-- HarryRenshall - 06 Mar 2006

LHCb Tier 1 Resource Requirements Timetable for 2006/2007/2008

Last Updated 1.11.2007: Start to add 2008 plans and clarify experiment required shares compared with site offers.

Updated 25.06.2007: Split off 2006 plans into a separate linked page and remove LHC engineering run.

Updated 04.06.2007: replace LHCb spreadsheet with version of 29 May 2007 which extends requirements to the end of 2007 (sheet 1 of spreadsheet).

Updated 28.03.2007: replace LHCb spreadsheet with version of 28 March 2007 where cpu requirements are now gross values calculated by assuming the standard LCG inefficiencies.

Updated 22.03.2007: replace LHCb spreadsheet with version of 20 March 2007 going up to September 2007. Note major MC production to be completed by April so cpu requirements reduce.

Updated 6.03.2007: add placeholder for June/July DAQ to T0 to T1 throughput tests.

Updated 23.10.2006: revise requirements (now up to April 2007) from 26 Sep 2006 spreadsheet and update site plans.

Updated 05.10.2006: replace LHCB spreadsheet with version of 26 Sep 2006 which goes up to April 2007 (but changes are not yet reflected in site plans)

Updated 01.09.2006: add requirements for November and December from July spreadsheet.

Updated 10.07.2006: replace LHCB spreadsheet with version of 7 July 2006

Updated 7.06.2006 to reflect new dates (program pushed back by 1 month)

Updated 22.05.2006: replace LHCB spreadsheet with version of 11 May 2006

Updated 28.04.2006: attach LHCB spreadsheet

LHCb have provided a spreadsheet containing detailed Tier 1 resource requirements in cpu, disk, tape and network bandwidth. Last version was 29 May 2007 and it is attached here: LHCb070529.xls

In the LHCb computing model CERN provides Tier 1 services to a total of 14% of the LHCb Tier 1 requirements. This share is not included in these tables which hence refer to the requirements on external Tier 1 sites only.

For 2007/1Q2008 we use the Tier 1 average cpu+disk+tape resource pledges to give the site shares:

CNAF to provide 9% of resources	IN2P3 to provide 14% of pp resources	FZK to provide 8% of resources	NIKHEF to provide 29% of resources	PIC to provide 5% of pp resources	RAL to provide 35% of pp resources

For the period 2Q2008/1Q2009 the Tier-1 site offers in cpu+disk (we take the average) exceed the requirements by about 90%:

CNAF offers 16.5% of external T1 cpu+disk	IN2P3 offers 27% of external T1 cpu+disk	FZK offers 17.5% of external T1 cpu+disk	NIKHEF offers 56% of external T1 cpu+disk	PIC offers 9% of external T1 cpu+disk	RAL offers 66.5% of external cpu+disk

requirements	requirements	requirements	requirements	requirements	requirements

Renormalising this to 100% gives the per site shares of the total external Tier1 LHCb requirements. These percentages are used to calculate the per site resource requirement spreadsheets:

CNAF to provide 8.5% of cpu+disk resources	IN2P3 to provide 14% of cpu+disk resources	FZK to provide 9% of cpu+disk resources	NIKHEF to provide 29% of cpu+disk resources	PIC to provide 5% of cpu+disk resources	RAL to provide 35% of cpu+disk resources

LHCb Distribution of activities over 2006

LhcbTimeTable2006

LHCb Distribution of activities over 2007/2008

Month	LHCB Requirements
January 2007	Provide 1606 KSi2K of Tier 1 cpu for MC event generation, stripping, reconstruction and analysis of reconstructed data.
February	Provide 1606 KSi2K of Tier 1 cpu for MC event generation, stripping, reconstruction and analysis of reconstructed data.
March	Provide 1555 KSi2K of Tier 1 cpu for MC event generation and analysis of reconstructed data.
April	Provide 1555 KSi2K of Tier 1 cpu for MC event generation and analysis of reconstructed data.
May	
June	Start DAQ to Tier-0 to Tier-1 throughput tests at 42 MB/s aggregate rate from CERN to Tier-1s.
July	Continue DAQ to Tier-0 to Tier-1 throughput tests.
August	
September	Perform 2nd pass reconstruction tests at Tier-1 sites.
October	
November	
December	
January 2008	
February	Participate in the CCRC'08 functional tests. Over 2 weeks build up to as close to the 2008 p-p running conditions as resources allow to reach rates Tier0-Tier1 of 41 MB/s, Tier1-Tier0 of 6 MB/s and Tier1-Tier1 average of 9 MB/s. Run 300 24-hour long jobs/day at Tier0 and 1700 over the Tier1. Store 42TB Raw data on T1D0 at Tier0 and over Tier1, 21TB rDST over CERN and external Tier1, 8 TB DST on CERN T1D1 and 8TB DST on T0D1 at each Tier1. The Tier1 resource shares are CERN 14%, FZK 7%, IN2P3 12%, CNAF 8%, NL-T1 25%, PIC 4% and RAL 30%. All data can be scratched after the run.
March	
April	For 2008 running require 1770 KSi2K cpu, 1025 TB disk and 860 TB tape over the 6 Tier-1.
May	Participate in the CCRC'08 full nominal p-p rates running. 4 weeks planned at the sustained rates of the February maximum with, in addition, 100-500 analysis jobs/day over Tier0 and Tier1 with 25% at Tier0.
June	
July	Start of Pilot Physics Run

- LHCb060707.xls: LHCB 2006 detailed planning of 7 July 2006 (Obsolete)
- LHCb060926.xls: LHCB 2006/1Q-2007 detailed planning of 26 Sep 2006 (Obsolete)

- LHCb070529.xls: LHCB 2006 to Dec.2007 detailed planning of 29 May 2007 (cpu now gross - see sheet 1)

This topic: LCG > LhcbPlans
Topic revision: r30 - 2007-11-05 - HarryRenshall