08-Jun-09			WLCG High Level Milestones											
				Done (green)			Late < 1 month (orange)			Late > 1 month (red)				
ID	**Date**	**Milestone**		**ASGC**	**CC IN2P3**	**CERN**	**DE-KIT**	**INFN CNAF**	**NDGF**	**PIC**	**RAL**	**SARA NIKHEF**	**TRIUMF**	**BNL**	**FNAL**

VOBoxes Support

ID	Date	Milestone		ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
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		Aug 2008	Aug 2008					Aug 2008		Jan 2009			
WLCG-07-05	May 2007	**VOBoxes SLA Implemented** VOBoxes service implemented at the site according to the SLA		Aug 2008	Aug 2008				Jan 2009	Aug 2008		Jan 2009			
WLCG-07-05b	Jul 2007	**VOBoxes Support Accepted by the Experiments** VOBoxes support level agreed by the experiments	ALICE	n/a					(red)	n/a		(red)	n/a	n/a	n/a
			ATLAS						n/a	n/a					n/a
			CMS	(red)	(red)	(red)			n/a	(red)		n/a	n/a	n/a	
			LHCb	n/a					n/a				n/a	n/a	n/a

WLCG High Level Milestones - 2008

Pilot Jobs Frameworks

ID	Date	Milestone					
WLCG-08-14	May 2008	**Pilot Jobs Frameworks studied and accepted by the Review working group** Working group proposal complete and accepted by the Experiments.	ALICE *(orange)*	ATLAS *(orange)*	CMS *(orange)*	LHCb Nov 2007 *(green)*

Tier-2 and VOs Sites Reliability Reports

ID	Date	Milestone		
WLCG-08-09	Jun 2008	**Weighted Average Reliability of the Tier-2 Federation above 95% for 80% of Sites** Weighted according to the sites CPU resources	See separated table of Tier-2 Federations 80% of the Sites above 95% reliability	
WLCG-08-11	Apr 2009	**VO-Specific Tier-1 Sites Reliability** Considering each Tier-0 and Tier-1 site (and by VO?)	Apr 2009	
			May 2009	
			Jun 2009	

WLCG High Level Milestones - 2009

SL5 Milestones

ID	Date	Milestone					
WLCG-09-21	Mar 2009	**SL5 gcc 4.3 (WN 4.1 binaries)Tested by the Experiments** Experiments should test whether the MW on SL5	ALICE *(green)*	ATLAS *(green)*	CMS *(green)*	LHCb *(green)*
WLCG-09-22	Jul 2009	**SL5 Deployed by the Sites (64 bits nodes)** Assuming the tests by the Experiments were successful. Otherwise a real gcc 4.3 porting of the WN software is needed.				

Tier-1 Sites Procurement - 2009

ID	Date	Milestone
WLCG-09-01	Sept 2009	**MoU 2009 Pledges Installed** To fulfill the agreement that all sites procure they MoU pledged by April of every year

SCAS/glExec Milestones

ID	Date	Milestone					
WLCG-09-17	Jan 2009	**SCAS Solutions Available for Deployment** Certification successful and SCAS packaged for deployment	**Done in March 2009** *(green)*			
WLCG-09-18	Apr 2009	**SCAS Verified by the Experiments** Experiment verify that the SCAS implementation is working (available at CNAF and NL-T1)	ALICE n/a	ATLAS	CMS n/a ?	LHCb
WLCG-09-19	09-18 + 1 Month	**SCAS + glExec Deployed and Configured at the Tier-1 Sites** SCAS and glExec ready for the Experiments.				
WLCG-09-20	09-18 + 3 Month	**SCAS + glExec Deployed and Configured at the Tier-2 Sites** SCAS and glExec ready for the Experiments.				

Accounting Milestones

ID	Date	Milestone	
WLCG-09-02	Apr 2009	**Wall-Clock Time Included in the Tier-2 Accounting Reports** The APEL Report should include CPU and wall-clock accounting	APEL *(green)*
WLCG-09-03	TBD	**Tier-2 Sites Report Installed Capacity in the Info System** Both CPU and Disk Capacity is reported in the agreed GLUE 1.3 format.	% of T2 Sites Reporting
WLCG-09-04	TBD	**User Level Accounting** (verify with the Experiments)	

STEP 2009 - Tier-1 Validation

ID	Date	Milestone		ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
WLCG-09-23	Jun 2009	**Tier-1 Validation by the Experiments**	ALICE	n/a					n/a			n/a	n/a	n/a	
			ATLAS						n/a	n/a					n/a
			CMS						n/a		n/a	n/a	n/a		
			LHCb	n/a					n/a				n/a	n/a	n/a

ID	Date	Milestone	ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
CREAM CE Rollout														
WLCG-09-25	Apr 2009	**Release of CREAM CE for deployment**												
WLCG-09-26	May 2009	**All European T1 + TRIUMF and CERN at least 1 CE. 5 T2s supporting 1 CE**												
WLCG-09-27	Jul 2009	**2 T2s for each experiment provide 1 CREAM-CE each.**	ALICE				ATLAS			CMS			LHCb	
WLCG-09-28	Sep 2009	**50 sites in addition to the ones above**												
SRM Milestones														
WLCG-09-05	Dec 2008	**SRM Short-Term Solutions Available for Deployment**	CASTOR				dCache			DPM		StoRM		BestMan
WLCG-09-06	TBD	**SRM Short-Term Solutions Deployed at Tier-1 Sites** Installation at the Tier-1 Sites												
FTS Milestones														
WLCG-09-07	Mar 2009	**FTS Deployed on SL4 at the Tier-1 Sites** FTS is ready to be installed on SL4 at the Tier-1 Sites												
Metrics and Monitoring Milestones														
WLCG-09-08	Nov 2008	**Experiments Dataflows clear for the Tier-1 Sites** Experiments should present the data flows they expect to reach at the Sites (a la LHCb)	ALICE				ATLAS			CMS			LHCb Nov 2007	
WLCG-09-09	TDB	**Tier-1 Sites Define Their MSS Metrics** Tier-1 Sites specify which metrics are going to be collected to demonstrate the dataflow supported												
WLCG-09-10	TDB	**Tier-1 Sites Show Their MSS Metrics** Tier-1 Sites specify where their MSS metrics are available												
WLCG-09-11	TDB	**Automatic Alarms (SAM, etc) at the Tier-1 Sites** Tier-1 Sites should be able to automatically send, receive and handle alarms and problem notifications												
WLCG-09-12	TDB	**Monitoring of the Storage Systems** The Storage systems used provide monitoring information to Sites and Experiments	CASTOR				dCache			DPM		StoRM		BestMan
WLCG-09-13	TDB	**Performance Metrics?** User Response, Services Dowtimes Operations KPI												
CPU Benchmarks/Units Milestones														
WLCG-09-14	Dec 2008	**CPU New Unit Working Group Completed** Agreement on Benchmarking Methods Conversion Proposal and Test Machines	CPU New Benchmarking Unit Working Group											
WLCG-09-15	Feb 2009	**Sites Pledges in HEPSPEC-06** Pledged from the Sites should be converted to the new unit	LCG Office											
WLCG-09-16	Apr 2009	**New Experiments Requirement in HEPSPEC-06** Experiments should convert their requirements to the new unit (or by LCG Office)	ALICE				ATLAS			CMS			LHCb	
WLCG-09-24	May 2009	**Sites Report capacity in the HEPSPEC-06** Pledged from the Sites should be converted to the new unit												
Completed / Cancelled High Level Milestones														
24x7 Support														
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				Apr 2008	June 2008							
WLCG-07-03	Jun 2007	**24x7 Support in Operations** The sites provides 24x7 support to users as standard operations				July 2008	June 2008		Apr 2008		July 2008			

ID	Date	Milestone	ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
		3D DB Milestones												
WLCG-07-09	Mar 2007	**3D Oracle Service in Production** Oracle Service in production, and certified by the Experiments												squid frontier
WLCG-07-10	May 2007	**3D Conditions DB in Production** Conditions DB in operations for ATLAS, CMS, and LHCb. Tested by the Experiments.												squid frontier
		Site Reliability - June 2007												
WLCG-07-12	Jun 2007	**Site Reliability above 91%** Considering each Tier-0 and Tier-1 site (Note: orange means > 90% of target) — Apr 88% / May 88% / Jun 91% / Jul 91% / Aug 91% / Sept 91%												
WLCG-07-13	Jun 2007	**Average of Best 8 Sites above 93%** Eight sites should reach a reliability above 93%	**Averages of the 8 Best sites Apr-Sept 2007** Apr 92 - May 94 - Jun 87 - Jul 93 - Aug 94 - Sept 93											
		Procurement												
WLCG-07-16	1 Jul 2007	**MoU 2007 Pledges Installed** To fulfill the agreement that all sites procure the 2007 MoU pledged by July 2007												
		FTS 2.0												
WLCG-07-18	Jun 2007	**FTS 2.0 Tested and Accepted by the Experiments** In production at CERN and accepted tested by each Experiment	ALICE			ATLAS			CMS			LHCb		
WLCG-07-19	Jun 2007	**Multi-VO Tests Executed and Tested by the Experiments** Scheduled at CERN for last week of June	(will be part of CCRC in February and May 2008)											
WLCG-07-20	Sept 2007	**FTS 2.0 Deployed in Production** Installed and in production at each Tier-1 Site												
		BDII												
WLCG-07-21	Jun 2007	**BDII Guidelines Available** On how to install BDII on a separated node	EGEE - SA1 (not requested)											
WLCG-07-22	Jun 2007	**Top-Level BDII Installed at the Site** For each Tier-1 site												
		glexec												
WLCG-07-24	Jul 2007	**Decision on Usage of glexec and Guidelines to Follow**	GDB											
		Accounting												
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.												
		MSS Main Storage Systems												
WLCG-07-25	Jun 2007	**CASTOR 2.1.3 in Production at CERN** MSS system supporting SRM 2.2 deployed in production at the site	CERN Tier-0											
WLCG-07-26	Nov 2007	**SRM: CASTOR 2.1.6 Tested and Accepted by the Experiments at all Sites** From the SRM Roll-Out Plan (SRM-16 to -19)	ALICE n/a			ATLAS Nov 2007			CMS Nov 2007			LHCb Nov 2007		
WLCG-07-27	Nov 2007	**SRM: dCache 1.8 Tested and Accepted by the Experiments** From the SRM Roll-Out Plan (SRM-16 to -19)	ALICE n/a			ATLAS Nov 2007			CMS Nov 2007			LHCb Nov 2007		
WLCG-07-30b	May 2008	**SRM Missing MoU Features Implemented** With full features agreed in the HEP MoU (srmCopy, etc).	CASTOR			DCache			DPM					
		CAF CERN Analysis Facility												
WLCG-07-40	Oct 2007	**Experiment provide the Test Setup for the CAF** Specification of the requirements and setup needed by each Experiment	ALICE			ATLAS May 2008			CMS June 2008			LHCb May 2008		
		MSS Main Storage Systems												
WLCG-07-28	Sept 2007	**Demonstrated Tier-0 Performance (Storage, DM)** Demonstration that the highest throughput (ATLAS 2008) can be reached.	CERN Tier-0											
WLCG-07-28b	Sept 2007	**Demonstrated Tier-0 Export to Tier-1 Sites** Demonstration that the highest throughput (ATLAS 2008) can be reached.	CERN Tier-0											
WLCG-07-29	Feb 2008	**SRM: CASTOR 2.1.6/dCache in Production at T1** From the SRM Roll-Out Plan (SRM-20 to -21a)												
WLCG-07-30	Dec 2007	**SRM Implementations with HEP MoU Features** With features agreed in HEP MoU (srmCopy, etc).	CASTOR			DCache			DPM					

ID	Date	Milestone	ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
		WN and UI												
WLCG-07-31	Jun 2007	**WN Installed in Production at the Tier-1 Sites** WN on SL4 installed on each Tier-1 site, with the configuration needed to use SL4 or SL3 nodes						n/a				n/a		
WLCG-07-32	Jun 2007	**UI Certification and Installation on the PPS Systems**	EGEE - SA1-PPS done: Jul 2007											
WLCG-07-33	Aug 2007	**UI Tested and Accepted by the Experiments**	ALICE			ATLAS			CMS			LHCb		
		xrootd												
WLCG-07-41	Jul 2007	**xrootd Interfaces Tested and Accepted by ALICE**	ALICE											
		SAM Vo-Specific Tests												
WLCG-07-39	Sept 2007	**VO-Specific SAM Tests in Place** With results included every month in the Site	POSTPONED TO 2008 AND REPLACED BY A NEW MILESTONE (WLCG-08-08)											

Site Reliability - Dec 2007

WLCG-07-14	Dec 2007	**Site Reliability above 93%** Considering each Tier-0 and Tier-1 site (Note: orange means > 90% of target)		Aug 91%											
				Sept 91%											
				Oct 91%											
				Nov 91%											
				Dec 93%											
				Jan 93%											
				Feb 93%											
WLCG-	Dec	**Average of Best 8 Sites above 95%**			Averages of the 8 Best sites Sept 2007 - Jan 2008										

Tier-1 Sites Reliability - June 2008

ID	Date	Milestone			ASGC	CC IN2P3	CERN	DE-KIT	INFN CNAF	NDGF	PIC	RAL	SARA NIKHEF	TRIUMF	BNL	FNAL
WLCG-08-06	Jun 2008	**Tier-1 Sites Reliability above 95%** Considering each Tier-0 and Tier-1 site	Jan 93%						70	92		92	57		91	
			Feb 93%						20	84			84		67	85
			Mar 93%						86		88				80	
			Apr 93%						76	84			90			92
			May 93%						88							
			June 95%						86							93
WLCG-08-07	Jun 2008	**Average of Best 8 Sites above 97%** Average of eight sites should reach a reliability above 97%			Averages of the 8 Best sites Jan-Jun 2008 Jan 96 - Feb 96 - Mar 96 - Apr 96 - May 98 - Jun 96											

Tier-1 Procurement

| WLCG-07-17 | 1 Apr 2008 | **MoU 2008 Pledges Installed** To fulfill the agreement that all sites procure they MoU pledged by April of every year | Sept 2008 | CPU OK May Disk Sep 08 | July 2008 | Apr 2008 | CPU Jul 08 Disk Sept 08 | CPU OK May Disk Sep 08 | CPU OK May Disk Jul 08 | Apr 2008 | Nov 2008 | Apr 2008 | CPU OK Disk Nov 08 | CPU OK May Disk Jul 08 |
| WLCG-08-04 | Sep 2008 | **Sites Report on the Status of the MoU 2009 Procurement** Reporting whether is on track with the MoU pledges by April. Or which is the date when the pledges will be fulfilled. | | Tender Sept Jan Install May | Tender Sept Dec Install Apr | Tender Sept Oct Install Apr | Tender Sept Install May | Tender Sept Install Apr | Tender Oct Install Apr | Tender CPU Sep Disk Oct | Tender Sept Install TBD | Tender CPU Disk Oct | Tender CPU Sep Disk Oct | Tender Sep Install Apr |

OSG RSV Tests

WLCG-08-01	May 2008	**RSV Tier-2 CE Tests Equivalent to SAM** Successful WLCG verification of OSG test equivalence of RSV tests to WLCG CE tests	OSG-RSV											
WLCG-08-01b	Jun 2008	**RSV Tier-2 SE Tests Equivalent to SAM** Successful WLCG verification of OSG test equivalence of RSV tests to WLCG SE tests	OSG-RSV											
WLCG-08-02	Jun 2008	**OSG Tier-2 Reliability Reported** OSG RSV information published in SAM and GOCDB databases. Reliability reports include OSG Tier-2 sites.	OSG-RSV											

SAM VO-Specific Tests

| WLCG-08-08 | Jun 2008 | **VO-Specific SAM Tests in Place** With results included every month in the Site Availability Reports. | ALICE | | | ATLAS | | | CMS | | | LHCb | | |

MSS/Tape Metrics

| WLCG-08-03 | April 2008 | **Tape Efficiency Metrics Published** Metrics are collected and published weekly | | | | June 2008 | | | | | | | | |

Tier-1 Sites Reliability - Dec 2008

WLCG-08-11	Dec 2008	**Tier-1 Sites Reliability above 97%** Considering each Tier-0 and Tier-1 site	Jul 95%		94			79	88			91			
			Aug 95%						43						
			Sept 95%				90	82				94			
			Oct 95%				84	90	92			83			
			Nov 95%		94		94	86		93	89	93			
			Dec 97%		88		80	91						95	95
WLCG-08-12	Dec 2008	**Average of ALL Tier-1 Sites above 98%** Average Reliability above 98%			95% on all Sites - 97% on the Best 8 Sites										