Planning for LCG Phase 2

LHCC Comprehensive Review
14-15 November 2005

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Outline

- Changes in Planning for Phase 2
- Proposal for Planning
- Plans from T1 grid sites
- Status and Work in Progress

Changes in Phase 2 organization

- Several significant organisational changes will take place with the second Phase of LCG.
  - Management Board (MB) including the Tier-1 sites.
    30 members (11 Tier-1, ~8 from experiments, ~8 ex-officio).
    Regular reporting, monitoring and internal reviewing to the MB
  - Oversight Board (OB) continues in its current form (4/year), the membership being high level management of the experiments and the countries providing Tier-1 centres.
  - Collaboration Board (CB) representatives of all of the centres/federations providing computing resources for LHC
  - The MB, is supported by two more technical committees, the Architects Forum and the Grid Deployment Board
- Define a lighter but more active planning, monitoring and reviewing strategy

Reasons for changes in planning

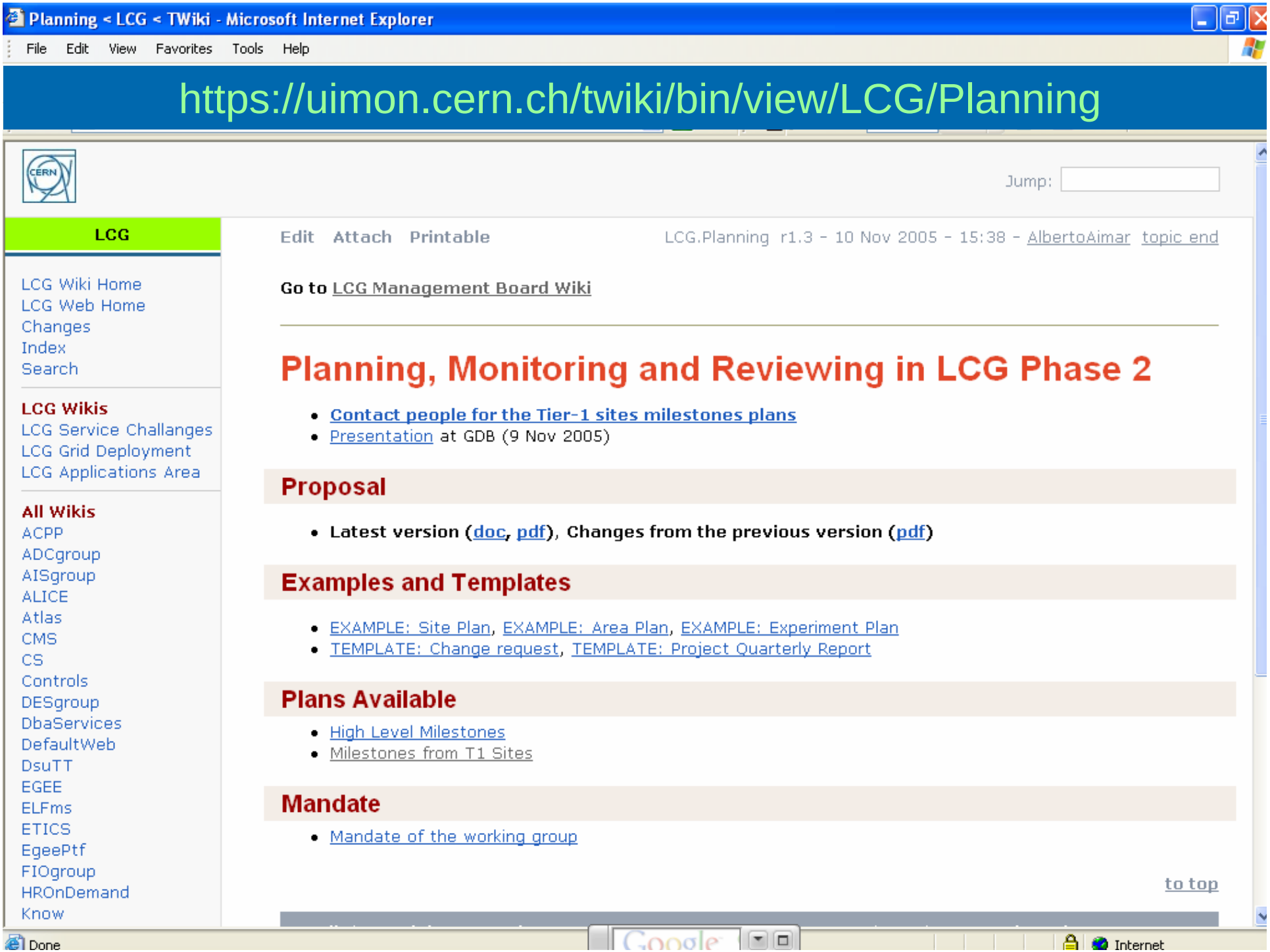
- The PEB had agreed that planning for Phase 2 should be different than before having noticed:
  - inconsistencies between different sections of the (lengthy) quarterly progress report;
  - experiment progress reports sometimes missing;
  - difficulties with defining effective milestones that track the progress of the experiments in using LCG tools and services;
  - uneven monitoring of milestones in different areas of the project;
  - no progress reports from grid services other than those operated as EGEE;
  - no formal milestones to track progress of individual regional centres;

Working Group Mandate

- Working group to define planning, monitoring and reviewing
  - In a couple of weeks in October
  - A.Aimar, D.Barberis, L.Bauerdick, D.Boutigny
  - Discussed with as many as available people in experiments, areas, services, etc.
- Prepare a proposal for the reporting, monitoring and internal reviewing process for LCG Phase 2 to help the MB manage the project
  - Take account of the need to provide quarterly reports to the OB summarising progress, difficulties and risks.
  - Include experiments and regional centres in the reporting process.
  - Consider the cost-effectiveness of the different aspects of the proposal.
  - Prepare the proposal to be presented to a meeting of the new MB during November

Proposal for Planning in Phase 2

- Each project should provide a plan with milestones
  - Templates are provided to help and to foster consistency.
  - Specify details on how a milestone will be verified (availability, capacity).
- The PO discusses the plans and reports to the MB at the weekly meeting all changes relevant at global project level
- The dates of the milestones can be changed
  - The impact of each change on other projects is evaluated by the Planning Officer (PO) and the project leaders involved.
- A general plan for global LCG milestones ("WLCG high level milestones") is maintained to check consistency with the top level milestones
- Dependencies among milestones are managed separately, and manually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LCG Service Challanges
LCG Grid Deployment
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FIOgroup
HROnDemand
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Edit Attach Printable
LCG.Planning r1.3 - 10 Nov 2005 - 15:38 - AlbertoAimar topic end
Go to LCG Management Board Wiki
Planning, Monitoring and Reviewing in LCG Phase 2
Contact people for the Tier-1 sites milestones plans
Presentation at GDB (9 Nov 2005)
Proposal
Latest version (doc, pdf), Changes from the previous version (pdf)
Examples and Templates
EXAMPLE: Site Plan, EXAMPLE: Area Plan, EXAMPLE: Experiment Plan
TEMPLATE: Change request, TEMPLATE: Project Quarterly Report
Plans Available
High Level Milestones
Milestones from T1 Sites
Mandate
Mandate of the working group
to top
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Monitoring and Reporting

- Weekly follow-up and contact with the projects. Report to MB, if needed, by the PO
- Monthly reports to the MB with summary of main achievements and decisions, by the PO
- Each project (site, area projects, experiment task forces) provides a quarterly report
- The QR will be lighter and more structured than then in the past. It will only require to comment the milestones of the quarter, provided, by the PO, to each project leader:
  - past milestone with comments
  - outlook for coming milestones
  - comments on each milestone and action of the quarter
  - description achievements and issues

PROJECT STATUS REPORT	
Project Name	**Date**
Report Period	**Author Name**
References and Hyperlinks	
Summary of Progress	
Milestones since Last Report	**Comments**
Outstanding Issues since Last Report	**Comments**
Changes and Corrective Actions	**Comments**

Reviewing

- Review initial plan
  - Small team of users and specific plans reviewed by users
  - Identify dependencies and critical paths.
- Review QR
  - By the PO and 2 or 3 assessors.
  - Permanent reviewers and maybe others, changing every quarter, in order to match specific skills and needs.
  - The review also verifies the dependencies in case of change of milestones.
- Internal Review LCG Services
  - First Review (about March 2006) at the start of SC4 in order to review preparation and set-up for the service challenge
  - Sept/Oct 2006, if needed, one review for the "lessons learned" from SC4
  - Spring 2007 Review
  - Review team should include expert users of the system in the experiments, as well as internal and external system and service experts.
- Applications Area Internal Review
- LHCC Referees, periodic updates
  - Restricted to about 8 people including the area managers and a few representatives of the regional centres and experiments
- LHCC Comprehensive Review

Applications and Software projects

- **Application Area**
  - The Architects Forum (AF) is the body where the Applications Area is coordinated.
  - The experiments provide their Applications milestones reports, as in Phase 1, using the template
- **Areas**
  - Monthly reports on progress (by the PO).
  - Milestones and action list of the projects.
  - Quarterly Reports commenting past and coming milestones.
- **Experiments**
  - The experiments “task forces” are the channel for the planning and monitoring of all experiments issues regarding the LCG services provided by EGEE.
  - The task force defines and monitors the experiments milestones regarding the LCG services (validation milestones, etc)
  - Weekly update on the work progress and requests to projects (features, fixes, installations, etc)

Grid Sites

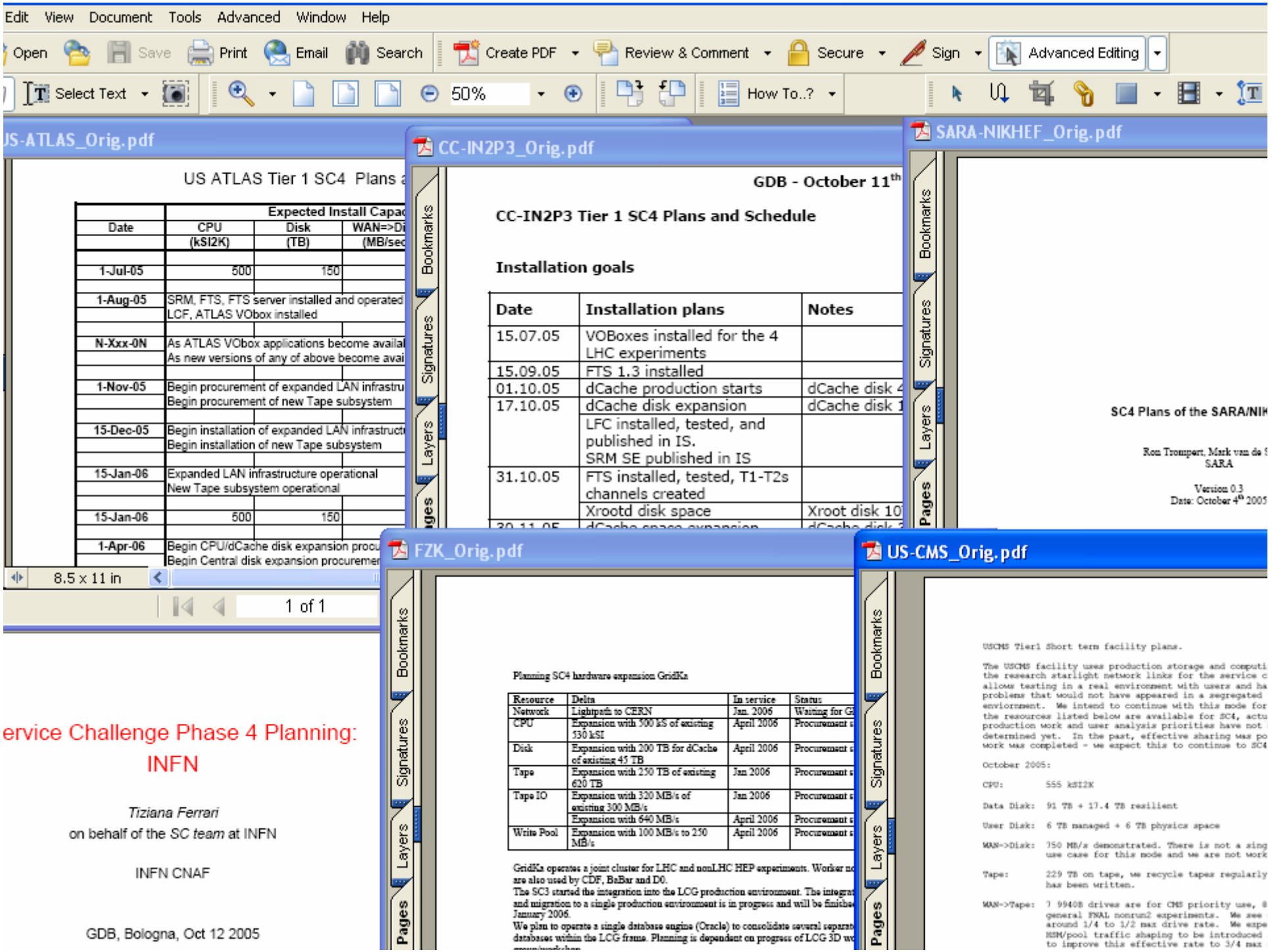
- **GDB Site Monitoring and Reporting**
  - Body where site monitoring and site reporting is handled on a monthly basis
  - Summarizes decisions and achievements of each quarter in a QR.
- **Site Monitoring**
  - Site usage statistics: Performance, jobs executed, success/failures.
  - Status and configuration of the services provided.
  - Every site has updated tables with: capacity, performance, services, versions, platforms, etc.
- **Site Reporting**
  - Accounting, uptime/downtime, split by experiment.
  - Report to the MB via the quarterly reports.
  - Technical progress is reported at the GDB.
- All T1 sites maintain updated plans and provide quarterly reports.
- T2 sites will report on a voluntary basis.
  - This will also help to understand how much (and which) T2 sites are active and at which level they want to get involved.

Status: Tier-1 Grid Sites Plans

- Work started this month and the sites sent their initial plans

- Each plan needs to be completed
- Verify if they are consistent with the High Level plan
- Check if they meet the needs of the experiments
- The goal is to identify problems (and react) as soon as possible

- Converted all plans to the templates
  - Added high-level milestones
  - Capacity, bandwidth, service availability
- Used to discuss on uniform information
- Used to plan, monitor and report the status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US-ATLAS_Orig.pdf
US ATLAS Tier 1 SC4 Plans
Expected Install Capac
Date
CPU (kSI2K)
Disk (TB)
WAN=>Di (MB/sec
1-Jul-05 500 150
1-Aug-05 SRM, FTS, FTS server installed and operated
LCF, ATLAS VObox installed
N-Xxx-0N As ATLAS VObox applications become availal
As new versions of any of above become avai
1-Nov-05 Begin procurement of expanded LAN infrastru
Begin procurement of new Tape subsystem
15-Dec-05 Begin installation of expanded LAN infrastruct
Begin installation of new Tape subsystem
15-Jan-06 Expanded LAN infrastructure operational
New Tape subsystem operational
15-Jan-06 500 150
1-Apr-06 Begin CPU/dCache disk expansion procu
Begin Central disk expansion procuremer
8.5 x 11 in
1 of 1
CC-IN2P3_Orig.pdf
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GDB - October 11th
CC-IN2P3 Tier 1 SC4 Plans and Schedule
Installation goals
Date
Installation plans
Notes
15.07.05 VOBoxes installed for the 4 LHC experiments
15.09.05 FTS 1.3 installed
01.10.05 dCache production starts dCache disk
17.10.05 dCache disk expansion dCache disk
LFC installed, tested, and published in IS.
SRM SE published in IS
31.10.05 FTS installed, tested, T1-T2s channels created
Xrootd disk space Xroot disk 10
SARA-NIKHEF_Orig.pdf
Bookmarks
Signatures
Layers
Pages
SC4 Plans of the SARA/NIK
Ron Trompert, Mark van de
SARA
Version 0.3
Date: October 4th 2005
ervice Challenge Phase 4 Planning:
INFN
Tiziana Ferrari
on behalf of the SC team at INFN
INFN CNAF
GDB, Bologna, Oct 12 2005
FZK_Orig.pdf
Bookmarks
Signatures
Layers
Pages
Planning SC4 hardware expansion GridKa
Resource
Delta
In service
Status
Network
Lightpath to CERN
Jan. 2006
CPU
Expansion with 300 kS of existing 530 kSI
April 2006
Disk
Expansion with 200 TB for dCache of existing 45 TB
April 2006
Tape
Expansion with 250 TB of existing 620 TB
Jan 2006
Tape IO
Expansion with 320 MB/s of existing 300 MB/s
Jan 2006
Expansion with 640 MB/s
April 2006
Write Pool
Expansion with 100 MB/s to 250 MB/s
April 2006
GridKa operates a joint cluster for LHC and nonLHC HEP experiments. Worker n
are also used by CDF, BaBar and D0.
The SC3 started the integration into the LCG production environment. The integra
and migration to a single production environment is in progress and will be finish
January 2006.
We plan to operate a single database engine (Oracle) to consolidate several separat
databases within the LCG frame. Planning is dependent on progress of LCG 3D w
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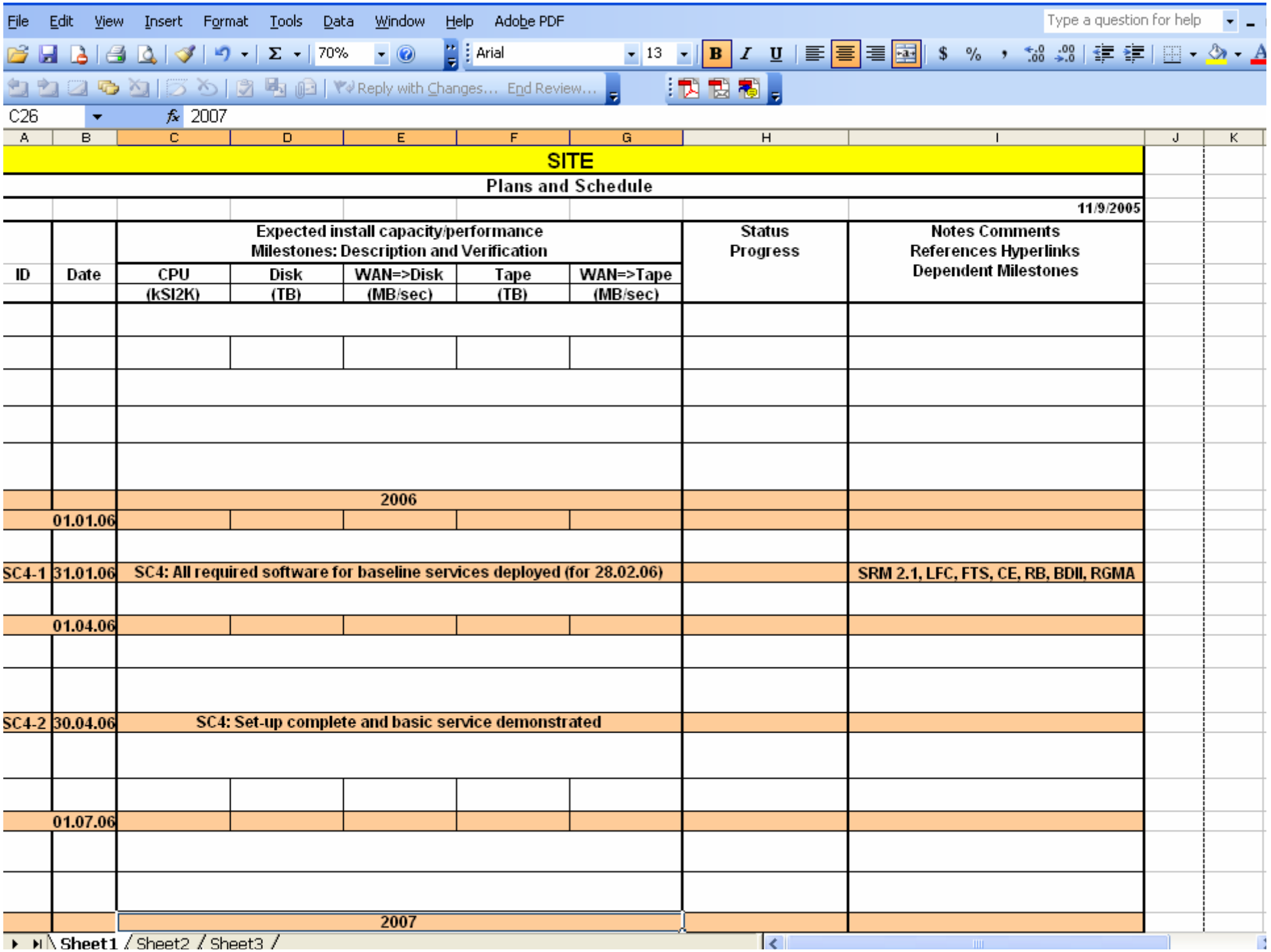
USCMS Tier1 Short term facility plans.
The USCMS facility uses production storage and computi
the research starlight network links for the service c
allows testing in a real environment with users and ha
problems that would not have appeared in a segregated
enviornment. We intend to continue with this mode for
the resources listed below are available for SC4, actu
production work and user analysis priorities have not
determined yet. In the past, effective sharing was po
work was completed - we expect this to continue to SC4
October 2005:
CPU: 555 kSI2K
Data Disk: 91 TB + 17.4 TB resilient
User Disk: 6 TB managed + 6 TB physics space
WAN->Disk: 750 MB/s demonstrated. There is not a sing
use case for this mode and we are not work
Tape: 229 TB on tape, we recycle tapes regularly
has been written.
WAN->Tape: 7 9940B drives are for CMS priority use, 8
general FNAL nonrun2 experiments. We see
around 1/4 to 1/2 max drive rate. We expe
HSM/pool traffic shaping to be introduced
to improve this effective rate to 3/4 max



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C26 — 2007

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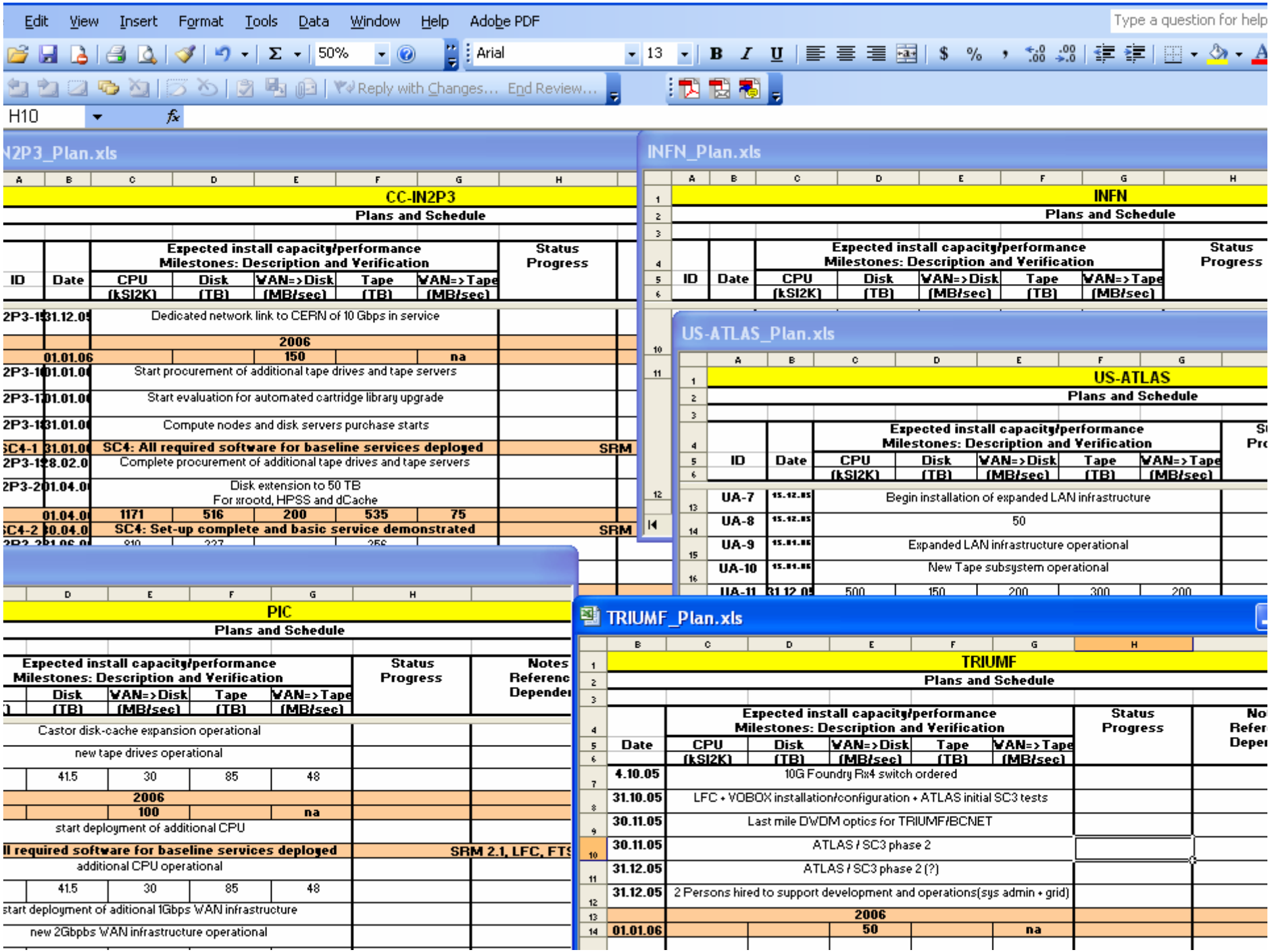
SITE

Plans and Schedule

11/9/2005

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress	Notes Comments References Hyperlinks Dependent Milestones
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)		
		2006						
	01.01.06							
SC4-1	31.01.06	SC4: All required software for baseline services deployed (for 28.02.06)						SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA
	01.04.06							
SC4-2	30.04.06	SC4: Set-up complete and basic service demonstrated						
	01.07.06							
		2007						

Sheet1 / Sheet2 / Sheet3 /



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N2P3_Plan.xls

CC-IN2P3

Plans and Schedule

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)	
2P3-19	31.12.05	Dedicated network link to CERN of 10 Gbps in service					
		2006					
	01.01.06			150		na	
2P3-16	01.01.06	Start procurement of additional tape drives and tape servers					
2P3-17	01.01.06	Start evaluation for automated cartridge library upgrade					
2P3-18	31.01.06	Compute nodes and disk servers purchase starts					
SC4-1	31.01.06	SC4: All required software for baseline services deployed					SRM
2P3-19	28.02.06	Complete procurement of additional tape drives and tape servers					
2P3-20	01.04.06	Disk extension to 50 TB For xrootd, HPSS and dCache					
	01.04.06	1171	516	200	535	75	
SC4-2	30.04.06	SC4: Set-up complete and basic service demonstrated					SRM
2P3-21	01.06.06	810	227		256		

INFN_Plan.xls

INFN

Plans and Schedule

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)	

US-ATLAS_Plan.xls

US-ATLAS

Plans and Schedule

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)	
UA-7	15.12.05	Begin installation of expanded LAN infrastructure					
UA-8	15.12.05	50					
UA-9	15.01.06	Expanded LAN infrastructure operational					
UA-10	15.01.06	New Tape subsystem operational					
UA-11	31.12.05	500	150	200	300	200	

PIC

Plans and Schedule

Expected install capacity/performance Milestones: Description and Verification					Status Progress	Notes Referenc Dependen
Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)			
Castor disk-cache expansion operational						
new tape drives operational						
41.5	30	85	48			
2006						
	100		na			
start deployment of additional CPU						
ll required software for baseline services deployed						SRM 2.1, LFC, FTS
additional CPU operational						
41.5	30	85	48			
start deployment of aditional 1Gbps WAN infrastructure						
new 2Gbpbs WAN infrastructure operational						

TRIUMF_Plan.xls

TRIUMF

Plans and Schedule

Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress	No Refer Deper
	CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)		
4.10.05	10G Foundry Rx4 switch ordered						
31.10.05	LFC + VOBOX installation/configuration + ATLAS initial SC3 tests						
30.11.05	Last mile DWDM optics for TRIUMF/BCNET						
30.11.05	ATLAS / SC3 phase 2						
31.12.05	ATLAS / SC3 phase 2 (?)						
31.12.05	2 Persons hired to support development and operations(sys admin + grid)						
	2006						
01.01.06			50		na		

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G Grid Deployment
G Applications Area

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Cgroup
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aServices
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EE
Fms
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Site Plans for LCG Phase 2

At the GDB Meeting in Bologna (agenda) the Tier1 sites submitted their plans for SC4 (some sites until end of 2006).

The column **Original Plan** links to these documents.
Instead each **Milestones Table** follows the **template** provided for the site plans.

Tier 1 sites are requested to:

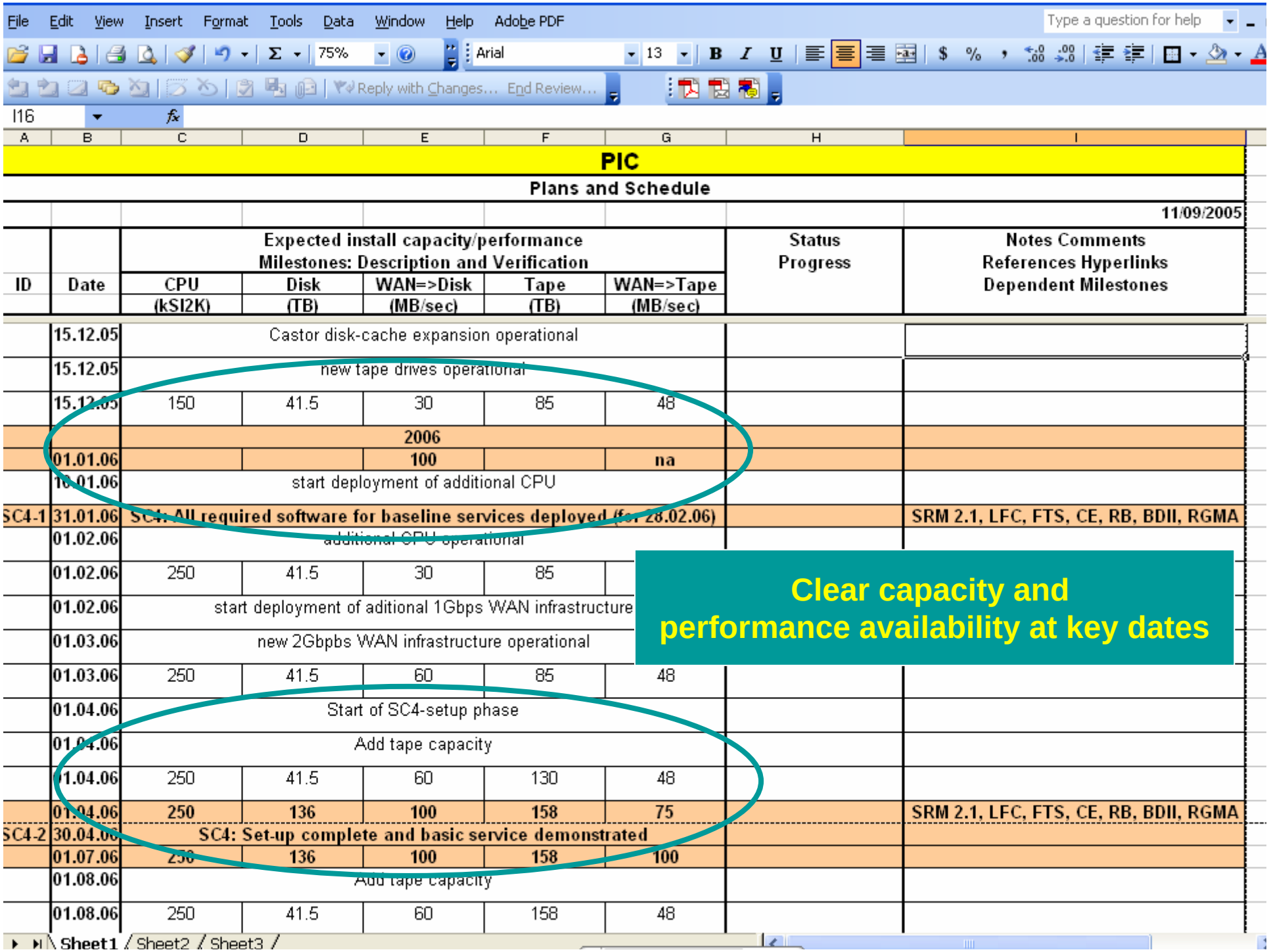
1. download the corresponding table;
2. review and modify the milestones, add comments, project status and progress;
3. submit the modified table.

Site	Original Plan	Milestones Table
ASGC	ASGC_Orig.pdf	ASGC_Plan.xls
CC-IN2P3	CC-IN2P3_Orig.pdf	CC-IN2P3_Plan.xls
CERN	CERN_Orig.pdf	CERN_Plan.xls
FZK	FZK_Orig.pdf	**FZK_Plan-v2.xls**
INFN	INFN_Orig.pdf	INFN_Plan.xls
PIC	PIC_Orig.pdf	**PIC_Plan-v2.xls**
RAL	RAL_Orig.pdf	RAL_Plan.xls
SARA-NIKHEF	SARA-NIKHEF_Orig.pdf	**SARA-NIKHEF_Plan-v4.xls**
TRIUMF	TRIUMF_Orig.pdf	TRIUMF_Plan.xls
US-ATLAS	US-ATLAS_Orig.pdf	US-ATLAS_Plan.xls
US-CMS	US-CMS_Orig.pdf	US-CMS_Plan.xls

to top

Ongoing: Improving the plans

- Adding content to the plans
  - Clear capacity and performance availability at key dates Jan 06, April 06, Jul 06
  - Clear planning of installations and changes in the services provided
    SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA, etc
  - Several steps needed to set-up hardware or a service (ex: choose, procure, start install, end install, make operational)
  - Include important infrastructure, not only software and computers



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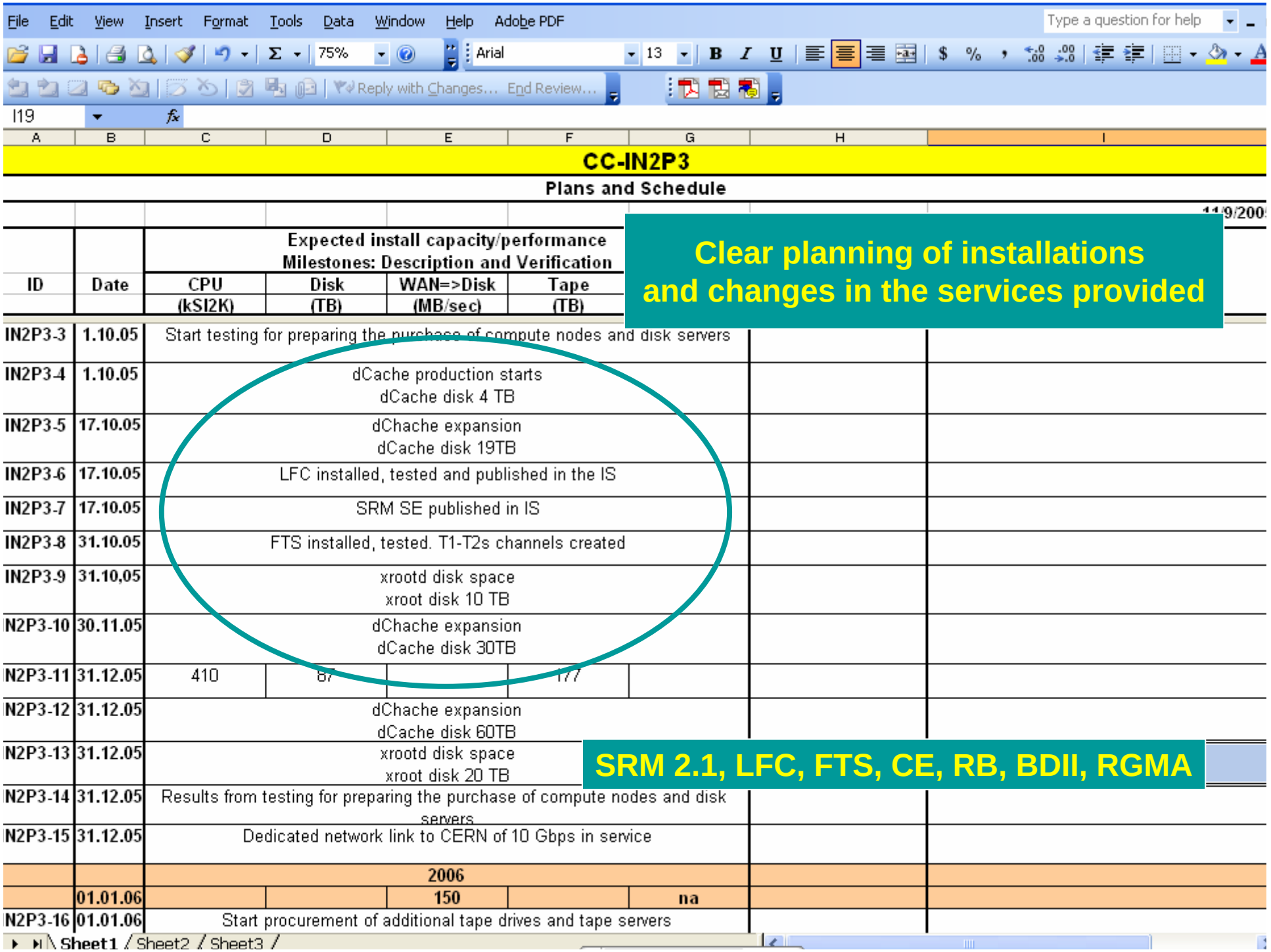
Plans and Schedule

11/09/2005

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress	Notes Comments References Hyperlinks Dependent Milestones
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)		
	15.12.05	Castor disk-cache expansion operational						
	15.12.05	new tape drives operational						
	15.12.05	150	41.5	30	85	48		
		2006						
	01.01.06			**100**		**na**		
	01.01.06	start deployment of additional CPU						
SC4-1	31.01.06	**SC4: All required software for baseline services deployed (for 28.02.06)**						**SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA**
	01.02.06	additional CPU operational						
	01.02.06	250	41.5	30	85			
	01.02.06	start deployment of aditional 1Gbps WAN infrastructure						
	01.03.06	new 2Gbpbs WAN infrastructure operational						
	01.03.06	250	41.5	60	85	48		
	01.04.06	Start of SC4-setup phase						
	01.04.06	Add tape capacity						
	01.04.06	250	41.5	60	130	48		
	01.04.06	**250**	**136**	**100**	**158**	**75**		**SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA**
SC4-2	30.04.06	**SC4: Set-up complete and basic service demonstrated**						
	01.07.06	**250**	**136**	**100**	**158**	**100**		
	01.08.06	Add tape capacity						
	01.08.06	250	41.5	60	158	48		

Clear capacity and performance availability at key dates



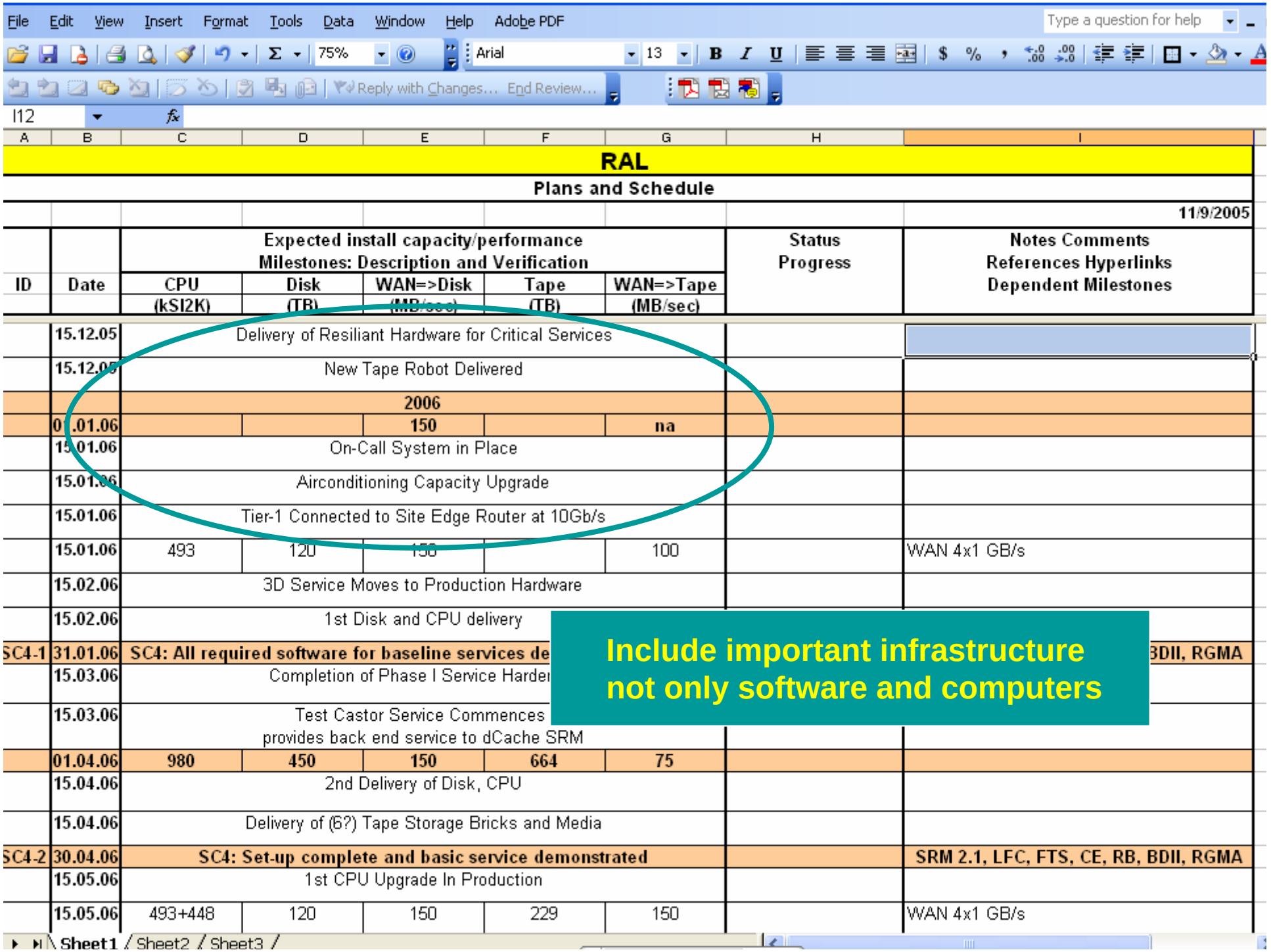
CC-IN2P3

Plans and Schedule

ID	Date	Expected install capacity/performance Milestones: Description and Verification				
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	
IN2P3-3	1.10.05	Start testing for preparing the purchase of compute nodes and disk servers				
IN2P3-4	1.10.05	dCache production starts dCache disk 4 TB				
IN2P3-5	17.10.05	dChache expansion dCache disk 19TB				
IN2P3-6	17.10.05	LFC installed, tested and published in the IS				
IN2P3-7	17.10.05	SRM SE published in IS				
IN2P3-8	31.10.05	FTS installed, tested. T1-T2s channels created				
IN2P3-9	31.10,05	xrootd disk space xroot disk 10 TB				
N2P3-10	30.11.05	dChache expansion dCache disk 30TB				
N2P3-11	31.12.05	410	87		177	
N2P3-12	31.12.05	dChache expansion dCache disk 60TB				
N2P3-13	31.12.05	xrootd disk space xroot disk 20 TB				
N2P3-14	31.12.05	Results from testing for preparing the purchase of compute nodes and disk servers				
N2P3-15	31.12.05	Dedicated network link to CERN of 10 Gbps in service				
		2006				
	01.01.06			150		na
N2P3-16	01.01.06	Start procurement of additional tape drives and tape servers				

Clear planning of installations and changes in the services provided

SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA



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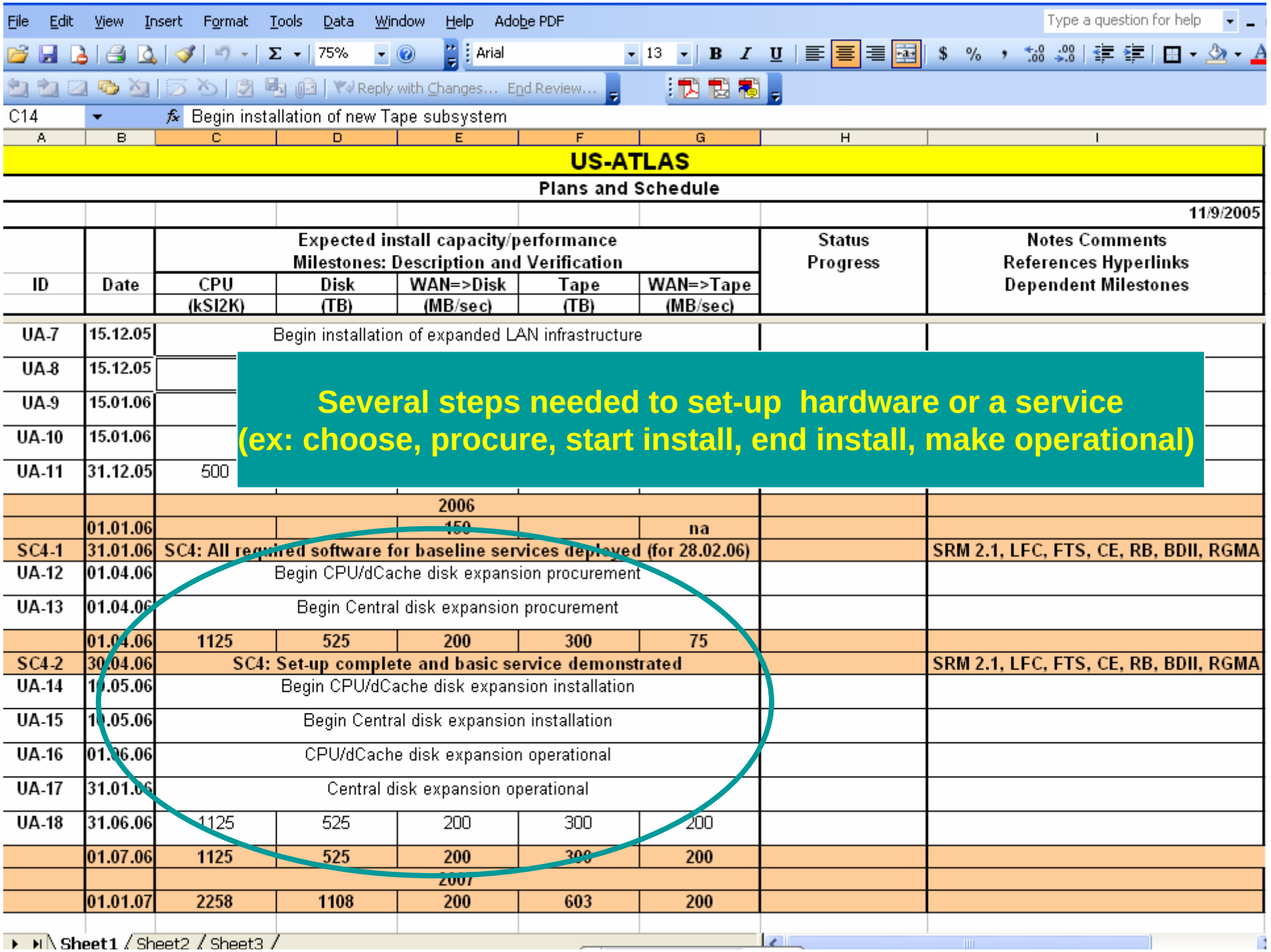
Plans and Schedule

11/9/2005

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress	Notes Comments References Hyperlinks Dependent Milestones
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)		
	15.12.05	Delivery of Resiliant Hardware for Critical Services						
	15.12.05	New Tape Robot Delivered						
		2006						
	01.01.06			**150**		**na**		
	15.01.06	On-Call System in Place						
	15.01.06	Airconditioning Capacity Upgrade						
	15.01.06	Tier-1 Connected to Site Edge Router at 10Gb/s						
	15.01.06	493	120	150		100		WAN 4x1 GB/s
	15.02.06	3D Service Moves to Production Hardware						
	15.02.06	1st Disk and CPU delivery						
SC4-1	31.01.06	**SC4: All required software for baseline services de**						BDII, RGMA
	15.03.06	Completion of Phase I Service Harde						
	15.03.06	Test Castor Service Commences provides back end service to dCache SRM						
	01.04.06	**980**	**450**	**150**	**664**	**75**		
	15.04.06	2nd Delivery of Disk, CPU						
	15.04.06	Delivery of (6?) Tape Storage Bricks and Media						
SC4-2	30.04.06	**SC4: Set-up complete and basic service demonstrated**						**SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA**
	15.05.06	1st CPU Upgrade In Production						
	15.05.06	493+448	120	150	229	150		WAN 4x1 GB/s

Include important infrastructure not only software and computers



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Reply with Changes... End Review...

C14 — Begin installation of new Tape subsystem

US-ATLAS

Plans and Schedule

11/9/2005

ID	Date	Expected install capacity/performance Milestones: Description and Verification					Status Progress	Notes Comments References Hyperlinks Dependent Milestones
		CPU (kSI2K)	Disk (TB)	WAN=>Disk (MB/sec)	Tape (TB)	WAN=>Tape (MB/sec)		
UA-7	15.12.05	Begin installation of expanded LAN infrastructure						
UA-8	15.12.05							
UA-9	15.01.06							
UA-10	15.01.06							
UA-11	31.12.05	500						
		2006						
	01.01.06			150		na		
SC4-1	31.01.06	SC4: All required software for baseline services deployed (for 28.02.06)						SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA
UA-12	01.04.06	Begin CPU/dCache disk expansion procurement						
UA-13	01.04.06	Begin Central disk expansion procurement						
	01.04.06	1125	525	200	300	75		
SC4-2	30.04.06	SC4: Set-up complete and basic service demonstrated						SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA
UA-14	10.05.06	Begin CPU/dCache disk expansion installation						
UA-15	10.05.06	Begin Central disk expansion installation						
UA-16	01.06.06	CPU/dCache disk expansion operational						
UA-17	31.01.06	Central disk expansion operational						
UA-18	31.06.06	1125	525	200	300	200		
	01.07.06	1125	525	200	300	200		
		2007						
	01.01.07	2258	1108	200	603	200		

Several steps needed to set-up hardware or a service
(ex: choose, procure, start install, end install, make operational)

Sheet1 / Sheet2 / Sheet3

Next Steps – Grid Sites

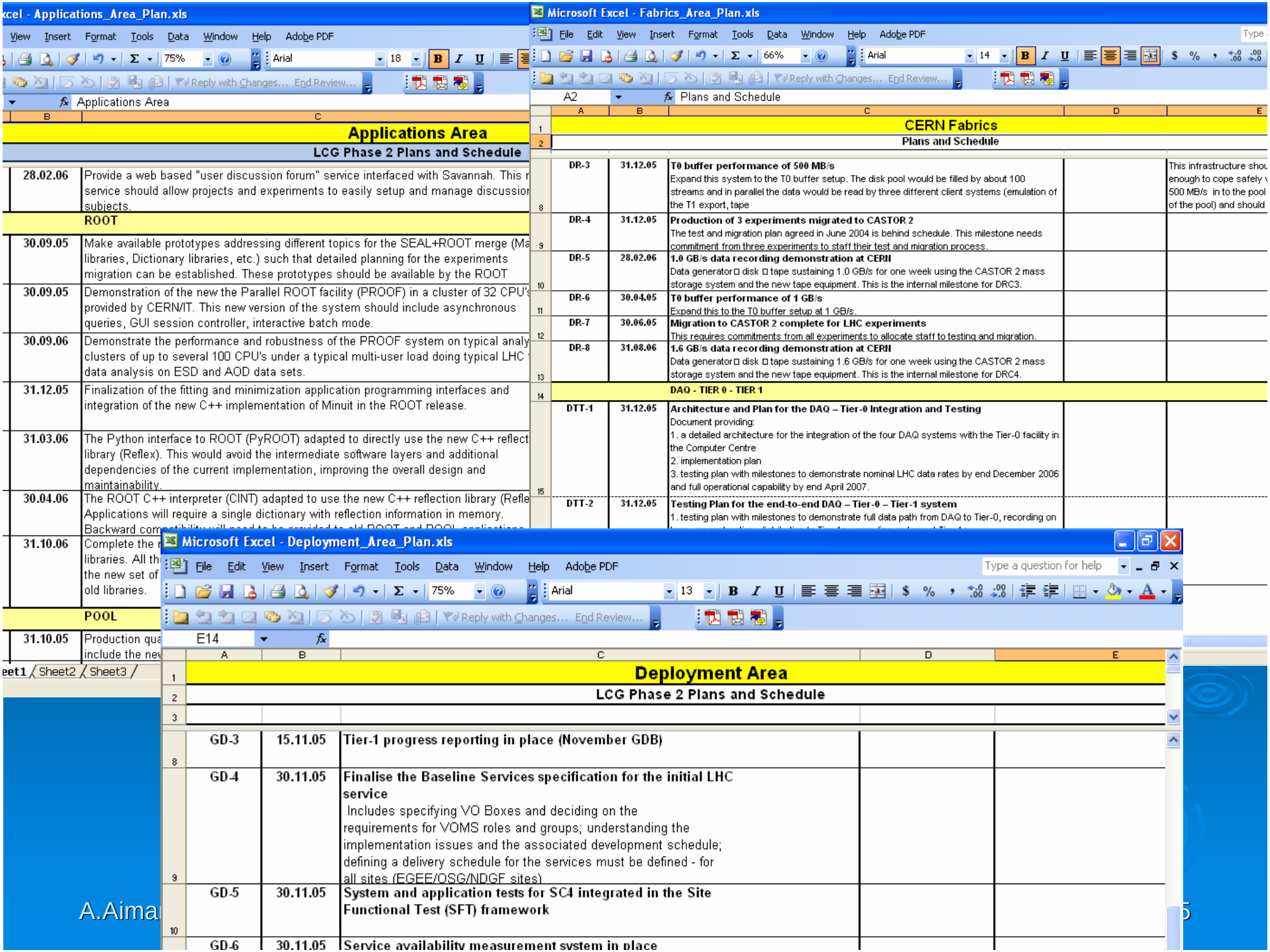
- Sites to review/add milestones (urgent)
  - Capacity and bandwidth available (Jan 06, Apr 06, Jul 06)
  - Services installations and upgrades: SRM 2.1, LFC, FTS, CE, RB, BDII, RGMA
  - Operations organization, installation, deployment
  - Procurement milestones
  - Details and comments
- 16 Nov 05: A new version expected from the sites
- Nov 05: I will iterate on what is missing/unclear, discuss in order to complete the plan
- Dec 05: Review, ask questions, discuss with the users, compare with the needs/schedules (capacity, services etc.) of the experiments
- Jan 06: Used to plan, monitor and report
- Summary at the GDB meetings

Next Steps (2)

- It is a VERY complicated work of multiple projects with dependencies
- In parallel, starting this week the same for the other projects:
  - Work to get more milestones of plans from the areas, software projects and experiments task forces
  - Covering all projects within LCG
  - Ask major milestones to external software projects (m/w, etc)

  - Working with the Task Forces to identify and organize needs and priorities of the experiments (by EIS/ECGI)
  - Check that the software projects include these requests into their plans
- Later:
  - Dependencies among milestones (experiments+sites+services+software relases)
  - Risk Management and Critical Issues

The goal is to identify problems and act early
Prioritize actions to match needs of the experiments



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Applications Area

LCG Phase 2 Plans and Schedule

28.02.06	Provide a web based "user discussion forum" service interfaced with Savannah. This r service should allow projects and experiments to easily setup and manage discussio subjects.
	ROOT
30.09.05	Make available prototypes addressing different topics for the SEAL+ROOT merge (Ma libraries, Dictionary libraries, etc.) such that detailed planning for the experiments migration can be established. These prototypes should be available by the ROOT
30.09.05	Demonstration of the new the Parallel ROOT facility (PROOF) in a cluster of 32 CPU' provided by CERN/IT. This new version of the system should include asynchronous queries, GUI session controller, interactive batch mode.
30.09.06	Demonstrate the performance and robustness of the PROOF system on typical analy clusters of up to several 100 CPU's under a typical multi-user load doing typical LHC data analysis on ESD and AOD data sets.
31.12.05	Finalization of the fitting and minimization application programming interfaces and integration of the new C++ implementation of Minuit in the ROOT release.
31.03.06	The Python interface to ROOT (PyROOT) adapted to directly use the new C++ reflect library (Reflex). This would avoid the intermediate software layers and additional dependencies of the current implementation, improving the overall design and maintainability.
30.04.06	The ROOT C++ interpreter (CINT) adapted to use the new C++ reflection library (Refle Applications will require a single dictionary with reflection information in memory. Backward com
31.10.06	Complete the r libraries. All th the new set of old libraries.
	POOL
31.10.05	Production qua include the nev

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CERN Fabrics

Plans and Schedule

DR-3	31.12.05	**T0 buffer performance of 500 MB/s** Expand this system to the T0 buffer setup. The disk pool would be filled by about 100 streams and in parallel the data would be read by three different client systems (emulation of the T1 export, tape	This infrastructure shou enough to cope safely v 500 MB/s in to the pool of the pool) and should
DR-4	31.12.05	**Production of 3 experiments migrated to CASTOR 2** The test and migration plan agreed in June 2004 is behind schedule. This milestone needs commitment from three experiments to staff their test and migration process.	
DR-5	28.02.06	**1.0 GB/s data recording demonstration at CERN** Data generator□ disk □ tape sustaining 1.0 GB/s for one week using the CASTOR 2 mass storage system and the new tape equipment. This is the internal milestone for DRC3.	
DR-6	30.04.05	**T0 buffer performance of 1 GB/s** Expand this to the T0 buffer setup at 1 GB/s.	
DR-7	30.06.05	**Migration to CASTOR 2 complete for LHC experiments** This requires commitments from all experiments to allocate staff to testing and migration.	
DR-8	31.08.06	**1.6 GB/s data recording demonstration at CERN** Data generator□ disk □ tape sustaining 1.6 GB/s for one week using the CASTOR 2 mass storage system and the new tape equipment. This is the internal milestone for DRC4.	
		DAQ - TIER 0 - TIER 1	
DTT-1	31.12.05	**Architecture and Plan for the DAQ – Tier-0 Integration and Testing** Document providing: 1. a detailed architecture for the integration of the four DAQ systems with the Tier-0 facility in the Computer Centre 2. implementation plan 3. testing plan with milestones to demonstrate nominal LHC data rates by end December 2006 and full operational capability by end April 2007.	
DTT-2	31.12.05	**Testing Plan for the end-to-end DAQ – Tier-0 – Tier-1 system** 1. testing plan with milestones to demonstrate full data path from DAQ to Tier-0, recording on	

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Deployment Area

LCG Phase 2 Plans and Schedule

GD-3	15.11.05	**Tier-1 progress reporting in place (November GDB)**	
GD-4	30.11.05	**Finalise the Baseline Services specification for the initial LHC service** Includes specifying VO Boxes and deciding on the requirements for VOMS roles and groups; understanding the implementation issues and the associated development schedule; defining a delivery schedule for the services must be defined - for all sites (EGEE/OSG/NDGF sites)	
GD-5	30.11.05	**System and application tests for SC4 integrated in the Site Functional Test (SFT) framework**	
GD-6	30.11.05	**Service availability measurement system in place**	

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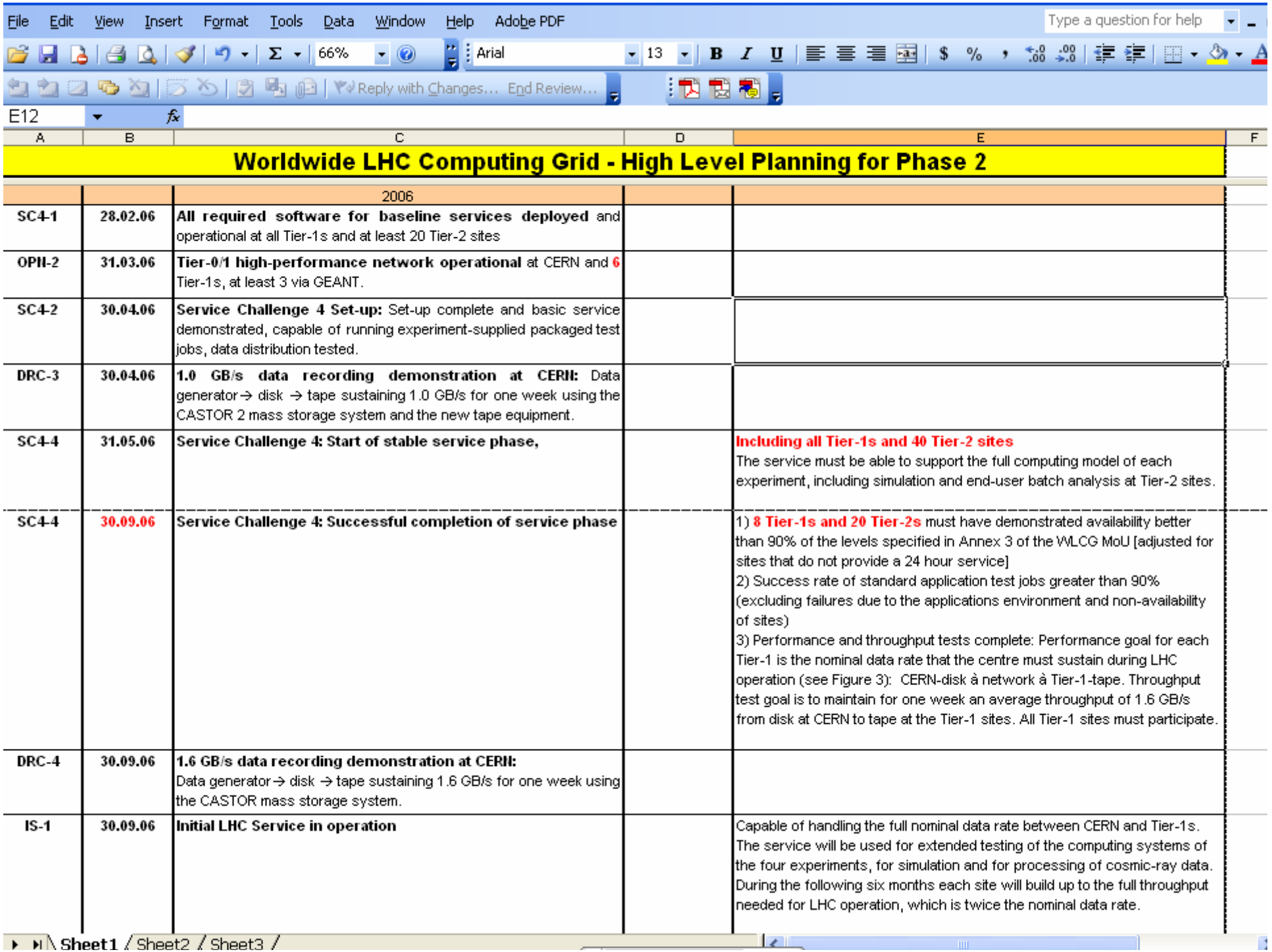
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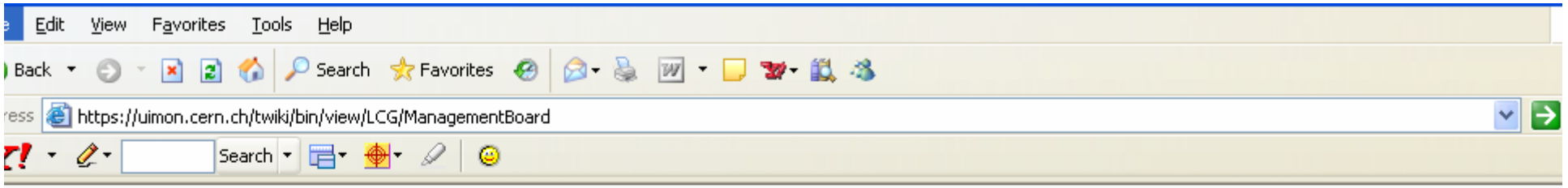
Worldwide LHC Computing Grid - High Level Planning for Phase 2
2006
SC4-1 28.02.06 All required software for baseline services deployed and operational at all Tier-1s and at least 20 Tier-2 sites
OPN-2 31.03.06 Tier-0/1 high-performance network operational at CERN and 6 Tier-1s, at least 3 via GEANT.
SC4-2 30.04.06 Service Challenge 4 Set-up: Set-up complete and basic service demonstrated, capable of running experiment-supplied packaged test jobs, data distribution tested.
DRC-3 30.04.06 1.0 GB/s data recording demonstration at CERN: Data generator→ disk → tape sustaining 1.0 GB/s for one week using the CASTOR 2 mass storage system and the new tape equipment.
SC4-4 31.05.06 Service Challenge 4: Start of stable service phase,
Including all Tier-1s and 40 Tier-2 sites
The service must be able to support the full computing model of each experiment, including simulation and end-user batch analysis at Tier-2 sites.
SC4-4 30.09.06 Service Challenge 4: Successful completion of service phase
1) 8 Tier-1s and 20 Tier-2s must have demonstrated availability better than 90% of the levels specified in Annex 3 of the WLCG MoU [adjusted for sites that do not provide a 24 hour service]
2) Success rate of standard application test jobs greater than 90% (excluding failures due to the applications environment and non-availability of sites)
3) Performance and throughput tests complete: Performance goal for each Tier-1 is the nominal data rate that the centre must sustain during LHC operation (see Figure 3): CERN-disk à network à Tier-1-tape. Throughput test goal is to maintain for one week an average throughput of 1.6 GB/s from disk at CERN to tape at the Tier-1 sites. All Tier-1 sites must participate.
DRC-4 30.09.06 1.6 GB/s data recording demonstration at CERN:
Data generator→ disk → tape sustaining 1.6 GB/s for one week using the CASTOR mass storage system.
IS-1 30.09.06 Initial LHC Service in operation
Capable of handling the full nominal data rate between CERN and Tier-1s. The service will be used for extended testing of the computing systems of the four experiments, for simulation and for processing of cosmic-ray data. During the following six months each site will build up to the full throughput needed for LHC operation, which is twice the nominal data rate.
Sheet1 Sheet2 Sheet3

All information is available on the MB Wiki

https://uimon.cern.ch/twiki/bin/view/LCG/ManagementBoard



Jump:

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G Wiki Home
G Web Home
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dex
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G Wikis
G Service Challanges
G Grid Deployment
G Applications Area

Wikis
PP
Cgroup
Sgroup
ICE
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IS

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Sgroup
aServices
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LCG Management Board Wiki

These Wiki pages contain information and links for the members of the LCG Management Board.
If you want any addition or change to the information in this page just send an email.

Recent Material

10 Nov 2005 - **Site Plans for LCG Phase2**

9 Nov 2005 - Contact people for the Tier-1 sites milestones plans: **To be verified by the T1 sites**
9 Nov 2005 - Presentation at GDB about plannig in T1 for SC4: presented at GDB meeting
7 Nov 2005 - Proposal for Planning, Monitoring and Reviewing in LCG Phase 2: **To be approved by MB**
3 Nov 2005 - WLCG High Level Plan for LCG Phase 2: **To be approved by MB**

Useful Links

MB Links	**MB Web**, **MB Members**, **MB Agendas**, **MB Minutes**
Webs and Agendas	LCG Home Page, All Agendas, GDB Agendas, Coordination Meeting Applications Area, Architects Forum, All EGEE Agendas, LCG PEB Agendas (old)
Service Challenges	Service Challenges Wiki, SC4: Service Definition, Progress, Dashboard
Other Links	EIS Home, ECGI Home, Grid documentation Computing TDRs: ALICE , ATLAS , CMS, LCG, LHCb