is collected, partitioned into 4 categories and published in APEL
WLCG-07-09	Mar 2007 Apr '07	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)					Delayed	Installation & configuration completed by 5 April. Tests conducted by 3D project are successful
Summary of Progress								
General Status	Very stable operation of processing services w/ contribution to ATLAS Production exceeding obligation (23% vs. 28%). Significant improvement of data transfer services (SRM/dcache) achieved, more improvements expected in the next quarter. Besides contribution to ATLAS production started to focus on developing solutions for efficient AOD analysis. Set up a xrootd testbed as an integral part of the BNL disk storage system, populated it with AOD data and work with U.S. ATLAS Software Group to set up an analysis environment that can be utilized by Physicists.							
Middle ware Services	Stable running of all components (except LCG CE that was dropped since only OSG CE is utilized) towards the end. Major improvements to the SRM server were needed to arrive at good stability and performance under high load situations							
CPU Farm	End of Feb: Farm was upgraded to SL4; Condor was upgraded to version 8.6 + a security patch was installed. Interoperability problems were observed with the LCG-CE resulting in SAM failiures. Agreed in the MB to take off the CE from the list of components to be tested until OSG provides a compliant test suite.							
MSS	Throughput tests to HPSS/tape were conducted in conjunction with ATLAS Tier-0 distribution exercise. Rates of up to 370 MB/s were achieved, some scalability problems were observed. Improvements to the mover backend network were made, the core server will be upgraded in May. dCache was upgraded to version 1.7 at the end of January. After the upgrade until early March the SRM service was observed to be slow and unstable. Analyzing the situation at BNL in close cooperation with the dCache developers at DESY and Fermilab resulted in a fix that was made available to all LCG centers using dCache by mid March.							

WAN OPN	BNL is connected via two wavelength at 10 Gbps each. One is used for transfers to/from CERN via OPN, the second for connections between the US ATLAS Tier-1 center, other Tier-1 centers and the U.S. Tier-2 centers. Apart from the outage at CERN in March both links have shown excellent stability.							
FTS	Issues with Oracle performance observed after upgrade in February. Seem to be solved. Now working well under high load conditions.							
3D DB Services	New hardware became only available in late March due to budget constraints. Currently under test by 3D group at CERN. Performance tests show a rate >160 Hz.							
Procurement	Procurement started late because of budget constraints. Will add 1MSI2k and 450TB (gross) by 15 May, 1PB of tape storage (robot slots + media) by 1 May							
24x7 Support	Work in progress. Building on support as defined for RHIC experiments, with extensions specific to ATLAS. A framework for automation is in place. Specific sensors for middleware services have been developed or are under development.							
Other								
VO Boxes Installations at the End of the Quarter								
VO	Status			Comments				
ALICE								
ATLAS	In Operation							
CMS								
LHCb								
Capacity Available at the End of the Quarter								
CPU	Disk	N => D	Tape	N => T	Comments			
kSI2K	TB	MB/s	TB	MB/s				
1624	520	200	600	200				
Outstanding Issues since Last Report								
No Issues								
Milestones Changes and Actions								
No change - several delays								
References and Hyperlinks								
New Milestones for Future Quarters								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
UA-07-16	1.6.07	CPU/dCache disk upgrade installed						
UA-07-17	15.6.07	CPU/dCache disk upgrade operational						
UA-07-18	1.6.07	Central disk upgrade installed						
UA-07-19	1.6.07	Central disk upgrade operational						
UA-07-20	1.6.07	1800	1000	200	700	200		Required 2007 capacities
UA-07-21	1.4.07	Expanded group/role and job priorities operational available on site batch system						

UA-07-22	1.4.07	OSG version of accounting reporting replaces current automatic accounting reporting to APEL		
UA-07-23	1.7.07	Start of ATLAS Full Dress Rehearsal		
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations		
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations		
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc)		
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment		
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published		
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job Priorities in use by the VOs.		
WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
WLCG-07-11	Depl Date + 30d	SL4 Operational at Site (for WN and UI nodes) This has to happen within 30 days after the release from GD.		
WLCG-07-12	Jun 2007	Site Reliability above 91% Considering each 11 Tier-1 sites		
WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT									
Project Name					Date				
FNAL - US CMS					31.03.2007				
Report Period					Author Name				
2007Q1					Ian Fisk				
Milestones for the Quarter									
ID	Date	CPU	Disk	N => D	Tape	N => T	Status		
		kSI2K	TB	MB/s	TB	MB/s			
UC-06-15	01.07.06	Second 10Gb/s Research lambda to StarLight					Complete	First 10Gb link was saturated for periods of time.	
UC-06-17	01.09.06-31.10.06	CSA06 Challenge					Completed	Challenge metrics met. FNAL fully participated.	
UC-06-18	01.09.06	Commissioning of STK SLA8500 LTO3 Drives					Completed	Robot was commissioned during CSA06. 200MB/s to tape during first two days.	
UC-06-19	31.10.06	User Disk: 12 TB managed + 12 TB physics space					Completed	BlueArc based solutions continues to function and scale well	
UC-06-20	11.01.06	Increase in Facility Operations Support					Delayed	Position requisitions have been approved. Interviewing candidates	
UC-06-21	11.12.06	Completion of CSA06					Completed	CSA06 experience note exists	
UC-06-22	11.21.06	Commission final 300TB of 2006 disk procurements in the dCache system					Completed	700TB are now in operations	
UC-06-24	30.11.06	50% complexity on facility resources and services					Completed	2MSI2k, 700TB of disk, and new robotic storage	
UC-06-23	01.03.07	Benchmarking of CPUs for 2007 Procurement					In progress. Expected April 20	We need a new CMS application benchmark	
UC-06-25		Transition to 24/7 Operations Support					Completed	Paging for critical services	
2007									
	01.01.07	1800	696+100 resilient	750	750	7 drives for CMS + 24 shared			
	01.04.07	1790	700	200	300	200		From MoU - do not edit	
US-CMS 7-1	1.1.07	Implement roles groups and priorities in batch system					Completed. CMS software and cmsproduction roles in place with appropriate priority		
US-CMS 7-2	1.3.07	Automatic Accounting publication					Accounting reporting to APEL, but connection to GOCDB		
US-CMS 7-3	1.4.07	Ready for Global data taking in CMS						Global data taking is expected to begin in May	
US-CMS 7-4	1.4.07	Tape writing tests						Coordinated CERN to FNAL tape writing tests. Met 65% of 2008 rate metrics	
WLCG-07-01	Feb 2007	24x7 Support Definition Definition of the levels of support and rules to follow, depending on the issue/alarm						Alarm conditions for FNAL are defined	

WLCG-07-08	Mar 2007	Accounting Data published in the APEL Repository The site is publishing the accounting data in APEL. Monthly reports extracted from the APEL Repository.		APEL publishing is functional at FNAL, but connection to GOCDB is currently not successful for FNAL. Under investigation
WLCG-07-09	Mar 2007	3D Oracle Service in Production Oracle Service in production, and certified by the experiment(s)		

Summary of Progress

General Status	Tier-1 farm made good progress through the quarter. Resources are being used for simulation by CMS, transfer tests to and from FNAL are at the scale expected, and the user community is increasing.
Middle ware Services	We ran into scaling problems on our single grid gatekeeper. We are adding a second gatekeeper
CPU Farm	The 1800 batch slot farm is functioning though scaling issues are observed. Maintaining up-to-date batch system releases. We expect to increase the scale by 50% over the summer.
MSS	STK8500 robots and LTO3 drives are functioning well.
WAN OPN	With the exception of a CERN problem during March the network connection and transfer rate on the OPN is working as expected.
FTS	We are in the process of reconfiguring the channels for CMS.
3D DB Services	Frontier functioning properly
Procurement	Procurement of quad-core systems is expected this spring.
24x7 Support	We have the occasion monitoring failure which prevents an off-hour page, but in general the 24x7 support is functional.
Other	

VO Boxes Installations at the End of the Quarter

VO	Status	Comments
ALICE		
ATLAS		
CMS	Operational	PhEDEX and Frontier CMS services are operational
LHCb		

Capacity Available at the End of the Quarter

CPU	Disk	N => D	Tape	N => T	Comments
kSi2K	TB	MB/s	TB	MB/s	
2MSi2K	700	500	500	200	

Outstanding Issues since Last Report								
Milestones Changes and Actions								
References and Hyperlinks								
Milestones for Next Quarters								
ID	Date	CPU	Disk	N => D	Tape	N => T	Status	Comments
		kSI2K	TB	MB/s	TB	MB/s		
US-CMS 7-5	1.7.07	Facility Ready to accept Pilot Run Data						
US-CMS 7-6	1.6.07	Beginning of CSA07						Preparation during June
US-CMS 7-7	1.9.07	3900	1500	500	3000	300		End of Facility Procurements for pilot run
US-CMS 7-8	1.8.07	Completion of CSA07						Measured challenge metrics for 30 days
US-CMS 7-9	1.10.07	Participating in MTCC3						Magnet test and cosmic challenge
US-CMS 7-10	15.12.07	Pilot Run						
WLCG-07-02	Apr 2007	24x7 Support Tested Support and operation scenarios tested via realistic alarms and situations						
WLCG-07-03	Jun 2007	24x7 Support in Operations The sites provides 24x7 support to as standard operations						
WLCG-07-04	Apr 2007	VOBoxes SLA Defined Sites should propose and agree with the VO the level of support (upgrade, backup, restore, etc) of VOBoxes						
WLCG-07-05	May 2007	VOBoxes SLA Implemented VOBoxes service implemented at the site, and tested by the Experiment						
WLCG-07-06	Apr 2007	Job Priorities Available at Site Mapping of the Job priorities on the batch software of the site completed and information published						
WLCG-07-07	Jun 2007	Job Priorities of the VOs Implemented at Site Configuration and maintenance of the jobs priorities as defined by the Vos. Job						

WLCG-07-10	May 2007	3D Conditions DB in Production Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the experiments.		
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WLCG-07-13	Jun 2007	Best 8 Sites above 93% Eight sites should reach a reliability above 93%		
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name			Date	
Applications Area			31.3.2007	
Report Period			Author Name	
2007Q1			Pere Mato	
Milestones for the Quarter			Status	Comments
SPI				
SPI-8	31.12.06 15.02.07	Move the build infrastructure of the LCG AA projects from scram to CMT. Discuss with the experiments their needs in terms of modularity for the packages provided in LCGCMT.	Completed	The move of the LCG AA projects to CMT is finished. Verification for the MAC OSX platform from the projects is pending. Discussion with the experiments have started, an initial document summarising the needs will be prepared.
SPI-10	31.03.07 30.06.07	Move the HyperNews service and the remaining web pages from lcgapp to new server hardware.	Rescheduled to next quarter	In connection with the re-organisation of the SPI project, also the web pages fed from lcgapp will be changed. This will happen during this quarter. Hypernews, being a high availability service, needs careful planning for the move. The meetings with the responsible persons to do that are set up and the move shall also happen during this quarter.
ROOT				
ROOT-7	31.10.06 30.03.07	Complete the merge of SEAL and ROOT functional components into a single set of libraries. All the functionality provided by the existing SEAL libraries will be available in the new set of libraries.	Completed	A plan for the migration of the remaining functionality has been discussed with the experiments and the AA projects and has been agreed. New plugin service was released in ROOT end of 2006. Nothing else is needed from ROOT in order to complete the merge.
ROOT-5	31.03.06 31.03.07 30.06.07	The Python interface to ROOT (PyROOT) adapted to directly use the new C++ reflection library (Reflex). This would avoid the intermediate software layers and additional dependencies of the current implementation, improving the overall design and maintainability.	In progress. Rescheduled.	A basic implementation of PyROOT that can use Reflex directly has been released. This implementation can handle simple concepts such as builtins, object instantiation, class methods, etc. It also lays the groundwork on which the other functionality will be build.
ROOT-14	31.03.07 30.09.07	Improvements in the PROOF system to allow generic parallel processing and the introduction of resource scheduling.	In progress. Rescheduled.	The GUI controller is constantly updated to support the new functionality provided by the API. A priority-based worker-level scheduler allowing to guarantee resource quotas to group of users is under test by ALICE. A prototype for a central scheduling framework based on an abstract interface is expected by end of May, with concrete implementations based on MAUI and LSF. Full support for TTree-independent analysis and for dynamic selection of feedback objects are expected by the Summer.
ROOT-15	31.03.07 30.09.07	The next Cint release (7.1) will use Reflex for storing all data member and function members as well as relying on Reflex::Type for storing types.	In progress. Rescheduled.	The intermediate release CINT 7.0 uses Reflex to store typedef and contextual parser information; CINT 7.1 is well underway (all data but class types are stored by reflex). CINT's data structures are expected to be fully converted in 6 months. Additional development needs are foreseen because Reflex does not yet support required features like pruning of dictionary data (cf. re-loading of macros), dictionary initialization on demand (cf. memory usage), support of friendship, storage of declaration location; name lookup speed needs to be drastically improved. This has to be implemented despite of the reduction of the development team by 1 FTE.

POOL				
POOL-3	30.08.06 31.12.06 31.02.07	Finalize the migration POOL/CORAL to the new platforms (MacOSX, SLC4_amd64) with regular builds, and full running of the functional and data regression tests. Migration to scram v1	Completed	Regular builds for slc4_amd64 exist for CORAL and POOL as of versions 1.4.1 and 2.4.2 respectively. The support of MacOSX will arrive as soon as the underlying externals become available (expected date 31.02.07). Migration to scram v1 has been replaced last quarter by the AF decision to move POOL and CORAL to CMT based builds. This is reflected by the new milestone POOL-9.
POOL-6	31.12.06 31.01.07	Make all CORAL components thread-safe.	Completed	The work started with updates in the SEAL component model to make sure the problems manifesting in multi-threaded applications are fixed. CORAL has been updated to allow the switching off of the "cleanup thread" in ConnectionService, in case the problems still persist. The high level CORAL services (ConnectionService, RelationalService) have been already made thread safe, as well as the high level classes (up to ISchema) in OracleAccess. The relevant system test is exercising the relevant use cases defined by the experiments (mainly ATLAS online) are passing and the new functionality has been released with CORAL 1.7.0.
POOL-8	31.03.07	Provide schema evolution for relational data according to a priority list of required use cases provided by the experiments.	In progress	The time this milestone is expected needs to be confirmed by the feedback from the experiments.
POOL-9	31.01.07	CMT migration finished for POOL/CORAL	Completed	The migration has been achieved with CORAL 1.7.0 and POOL 2.5.0. In addition, both CORAL and POOL have been integrated into the AA nightly build system, which involved migrating all integration and system tests to the use of Qmtest, while the POOL regression tests are still pending (see POOL-11)
POOL-10	31.03.07 31.05.07	POOL and CORAL independent from SEAL	In progress. Rescheduled.	Following a AF decision the few parts from SEAL which are used by POOL and CORAL will be moved as internal component (no direct use by the experiments) into the Persistency Framework project scope. The work of migrating the code has already started. A prototype release is expected by 31.05.07, followed by a production release on 31.06.07.
COOL				
COOL-4	30.06.06 30.09.06 31.12.06 31.03.07 30.06.07	Support for multi-channel bulk insertion operations. This task requires the implementation of a channels table, which is also needed for channel name management.	In progress. Rescheduled.	The implementation of the channels table and channel name management was achieved in COOL 2.0.0 (January 2007). Full support for multi-channel bulk operations has been rescheduled several times because it was allocated to the one of the two ATLAS developers who left the COOL project during Q2 2006. The same developer has resumed work on the project in Q4 2006 (even if only at the 20% FTE level) and should ensure its completion during Q2 2007.
COOL-7	31.12.06 31.03.07	New RecordSpecification API (to specify the precision of persistent data types) and port to AMD64.	Completed	The new RecordSpecification API and the port to AMD64 were achieved in COOL 2.0.0 (January 2007). This development required a schema change (the description of user-defined payload specifications is now stored using a different format). In addition to the record and field specification classes (and interfaces), the new API also includes the record and field data classes (and interfaces).

COOL-8	31.12.06 31.03.07	Dynamic replication (at each replication request, only data inserted in the master database after the previous replication request is replicated).	Completed.	The dynamic replication tool was released as part of package PyCoolUtilities in COOL 2.0.0 (January 2007). Its implementation required several schema changes (a column indicating the last modification date of each row had to be added to several tables). This milestone was actually completed in the COOL 2.1.0 release (March 2007), which includes several important bug fixes for COOL dynamic replication.
COOL-9	31.12.06 31.03.07 30.06.07	Deployment of COOL database services at Tier0 (separate instances for online and offline) and Tier1 for Atlas and LHCb with Streams replication.	In progress. Rescheduled.	
		Atlas: test service setup prepared with two-step Streams replication between CERN online (IT-PSS 'Atlas-online' RAC), CERN offline (IT-PSS 'integration' RAC), six 'phase-1' and one 'phase-2' Tier1 sites (BNL, CNAF, Gridka/FZK, IN2P3, RAL, Taiwan/ASGC; Nikhef/SARA, Triumpf) by Q4 2006. Of the two remaining 'phase-2' Tier1 sites, Nordugrid joined in Q1 2007, while PIC will only join later in 2007. LHCb: test service setup prepared with two-step Streams replication between CERN online (private LHCb test server at the pit), CERN offline (IT-PSS 'integration' RAC) and three 'phase-1' Tier1 sites (Gridka/FZK, IN2P3, RAL) by Q4 2006. One 'phase-1' (CNAF) and one 'phase-2' (Nikhef/SARA) Tier1 sites joined in Q1 2007, while the last 'phase-2' site (PIC) will join later in 2007. For both experiments, the production T0 setup (using production online and offline servers) is expected to be completed in Q2 2007.		
COOL-10	31.12.06 31.03.07	Implement a tag 'locking' mechanism to prevent changes to locked tags.	Completed.	All schema changes relevant to this task have been included in COOL 2.0.0 (January 2007). A 'tag lock status' column has been added to the node/tag table. The actual tag locking functionality and the corresponding API extensions were included in the COOL 2.1.0 release (March 2007).
COOL-11	31.03.07 30.06.07	Support for MacOSX.	In progress. Rescheduled (waiting for CORAL and SPI/ROOT).	A full build of COOL on MacOSX (using SCRAM) was first completed in November 2006, using a private build of CORAL and a private installation of Oracle. All C++ tests are successful (except for a failure due to a bug in the Oracle 10.1 client library - 10.2 is not yet available for MacOSX). The PyCool port has not been completed due to inconsistencies between the ROOT and Python installations on CERN AFS. Detailed status is in https://savannah.cern.ch/task/?2062 .
COOL-12	31.03.07 30.06.07	SQL query strategy optimizations (mainly for MV data retrieval, but also for other insertion and retrieval use cases).	In progress. Rescheduled.	Two important SQL performance optimizations, for single-channel retrieval from single-version (SV) folders, and for user tag retrieval from multi-version (MV) folders, have been included in COOL 2.1.0 (March 2007). Other performance optimizations, including those for standard HEAD tag retrieval from MV folders, still need to be completed in future COOL releases.
COOL-13	31.03.07 30.06.07	New relational schema with fewer tables.	In progress. Rescheduled.	The COOL 2.0.0 release (January 2007) includes several schema changes relevant to this task. In addition to the global (database) schema version, it is now possible to define a schema version at the folder level. In the future, it will thus be possible to create new 2.2.0 folders (using fewer relational tables) on a 2.0.0 database which can still be read (except for the new 2.2.0 folders) using the 2.0.0 software.

COOL-14	31.03.07 30.06.07	Support for simple payload queries (lookup of IOVs by payload data).	In progress. Rescheduled.	The implementation of payload queries will be based on the new record and field interfaces described in milestone COOL-7 and released in COOL 2.0.0 (January 2007). This functionality has been rescheduled and is currently felt to be lower priority than other development tasks (such as milestone COOL-13).
COOL-15	31.03.07	Move from SCRAM to CMT. Integration with the nightly build system and QMTEST.	Completed.	The CMT configuration to build COOL and its integration with the nightly build system and QMTEST were completed in December 2006. Nightly tests of COOL have been executed against SQLite since December 2006. Since February 2007, they are now also executed against Oracle, MySQL and Frontier. While COOL 1.3.4 (December 2006) was released using CMT, SCRAM developments were not immediately dropped. COOL 2.0.0 (January 2007) was the last release prepared using SCRAM. COOL 2.1.0 (March 2007) was then released again using CMT. All future releases will be prepared using CMT. SCRAM will still be kept for some time, exclusively for internal use by the COOL development team.
COOL-16	31.03.07 30.06.07	Move from the SEAL component model to the new CORAL component model.	In progress. Rescheduled (waiting for CORAL).	The COOL team, together with the CORAL and SEAL teams, actively contributed to the debugging and testing of the SEAL component model in multi-threaded mode during Q3/Q4 2006. These activities led to the SEAL 1.9.0 and 1.9.1 releases in Q4 2006 and to the decision to drop the SEAL component model and reimplement a simpler one in CORAL. The C++ API changes relevant to this task were completed in COOL 2.0.0 (January 2007). There are no SEAL classes left in the COOL C++ API (with one minor exception requested by the Atlas users as long as SEAL is not dropped completely). Work on the internal implementation changes will start as soon as a CORAL prototype based on the new component model is available.
COOL-17	31.03.07	Integration with the CORAL LFC-based lookup service.	Completed.	The integration of COOL (both in C++ and in PyCool) with the CORAL LFC replica service was completed in COOL 2.1.0 (March 2007). The use of the LFC replica service with COOL has been tested and a user example has been included in the COOL Examples package.
SIMU				
SIMU-1	30.09.05 15.12.06 30.03.07 30.06.07	Apply the Fluka-Geant4 (Flugg) geometry interface to one of the LHC calorimeter test-beam simulation (VD524)	In progress. Rescheduled.	Fortnightly meetings are held between M. Gallas, W. Pokorski and A. Ribon together with the Pisa ATLAS TileCal group (M. Cascella, T. Del Prete, A. Dotti, I. Vivarelli) to discuss the progress and the work to do. Fluka and Geant4 simulations are generated by Manuel and Witek, and then analysed by the Pisa group. Some problems with the way the beam spread was generated in Fluka were identified and fixed. Once the simulation samples were considered of good quality, a large production started, followed by the comparison with the test-beam data. The analysis has been improved with respect to the original one (made only for the old Geant4 version 5.2), in several aspects (photo-statistics, beam composition, selection, etc.). Preliminary results should be discussed with Fluka and Geant4 experts by the end of April 2007. The milestone is being rescheduled for end of June 2007.

SIMU-10	30.06.07 31.12.07	Application of corrections of test-beam data, for validation of stand-alone simulation, to the LHC calorimeter test-beams (VD703)	No progres. Rescheduled	The experimental groups are currently very busy to finish their test-beam analyses, and this is delaying the work for correcting the data for stand-alone simulation. Proposing to be rescheduled for December 2007.
SIMU-11	31.12.06	Report on the main physics effects responsible for the hadronic shower development in Geant4 simulations (G4618)	Completed	The LCG note "Hadronic Shower Shape Studies in Geant4" (CERN-LCGAPP-2007-02, see http://lcgapp.cern.ch/project/docs/noteShowerShapes.ps) has been released at the end of March 2007. This note describes the studies dedicated to understand and improve the simulation of hadronic shower shapes in Geant4 for high-energy calorimetry applications. In particular, use cases relevant for LHC experiments have been studied. This report provides an overview of the various investigations made so far, and also an outlook for further studies and directions of research.
SIMU-13	15.12.05 31.10.06 30.04.07	Refinement to GDMLSchema to support user extensions of elements (SF608)	Completed	New examples have been implemented demonstrating how to extend the schema. Detailed description is also provided in the manual. The new mechanism of the users' extensions to the schema can be used to add user-specific information to different GDML elements, for instance the sensitive detector names for given logical volumes.
SIMU-15	28.02.07	Move all the requested (by experiments) generators to the new structure SCRAM-free (GS704)	Completed	All the generators are available in lcg/externals/MCGenerators . GENSER 2.0.0 is released.
SIMU-16	28.02.07	Redesign of the Generator Services web pages and creation of a GENSER Savannah portal (GS705)	Completed	Web pages redesigned and restructured. See: http://lcgapp.cern.ch/project/simu/generator/ .
SIMU-17	31.03.07	New Generators Validation web page (GS707)	Completed	See: http://lcgapp.cern.ch/project/simu/generator/genval.html . Will be further extended (with plots, histograms) as new tests are implemented.

Summary Of Progress

During the first quarter of 2007 the AA has been consolidating the functionality released at the end of the year. Several LCG configurations have been made available to LHC experiments and are being used in their latest releases. The nightly build system for the LCG software stack has been put into production. It allows the build of all LCG AA projects on most of the LCG platforms, windows is about to be finished. Apart from the LCG projects also the Gaudi software framework used by ATLAS and LHCb has been added to the builds. The nightly builds are used by the experiments for validation of changes and new features.

The 7th ROOT workshop took place from 26-28 March at CERN with a participation of about 80 people. The complete status and representative use cases of the ROOT software were presented in 38 talks and 7 posters.

All persistency framework builds are now based on CMT and regularly tested via the nightly build and test system. CORAL improvements, in particular for the online environments, have been delivered such as thread safety and access to stored procedures. The recent COOL releases include a new API for user payload specification, a port to the AMD64 architecture and new locking' and 'dynamic replication' functionalities as well as examples on how to use the CORAL LFC Replica Service.

Important deliverables has been achieved for the different Simulation sub-projects. Two LCG notes (one on the results of the 3rd simple benchmark analysis, and one on the studies in Geant4 related to the simulation of hadronic shower shapes) have been published. In particular, the joint investigations performed by the Physics Validation and Geant4 teams for understanding the key components responsible for the development of the hadronic shower shapes, has already produced good positive results in the preliminary developments made available in the last Geant4 development releases.

The Generator Services subproject after the reorganisation initiated few months ago is now stable and well progressing, the new GENSER release (2.0.0) which follows the new structure and configuration policy defined in December 2006, is now available and used by the experiments.

Outstanding Issues since Last Report

Milestones Changes and Actions

References and Hyperlinks				
New Milestones Proposals			Status	Comments
POOL-11	30.04.07	Complete the porting of the POOL data regression tests into the nightly build system	New	Given the different nature of the data regression tests, w.r.t. the standard functional integration and system tests, the porting of the former into the AA nightly build system requires more work which expected to be completed by 30.04.07.
POOL-12	31.03.07	Extend the CORAL API for the new functionalities requested by the experiments: Execution of stored procedure, Interface for Replica re-ordering.	New, Completed.	The support of stored procedure has been added in the general RelationalAccess API, and fully implemented for the Oracle plug-in. Similar support for the MySQL and SQLite(?), requires further developments. The abstraction for the replica re-ordering and its access in the configuration has been also added in the RelationalAccess API. The corresponding Connection Service implementation has been updated accordingly. The new features have been released on 4.6.2007 with CORAL_1_8_0.
SIMU-18	30.06.07	Completion of integration of the GDML Geant4 binding in the Geant4 toolkit (SF709)	New	Level-2 milestone, concerning the release of a GDML plug-in module in the Geant4 toolkit, which can be optionally installed together with the Geant4 libraries.
SIMU-19	30.06.07	Implementation of quasi-elastic model and improved diffraction in Geant4 (G4710)	New	Level-2 milestone, based on the recent studies on the quasi-elastic simulation in Geant4, and, independently, on an improved diffraction modelling in the FRITIOF string model, the Geant4 release in June is expected to include the new developments aimed to produce a significant improvement in the longitudinal hadronic shower shapes.
SIMU-20	30.09.07	Evaluation of Rivet tool for possible application to GENSER (GS711)	New	Level-2 milestone, evaluation and possible adoption of the Rivet tool for validation of MC codes.
SIMU-21	30.11.07	Review, redesign and debugging of the FLUGG tool (SF712)	New	Level-2 milestone, review status of the FLUGG tool for interfacing Fluka to Geant4; update the tool to make it compatible with the latest version of Geant4; simplify its design and implementation according to the current specifications and interfaces available in Geant4; investigate and debug functionality and known problems.
SIMU-22	15.12.07	Thin-target validations of Geant4 forward physics (G4713)	New	Level-2 milestone, the forward physics of Geant4, in particular quasi-elastic and diffraction, plays an essential role in the longitudinal development of the hadronic showers. Validations of these processes on thin-target benchmarks are therefore expected. Some published experimental data that could be useful for this physics validation studies have been already identified; it is now needed to prioritise them, and then exploited.
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name			Date	
Deployment Area			31.03.2007	
Report Period			Author Name	
2007Q1			Ian Bird	
Milestones for the Quarter			Status	Comments
GRID DEPLOYMENT				
GD-19	15.02.07	gLite CE tested and ready for general deployment in production	In Progress	There is a test setup at CERN simulating a large batch system, to test the scalability of the gLite CE. This is finding many issues with Condor and the CE itself. There is now a document setting out acceptance criteria for the CE. Not yet achieved.
GD-12	30.11.06 01.04.07	NDGF integrated in SC4 operation - including reporting on Nordic Tier-2s	Delayed. April 2007 Obsolete.	Not yet fulfilled. NDGF now is accepting data transfers, but is not yet in full production, nor reporting on Tier 2s. Refer to separate NDGF QR.
GD-22	1.4.07	Full SLC4 port of gLite available	In progress	The WN package is now available and being tested in the PPS. The full build of all components now works, but packaging issues and full testing still to be addressed.
MIDDLEWARE AND SOFTWARE DEPENDENCIES				
EXT-1	30.10.05 01.11.06 01.04.07	(DESY) dCACHE version suitable for SC4	Obsolete here	dCache version 1.8 beta is now available. Will need testing before full deployment. Refer to separate SRM QR
EXT-2	30.11.05 31.3.07 (for job priorities)	(EGEE/JRA1) consolidated VOMS support in place and operational	In progress.	VOView information providers deployed at test sites, WMS being tested with it. Some issues found where behaviour is not as expected - the WMS will be modified to manage this. Longer term solutions needed probably imply changes to the way information on queues is published. The WMS workaround will allow continued deployment now.
EXT-6	31.01.06 1.11.06 1.04.07	(RAL/CERN) CASTOR 2 SRM for SC4	In progress Obsolete here.	SRM testing ongoing - stress testing, Delayed by ATLAS Tier 0 Castor issues. Refer to SRM QR.
EXT-8	31.01.06 30.11.06 01.04.07	dCache SRM for SC4 ready for test by the experiments	In progress Obsolete here.	dCache version 1.8 beta is now available. Will need testing before full deployment. Refer to SRM QR.
EXT-12	31.10.06 01.04.07	Castor with VOMS roles + ACLs ready for deployment	Delayed. Schedule depend on Castor team workload.	This will not be started until all Castor performance issues, and SRM 2,2 deployment is done. Unlikely to be before the end of 2007.
SRM MILESTONES				
SRM-1a	13.10.06	Integration of all SRM implementations succeeded at v2.2 (integration week 9-13 Oct)	In progress.	Refer to SRM report
SRM-2	31.10.06	DPM: SRM v2.2 available for deployment	In progress.	Refer to SRM report
SRM-3	31.10.06	dCache: SRM v2.2 available for deployment	In progress.	Refer to SRM report
SRM-4	31.10.06	Castor: SRM v2.2 available for deployment	In progress.	Refer to SRM report
Summary of Progress				
General Status	<p>The EGEE service has continued to run uninterrupted, with record levels of job submissions in February 2007 - reaching over 2.5 million jobs, with the majority coming from LHC applications. This is more than 60K jobs per day for LHC Vos.</p> <p>After the experience with difficulty to port gLite to SL4 a restructuring plan has been drafted and is being implemented to attempt to remove some of the complex dependencies.</p>			

Middle ware Services	In order to judge the quality of the gLite WMS and CE, requirements documents were written based on the performance of the current production components and taking into account the scaling requirements of the experiments for 2007. The WMS testing effort moved to INFN to allow CERN to focus on the CE testing. The WMS has now reached a level of performance and reliability that is acceptable and will be put back into the usual certification chain. It is anticipated that the gLite WMS will be in the production release within 3 weeks and can really replace the lcg-RBs immediately. The CE still has efficiency problems - failing some 9% of jobs. The problem causes are understood, but still have to be fixed. It is not clear how long it will take to reach the agreed acceptance criteria.			
	The LFC has been improved to support bulk queries - tested at rates of 300Hz. Now available in production, but deployment on Mysql shows some issues. FTS v2.0 is under test - supports both SRM 1.1 and 2.2, and provides delegation to avoid passwords. The Tier 0 and general FTS service at CERN have been split. One of the main FTS developers will leave in June and must be replaced. xrootd plugin for DPM delivered to ALICE, secondary groups implemented for ATLAS.			
SL4	All gLite components are now built in ETICS. The WN package under SL4 is available on the PPS, and will be ready for production deployment in mid April. The UI builds but some packaging problems to be resolved. The WMS and Data management components have a few small problems to be resolved to get complete builds.			
Certification				
Security				
Other	SRM issues will no longer be reported here. Refer to the separate SRM QR.			
Outstanding Issues since Last Report				
Milestones Changes and Actions				
References and Hyperlinks				
New Milestones for Future Quarters				
			Status	Comments
GD-10b	31.07.06 30.06.07	gLite CE deployed at all Tier-1 sites in production	In progress Est. 6/07	gLite CE installed at 3 Tier 1 sites and CERN. Waiting for focussed debugging of the CE starting in November. Depends on GD-19 & GD-16.
GD-11	30.09.06 31.05.07	Tier-1 sites achieve service reliability targets	In progress. Est. 5/07	Stability of services is not sufficient. This must be addressed through various efforts to improve service management, fabric monitoring, etc.
GD-14	30.09.06 31.05.07	Implementation in CE of VOMS roles and groups	In progress. Est. 5/07	The gLite CE and information system contain all needed functionality. Waiting for the results of the testing of simple implementation - depends on GD-13
GD-16	30.09.06 30.04.07	gLite CE verified by experiments and sites as ready to replace old CE	Est. 4/07	depends on GD-19
GD-12	30.11.06 30.04.07	NDGF integrated in SC4 operation - including reporting on Nordic Tier-2s	Delayed. April 2007?	NDGF have participated in parts of the throughput testing, but do not have a service.
GD-21	30.06.07	DGAS+APEL fully deployed in production	Not started	This depends on the gLite CE being in production: depends on GD-19, 16, 10b.
GD-23	30.04.07	Integrated site fabric monitoring		Deliverable from the monitoring working group providing the feedback from SAM and other external monitors to site fabric monitoring systems.
GD-24	30.04.07	gLite CE ready for full deployment		Testing is in progress. Questions over the level of support to be provided by INFN need to be resolved before the decision to deploy this CE is made.
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name		Date		
ARDA		31.3.2007		
Report Period		Author Name		
2007Q1		Massimo Lamanna		
Milestones for the Quarter			Status	
			Comments	
ARDA-07-01	Feb-07	New milestone with all 4 experiments	Delayed	As foreseen last year, we should rediscuss milestones due to personnel turnover and in light of the experience of 2006. This also includes new contacts due to changes in experiments' management.
ARDA-07-02	Jan-07	LHCb dashboard in production		Agreed with the experiment. Not yoe in the formal plan
ARDA-07-03	Feb-07	ALICE dashboard in production		Agreed with the experiment. Not yoe in the formal plan
ARDA-07-04	Jan-07	ATLAS Distributed Data Management in production		Agreed with the experiment. Not yoe in the formal plan
ARDA-07-05	Mar-07	Ganga planning for 2007 agreed within the developers group		Agreed with the experiment. Not yoe in the formal plan
Summary of Progress				
<p>The milestone of producing a new plan is delayed. Discussion (contacts) with the experiments have taken place, but we have not formalised a new plan. In a nutshell, I expect all the activities to continue along the lines of 2006, with the notable exception of ATLAS, where the scope of the collaboration has been expanded to support their distributed data management activities and on the dashboard project, which is now involving all 4 experiments (in 2006 we planned only ATLAS and CMS).</p>				
<p>Dashboard - The activity is continuing (evolution of the toolkit and operation of the system for all 4 experiments). Starting mid February all 4 experiment dashboards are in production. The system is evolution in order to make conveniently available more information, to interpolate missing information (lost before entering the dashboard data base). In addition, we are preparing to better monitor jobs submitted via CondorG or executed via pilot-job mechanism (several users jobs executed by a single pilot).</p>				
<p>Ganga - The activity is continuing (evolution of the system, tutorial and support of users). Starting the beginning of the year, we monitor Ganga users as well (collecting information about user, Ganga version and TCP/IP domain). During this quarter the Ganga team (not only the CERN part) has animated a significant series of tutorials (Edinburgh, Milano, Lyon, Munich, Taipei). The very intense tutorial effort is giving visible effects: during this quarter over 400 different users have tried out the system at least once. Around 50 regular users are using Ganga on daily basis. Around 2/3 of the users belong to ATLAS and 1/3 to LHCb (but a sizeable ~10% of persons from non-HEP communities is using the system).</p>				
<p>Middleware - During the quarter, several EGEE/LCG components have been tested: LFC (new interface allowing bulk operations); WMS (reliability studies); FTS2.0 (in the framework of the ATLAS Tier0 activity); SRM (contribution to the general testing); xrootd/storage manager integration (ALICE)</p> <p>Job Reliability Reports - We have started to publish (within the wLCG MB) efficiency numbers for the Tier0/Tier1s as seen by selected applications. In addition a number of web pages to ease the sites to understand eventual failures and pin down the origin has been discussed and put in production</p>				
<p>ATLAS DDM - The so-called ARDA monitor (monitor of the ATLAS DDM using dashboard technology) has been adopted as official monitoring tool (in use in production and in the Tier0 activities)</p> <p>ALICE Analysis - ALICE Distributed Analysis is growing and in the user community using the developed analysis infrastructure has grown to 25 regular users. 500,000 user jobs have been successfully executed</p>				

Outstanding Issues since Last Report				
Milestones Changes and Actions				
Milestones for Next Quarters			Status	Comments
GANGA-07-02	Jun-07	First integration with NorduGrid		
GANGA-07-03	Jun-07	First integration with OSG (Panda)		
DASHB-07-04	May-07	New version of the efficiency for the MB (application view of the grid efficiency/ reliability)		
DASHB-07-05	Jun-07	Validate the installation kit		The software has been packaged and sent (including instructions) to NIKHEF colleagues. They should install it for the VLEMED VO
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name			Date	
Distributed Database Deployment			31.3.2007	
Report Period			Author Name	
2007Q1			Dirk Duellmann	
Milestones for the Quarter			Status	Comments
DBS-10	31.05.06 15.12.06 new date 31.01.07	Replication Technology Write-up Produce a document summarizing the experience gained with streams and frontier/squid in the 3D test bed and outline the expected advantages and issues with both approaches to guide the deployment test with the production setup.	In progress	The final version of this document will be produced after the workshop, which has been deferred from Dec to Jan 26.
DBS-11	31.08.08 new date 31.01.07	Backup/Recovery Strategy Write-up Produce a document summarizing the required service level for database backups at tier 0, 1 and 2 based on the experiment input. This document should include the main recovery scenarios and describe the recovery procedures and expected latencies.	Completed.	A backup and recovery policy proposal has been produced by the Tier-0 team and was discussed and agreed with the experiment users and also the Tier-1 sites. The document was presented and accepted at the LCG GDB and LCG MB.
DBS-23	31.12.06 new date 31.05.07	NIKHEF/SARA database setups become available for experiment tests.	Partial completion.	SARA has setup one database cluster, which has been successfully tested by ATLAS. The database cluster is now part of the 3D production setup. A additional cluster for LHCb still needs to be setup and SARA will need to confirm the date for this setup.
DBS-19	31.01.07 new date 28.02.07	Use of T1 data replicated via 3D services by ATLAS production jobs. Milestone on ATLAS and ATLAS Phase 1 sites.	Partial completion.	ATLAS has delayed the starting date for the conditions data challenge to 15. April to be able to use a more recent release of the ATLAS framework. The experiment has started with the already available tier-1 sites a series of COOL replication and also started to execute ATLAS jobs against the Tier 1 replicas. A scalability test with a large number of ATLAS clients jobs against the tier-1 replica at CNAF is being prepared in order to come up with an improved estimate about the Tier-1 CPU requirements for the ATLAS conditions workload.
DBS-20	31.03.07 new date 31.05.07	Use of T1 data replicated via 3D services by LHCb production jobs	Partial completion.	LHCb has started to use Tier 1 database replicas from experiment jobs executed via the grid. The experiment has exercised also the CORAL/COOL functionality for selecting Tier 1 database replicas from the LFC based database catalog. Ramp up of the LHCb tests to production scale with all LHCb tier 1 sites is expected during April.

DBS-24	28.2.07 new date 31.05.07	NDGF database setups become available for experiment tests.	Partial completion.	NDGF has to setup a single node database for initial ATLAS needs. The hardware for the requested cluster still needs to be acquired and NDGF plans to host this database cluster in Oslo. Until then NDGF will participate in the experiment conditions challenges within the limitations in terms of redundancy and performance of their initial setup. NDGF needs to confirm the date for the full installation.
DBS-25	28.2.07	PIC database setups become available for experiment tests.	Completed	PIC has now setup a database cluster for ATLAS and is close to completion also for the second LHCb cluster. The installation was done in very short time to be ready for the upcoming conditions data challenges of the experiments.
DBS-17	21.03.07	Database Administrator workshop preferably at one of the phase 2 sites	Completed	A database administrator workshop has been held at NIKHEF/SARA. The discussions have been focussed on three areas: integrating to operations procedures for the database area with the existing grid tools, remaining setup questions for the database cluster and backup setup and a review of the database monitoring tools.

Summary of Progress

During the last quarter the project has seen significant progress from both the tier-1 sites and the experiment tests. As of today all 10 tier-1 sites have set-up a database service, which is included in the experiment tests. Not all sites have so far fully satisfied the experiment request in terms of database server nodes, but a complete set of database replicas will now move into production mode with the ATLAS and LHCb conditions challenges in April. In particular PIC, NDGF, NIKHEF and TRIUMF made a significant effort to catch up with the other Tier-1 sites, which is acknowledged by the experiment teams.

On the experiment side the work has continued to validate the access to the database resources at T1s including some of the more recent software components in CORAL/COOL to select a one of the replicas. The work is now moving focus from optimization of the pure T0 to T1 replication to an evaluation of the T1 database performance for grid clients. Scalability tests with the experiment software and workload are now starting, which will allow confirming (or if necessary modifying) the database resource request. These tests are expected to produce the main input to a database resource review during the summer to define the T1 setup for the LHC startup in autumn.

During the last 3D workshops in January and March the current experiment requests have been confirmed until summer and policy documents for the database security and backup/recovery have been agreed. We plan to perform a joint T1 database recovery test on the timescale of mid-May to make sure that the backup procedures and the streams synchronization after a potential problem are valid and can be executed at all sites.

Outstanding Issues since Last Report

Milestones Changes and Actions

References and Hyperlinks

Milestones for Future Quarters			Status	Comments
DBS-26	15.5.07	backup/recovery exercise with all T1 sites	new	date to be agreed with ATLAS/LHCb to avoid interference of the production activities.
DBS-27	31.5.07	Tier 1 scalability test completed with O(100) clients against a Tier-1 replica	new	current plan is to run ATLAS jobs against CNAF as tier 1
DBS-28	30.6.07	Provide LFC replicas for LHCb at all LHCb T1 sites	new	date and sequence to be agreed with LHCb

Comments and Additional Information

QUARTERLY STATUS REPORT				
Project Name			Date	
SRM Storage Services			31.3.2007	
Report Period			Author Name	
2007Q1			Flavia Donno, Maarten Litmaath	
Milestones for the Quarter			Status	Comments
SRM-01	31.01.07	Availability and basic tests passed by all implementations.	Completed	dCache completed by 14.02.07. CASTOR completed by 07.03.07.
SRM-02	28.02.07	Use case and cross copy tests passed by all implementations (where relevant).	Almost completed	The important use cases are passed by all implementations since mid March. For a few minor use cases BeStMan currently is at odds with the other implementations. CASTOR and DPM need to provide the srmCopy function only by 2007Q4.
SRM-03	31.03.07 new date 31.07.07	Stress tests passed by all implementations.	In progress	So-far stress tests were only possible against the dCache instance at FNAL and the DPM at CERN. Tests against CASTOR will start as soon as the ITDC cluster is no longer dedicated to tests of the new LSF plugin.
SRM-04	31.01.07	Definition of GLUE 1.3 schema.	Completed	Information providers do not provide any of the new functionality yet. Only strictly needed items were included in version 1.3 in order to preserve backward compatibility. However, a document has been produced detailing the full set of attributes needed to describe an SRM v2.2 compliant storage service. This document should be used as a basis for GLUE 2.0.
SRM-05	28.02.07 new date 15.05.07	Test UI available with SRM v2.2 client tools and GLUE 1.3.	Partial completion	GLUE 1.3, GFAL and lcg-utils are in good shape. FTS 2.0 client to be installed. FTS developers are running tests against all available SRM v2.2 endpoints.
SRM-06	31.03.07	SRM v2.2 implementations ready for wider deployment.	Completed	DPM was deployed in production by that date. dCache 1.8 beta was deployed at DESY in the first week of April, at BNL during the second week, at FZK and Edinburgh during the third week. StoRM was deployed at Bristol mid April. BeStMan has a production release available. CASTOR had the SRM v2.2 deployed at CNAF mid April, but still depends on a new backend release to get the very much needed fast version of srmPutDone.
SRM-07	31.03.07 new date 31.05.07	Fisrt results from GSSD working groups.	In progress	The v1-v2 transition study group completed their report. LHCb and CMS provided information on their storage class instances, data rates, access patterns etc. for T0, T1 and T2 sites. For Atlas this work is in progress, for Alice it has not started. The monitoring study group reported on what dCache and DPM currently can provide through native tools.

Summary of Progress

During 2007Q1 the SRM v2.2 project has made very significant progress. The last ambiguities and inconsistencies in the specification were essentially resolved during the WLCG workshop in January 2007, after lots of discussion through e-mail and phone conferences. At the same time the proposed testing plan was agreed by the developers. However, already for the basic tests dCache and CASTOR missed the milestone because of other major commitments of the developers.

Each of the implementations has come to comply with all the important use cases. In that respect the v2.2 specification and the S2 test suite have had to be adjusted a few times to allow for more diversity in the behavior of the backends while still maintaining a sufficient amount of common functionality available to clients. DPM, StoRM and BeStMan have production releases available. dCache 1.8 beta is already deployed at five sites. CASTOR SRM v2.2 is also deployed at CNAF. A new release of the CASTOR core is awaited for the crucial fast srmPutDone implementation.

A lot of work has been done on the S2 test suite: bugfixes, implementation of timeouts, addition of a large number of use case tests, support for GFAL and lcg-util tests. The test suite has been adapted for stress tests to run on multiple machines in parallel. The documentation has been improved, as well as the web pages showing the results, given the ever increasing number of test endpoints. A lot of time has been spent on chasing the causes of test failures. The dCache developers at FNAL lost a week debugging what turned out to be a problem with ESnet packet losses. The LBNL test framework has been expanded and automated. Also the FTS developers have created a test framework with results published on web pages.

The GSSD group have had a few meetings and more have been scheduled for the rest of the year, usually occupying pre-GDB slots. The v1-v2 transition study group completed their report: after generic certification of v2.2 implementations experiments agreed to make v2.2 work for them and stick to it, rather than switching back to v1.1 whenever problems are encountered. LHCb and CMS provided input on the storage class instances they need, data rates, access patterns etc. Atlas have started that effort, Alice not yet. The monitoring study group made an inventory of what dCache and DPM can provide through native tools. A common subset may form the basis of an implementation-independent monitoring system.

Outstanding Issues since Last Report

Milestones Changes and Actions

References and Hyperlinks

<https://twiki.cern.ch/twiki/bin/view/SRMDev>
<https://twiki.cern.ch/twiki/bin/view/LCG/GSSD>
<http://glueschema.forge.cnaf.infn.it/Spec/V13>

Milestones for Future Quarters			Status	Comments
SRM-08	31.05.07	CASTOR backend with fast srmPutDone ready for external deployment.	new	Critical for CASTOR sites.
SRM-09	31.05.07	dCache to implement proper Tape1Disk0 space allocation policy and to pass all use-case tests.	new	This is critical for providing the static space allocation as specified in the WLCG SRM MoU.
SRM-10	31.05.07	DPM to pass all use-case tests	new	DPM to provide automatic garbage collection of space.
SRM-11	31.05.07	StoRM to pass all use-case tests	new	StoRM to avoid the implicit PutDone on a SURL for which the PrepareToPut timed out. Furthermore, expired space should not be usable.

SRM-12	15.04.07	Integration of S2 test suite into SAM for certification purposes.	new	This should be made available for both SL3 and SL4.
SRM-13	31.05.07	FTS 2.0 available for SRM v2.2 testing by experiments.	new	Depends on progress with FTS 2.0 acceptance tests for SRM v1.1.
SRM-14	15.05.07	All major SRM v2.2 implementations available on PPS.	new	All implementations in PPS passing basic and use-case tests. No specific configuration for VOs.
SRM-15	15.06.07	GSSD requirements for all Vos implemented on PPS.	new	In particular, creation of needed storage classes, input/output buffers and VO specific environment. Test the necessary storage classes per experiment and per implementation. Depends on sites and experiments.
SRM-16	Starting from 15.05.07	ALICE to validate SRM v2.2 in PPS	new	Exercise all aspects of data model accessing data through both SRMv1 and SRMv2. We expect the VO to test for a period of 4 to 6 weeks. We need to negotiate with the VO when the tests can take place.
SRM-17	Starting from 15.05.07	ATLAS to validate SRM v2.2 in PPS	new	Exercise all aspects of data model accessing data through both SRMv1 and SRMv2. We expect the VO to test for a period of 4 to 6 weeks. We need to negotiate with the VO when the tests can take place.
SRM-18	Starting from 15.05.07	CMS to validate SRM v2.2 in PPS	new	Exercise all aspects of data model accessing data through both SRMv1 and SRMv2. We expect the VO to test for a period of 4 to 6 weeks. We need to negotiate with the VO when the tests can take place.
SRM-19	Starting from 15.05.07	LHCB to validate SRM v2.2 in PPS	new	Exercise all aspects of data model accessing data through both SRMv1 and SRMv2. We expect the VO to test for a period of 4 to 6 weeks. We need to negotiate with the VO when the tests can take place.
SRM-20	30.09.07	Stress tests passed by all implementations and stable over a month.	new	Depends on sites. Testing activities should continue for as long as possible unless they interfere with testing activities by the experiments.
SRM-21	A month after SRM-16-19	SRM v2.2 ready for full-scale deployment.	new	The month is needed to sort out possible configuration issues and automatic installation procedures, getting ready for production quality deployment. The deployment will happen gradually migrating first the key sites and then the others. Also at the VO level, certain sets of data or users will be migrated to SRM v2. Therefore SRM v1 and v2 need to coexist for some time.

SRM-22	31.03.08	srmCopy and srmChangeSpaceForFiles available in all implementations.	new	The implementation of these two functions should be provided by the end of 2007 and fully tested by the target date and ready for deployment in production.
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name			Date	
Grid Deployment Board			31.03.2007	
Report Period			Author Name	
2007Q1			John Gordon	
Milestones for the Quarter			Status	Comments
GDB-9	31.12.06	Storage accounting	Done	Storage Accounting Portal collecting data from EGEE infrastructure. Future work needed on correctness of data before it can be used for C-RRB
GDB-10	31.10.06	SL4 migration (initially only the worker nodes)		Interim WN solution available but not widely deployed. Sites prefer to wait for proper solution and distribution. This was under final testing at end of quarter.
GDB-19	31.12.06	Final report from the storage classes assesment group	Done	The conclusion of this group was that more work is required. A new group GSSD was formed to work up a migration plan, coordinate between sites, developers, and users on deployment of the various implementations. https://twiki.cern.ch/twiki/bin/view/LCG/GSSD This group met in February. A schedule of future meetings have been defined. A test suite is regularly run against all SRMs to validate SRM2.2
GDB-20	31.12.06	Simple Job Priority system available		Implementations are available but installation only progressed slowly during this quarter. Testing with T1s and ATLAS will continue.
GDB-11	31.12.06	OPN network rollout in Europe	Done	All planned Geant2 links in Europe are available and used.
GDB-21	09.01.07	pre-GDB meeting at CERN on SRMv2.2 storage classes deployment	Done	More emphasis on data access. Input from the experiments needed
GDB-22	10.01.07	GDB meeting at CERN	Done	Agenda, Summary and Report available from the GDB wiki page at: https://twiki.cern.ch/twiki/bin/view/LCG/GridDeploymentBoard
GDB-23	06.02.07	pre-GDB meeting at CERN on SRMv2.2 storage classes deployment	Cancelled	This meeting was cancelled. Next GSSD meeting scheduled for 12th April.
GDB-24	07.02.07	GDB meeting at CERN	Done	Agenda, Summary and Report available from the GDB wiki page at: https://twiki.cern.ch/twiki/bin/view/LCG/GridDeploymentBoard
GDB-25	07.02.07	New chairperson found	Done	John Gordon elected.
GDB-26	06.03.07	pre-GDB meeting at CERN on SRMv2.2 storage classes deployment	Done	Meeting was held. Agenda and minutes available at https://twiki.cern.ch/twiki/bin/view/LCG/GSSDMeetings
GDB-27	07.02.07	Updated requirements from the experiments discussed	Done	Harry's tables need to have been updated and discussed again.

GDB-28	07.03.07	GDB meeting at CERN	Done	Agenda, Summary and Report available from the GDB wiki page at: https://twiki.cern.ch/twiki/bin/view/LCG/GridDeploymentBoard
Summary of Progress				
New Group GSSD was set up, chaired by Flavia Donno. Firther progress on security, accounting, and experiment planning.				
Outstanding Issues since Last Report				
SL4 Deployment has been much slower than planned. Job Priority tests took longer than planned. Both now look set to progress early in next quarter.				
Milestones Changes and Actions				
GDB-23 was cancelled				
References and Hyperlinks				
GDB Homepage at: http://lcg.web.cern.ch/LCG/Boards/GDB/gdb.html GDB wiki page at: https://twiki.cern.ch/twiki/bin/view/LCG/GridDeploymentBoard				
Milestones for Next Quarter			Status	Comments
GDB-29	30.04.07	Transition to SL 4 completed		There should be 6 months of running-in before the beam turns on
GDB-13	31.06.07	Automated accounting		CPU accounting will be automated but only jobs submitted through the grid will be automatically accounted.
GDB-14	31.06.07	Class 2 VOBoxes replaced by class 1 VOBoxes		Detailed schedule being discussed in the EGEE TCG
Comments and Additional Information				

QUARTERLY STATUS REPORT				
Project Name		Date		
ALICE		31.3.2007		
Report Period		Author		
2007Q1		Yvez Schutz		
Milestones for the Quarter		Status	Comments	
MS107	Jul-06	T1-T1, T1-T2, T2-T1 and other rates according to the rated defined in the TDR.	delayed	Validatrion of FTS v.2.0 started accoring to plan in April 07
MS108	Sep-06	Scheduled analysis challenge in T1s. Ongoing at T0 and CAF	re-scoped	01/04/07: depending on EXTMS-03 and EXTMS-01 15/01/07: this exercise has not started and will be postponed until the analysis framework is consolidated and standard LCG storage solution are deployed at the T1s. Currently the users analysis is proceeding at T0 and on the CAF
EXTMS-03	Dec-06	xrootd interfaced to DPM	delayed	15/01/07: ongoing work in common with the DMP and xrootd developers. The interface is required by ALICE to be ready in April but we depend for the schedule on the the DPM and xrootd developers.
MS111	Mar-07	AliRoot Release: final MC for day 1 geometry	DONE	Further refinement of the geometry, including detector services and cables is ongoing
MS112	Mar-07	AliEn release and deployment	DONE	version 2-13 of AliEn is released and is being deployed at all site VO-boxes
MS113	Mar-07	Start of PDC07: MC for day 1 data	in progress	25Milion p+p event in various configurations are produced to date. Production is continuing
Summary of Progress				
<p>The development of the AliRoot software has entered the last phase leading to the version to be used for the processing of the data from the first LHC run scheduled for the end of this year. Work is still going on to reduce memory and CPU consumption, to make the code more robust and to reduce the size of data (raw and ESD). The common AOD data structured has been prototyped. The analysis framework has been released and adopted by users. The access to calibration data in the OCDB is fully operational and is being optimized further. The implementation of the detector geometry as installed is in progress including cables and services. The validation of the Fluka transport is progressing. The integration of the GEANT 4 package into AliRoot is completed and validation is starting.</p>				
<p>The detector visualisation is fully integrated in ROOT is available for almost all detectors. Alignment and calibration is implemented in the reconstruction algorithms for almost all detectors but the integration of the survey data is mostly missing. The framework to calculate the calibration parameters online (DAQ, DCS, HLT) and to feed them into the Offline Condition Data Base is fully operational. The implementation of the detector specific algorithms within this framework has started and several have been tested.</p>				
<p>The development of a new version of the AliEn file catalogue with faster access and improved scalability is being finalized and will be released in April. The interface to the Nordic ARC GRID is still under development. The development of the interface to the US OSG GRID is pending the approval of the ALICE-USA computing plan. The ALICE storage architecture based on xrootd is fully operational. Interfaces to the LCG storage solutions are in advanced tests and validation stage (dCache) or close to be released for testing (CASTOR2 and DPM)</p>				
<p>The currently running 2007 Physics Data Challenge is a continuation of the PDC 06. Its main goals are to produce events required by the Physics Working Groups and to test and validate the new releases of the Grid and application software. In the past 11 months, 1200 jobs on average were running over the entire period. During this challenge new sites will be added to the ALICE Grid, the new components of the LCG Grid and of the application software will be validated with special emphasis on standard LCG storage solutions. All sites which have pledged resources to ALICE take part to the challenge. However, there remains a substantial amount of resources still to be set-up in Poland, NDGF, KISTI, China, and US.</p>				

Outstanding Issues since Last Report			
Further validation of xrootd interface in the LCG SE implementation CASTOR2, and DPM Further inclusion of computing resources in the external sites.			
Milestones Changes and Actions			
MS108 re-scoped			
References and Hyperlinks			
Milestones for Next Quarters		Status	Comments
EXTMS-01	Apr-07	xrootd interfaced to CASTOR2	15/01/07: ongoing work in common with the CASTOR2 and xrootd developers. The interface is required by ALICE to be ready in April but we depend for the schedule on the the CASTOR2 and xrootd developpers.
MS114	April-07	All sites pledging resources configured for ALICE V0	
MS115	June-07	Validation of AliRoot data format by detector commissioning	
MS116	June-07	AliRoot release: final reconstruction for day 1	
MS117	Jun-07	AliEn release and deployment	
MS-118	Sep-07	AliRoot release: data analysis packages for day 1 physics	
Comments and Additional Information			

QUARTERLY STATUS REPORT				
Project Name			Date	
ATLAS			31.3.2007	
Report Period			Authors	
2007Q1			Dario Barberis	
Milestones for the Quarter			Status	Comments
ATL-CSC-06-08	30/11/06 30/06/07	Conclusion of Data Streaming tests.	In Progress	Streaming tests extended in scope and in time throughout Winter and Spring 2007.
ATL-DBD-07-01	31/1/07 31/3/07	Use of data replicated via 3D services by ATLAS production jobs.	Done.	Needed in preparation for ATLAS Calibration Data Challenge. Involves ASGC, SARA, CNAF, GridKa, IN2P3, RAL, plus TRIUMF and BNL if ready for 3D. Startup delayed by problems putting Oracle Streams replication into production.
ATL-REL-07-01	31/1/07 31/3/07 10/5/07	Software release 13. Includes full support for misalignments and miscalibrations in the reconstruction. Built also for SCL4 on 32-bit and 64-bit platforms, and validated for 32-bit.	In Progress	Release delayed by EDM changes.
ATL-CSC-07-01	28/2/07 31/5/07	Tier-0 tests 2007/Phase 1 completed	In progress	Delayed by Castor problems.
ATL-DDM-07-01	28/2/07 30/9/07	SRM 2.2 in production in the DDM system	Tests in progress	Delayed by SRM 2.2 unavailability.
ATL-CSC-07-02	31/3/07 31/5/07	Data distribution Tier-0→Tier-1→Tier-2 at nominal rate for at least one week.	Preparation in progress	Delayed by Castor problems. May be downscoped wrt nominal rates everywhere.
ATL-DBD-07-02	31/3/07 30/4/07	3D databases available at all Tier-1s.	Preparation in progress	Depends on ATL-DBD-07-01.
Summary of Progress				
<p>The main problem has been in the data management of which Castor is an essential part but it is not castor alone. Only now we realize the full impact of all the services we use: DDM, SRM, CASTOR, FTS, GridFTP, TCP/IP, and then the network and then the way back up into dCache/Castor/DPM on the other end. The interplay of those systems is difficult and it is only now we are beginning to test the full chain. All individual components have been tested before but mostly only with the layer just above to drive it. We have not done much integration testing and that is why we have now missed our milestones.</p> <p>The overall plan was to do T0 tests and data exports in March, then run together with CMS and Alice in April and do a second final T0 test and data export in May and start the final dress rehearsal in June. With the new Castor stager we think we can only start mid April. To understand the new stager and the new software I would think will take at least 4 weeks, so with some luck at the end of May we are in the position we would have liked to be in March which means a 3 months delay.</p> <p>We now think we should plan June and July for our T0 and data export tests and reserve August and September to try to have the famous "4 weeks in a row continuous running at nominal rates" but this now will be more in competition with other ATLAS tests which are also planned in this time window so it will be more difficult.</p> <p>What the past time has also taught us and which is a new task to be added to the list of things still to do, is coping with failing Tier-1s and Tier-2s. Without pointing my finger or blaming anybody we will always have a Tier-1 down or functioning in a different way than we expect, not to mention the Tier-2s. At this moment there are quite a few conditions where a single failing Tier can slow the whole system down or even bring it to its knees. We have to find ways to better protect ourselves and cope with the unexpected.</p>				
Outstanding Issues since Last Report				
<p>Outstanding issues are site (mainly Storage Element) instabilities that affect productions and also (in different ways) data transfer tests. The user access to the data on the Grid using DDM tools also needs attention soon.</p>				

Milestones Changes and Actions

All milestones are delayed relative to their definition in Autumn 2006 due to:

- Tier-0 Castor problems
- SRM 2.2 delays
- increased functionality added to the new Event Data Model for transient/persistent separation, smaller event size and data accessibility from ROOT

References and Hyperlinks

Milestones for Next Quarter

Status

Comments

ATL-REL-07-02	31/3/07 15/5/07 30/6/07	Software release 13 validated and in production.		Depends on ATL-REL-07-01.
ATL-DBD-07-03	1/4/07 31/5/07	Start of Calibration Data Challenge Phase 2: basic functionality available and tested		depends on ATL-DBD-07-02.
ATL-CSC-07-03	31/5/07 31/7/07	Tier-0 tests 2007/Phase 2 completed		
ATL-FDR-07-01	1/6/07 1/7/07	Start of Full Dress Rehearsal tests		
ATL-CSC-07-04	30/6/07 31/12/07	Reprocessing tests completed at all Tier-1s		
ATL-REL-07-03	30/6/07 30/9/07	First build of software release 14		
ATL-DBD-07-04	7/31/2007	End of Calibration Data Challenge: calib/align loop at the required rate (1 day latency)		
ATL-REL-07-03	30/9/07 31/10/06	Software release 14 validated and in production		
ATL-FDR-07-02	10/31/2007	End of Final Dress Rehearsal. System stable for at least one week.		

Comments and Additional Information

