-- HarryRenshall - 25 Jun 2007

Tier 1 CNAF-Bologna.	To provide 9% of ALICE Resources	To provide 10% of ATLAS resources	To provide 16% of CMS resources	To provide 11% of LHCB resources	
Month	ALICE Requirements	ATLAS Requirements	CMS Requirements	LHCB Requirements (See LHCb070529.xls)	Tier 0 Requirements
March 2006					
April	Run Monte Carlo jobs on 400 KSi2K of cpu with average rate of 12 MB/sec sending these data back to CERN. Network/reconstruction stress test: run 4000 jobs/day on 400 KSi2K of cpu with 12 MB/sec rate from Tier 0	Provide 77 KSi2K of cpu for MC event generation and 4 TB of disk and 9 TB of tape for this data for this quarter	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Data to tape from Tier 0 at 25 MB/sec (may be part of SC4)	Provide 130 KSi2K of cpu for MC event generation	3rd to 16th CERN disk-disk at 200 MB/sec. 18th to 24th CERN disk-tape at 75 MB/sec
May		Provide 77 KSi2K of cpu for MC event generation	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1	Provide 130 KSi2K of cpu for MC event generation	CERN background disk-disk top up to 200 MB/sec
June		Provide 77 KSi2K of cpu for MC event generation. From 19 June to 7 July T0 to T1 tests take 24.0 MB/sec "Raw" to tape (rate to be reported), ESD at 15.0 MB/s to disk and AOD at 20 MB/s to disk from Tier 0 (total rate 59 MB/s). These data can be deleted after 24 hours	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. SC3 functionality rerun. Run 3250 jobs/day at end June	Get 2.5 MB/sec of "raw" data from CERN and store 5 TB on tape. Reconstruct and strip these data on 21.5 KSi2K of cpu. Provide 108.5 KSi2K of cpu for MC event generation with 4 TB to tape	CERN background disk-disk top up to 200 MB/sec
July	From 24 July to 6 August take 60 MB/s of raw and ESD data (20% of total) from CERN. These data can be deleted immediately. Tier 1 to Tier 1 and Tier	Provide 83 KSi2K of cpu for MC event generation and 5 TB of disk and 12 TB of tape for this	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Monte Carlo	Get 2.5 MB/sec of "raw" data from CERN and store 5 TB on tape. Reconstruct and strip these data on 21.5 KSi2K of cpu.	CERN background disk-disk top up to 200 MB/sec

	2 tests. Repeat April network/reconstruction stress test.	data for this quarter. "Raw" reconstruction setting up - stagein from tape using 1-2 drives	from Tier 2 incoming sent on to CERN. Test Tier 2 to Tier 1 transfers at 10 MB/sec per Tier 2. Last 2 weeks take 'raw' data from CERN to tape at 25 MB/s	Provide 108.5 KSi2K of cpu for MC event generation with 4 TB to tape	
August	Continue the July export tests until the 60 MB/s rate has been reached for a sufficient period.	Provide 83 KSi2K of cpu for MC event generation. Two slots of 3 days of "raw" reconstruction - stagein from tape using 1-2 drives. Analysis tests - 20 MB/sec incoming - will include scalability tests and prefers to be only Atlas grid activity.Take 24.0 MB/sec "Raw" to tape (rate to be reported), ESD at 15.0 MB/s to disk and AOD at 20 MB/s to disk from Tier 0 (total rate 59 MB/s). These data can be deleted after 24 hours	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Monte Carlo from Tier 2 incoming sent on to CERN. Test Tier 2 to Tier 1 transfers at 10 MB/sec per Tier 2. Last 2 weeks (after high rate T0-T1disk-disk tests) take 'raw' data from CERN to tape at 25 MB/s (data can be deleted after 24 hours).	Analysis of reconstructed data. Provide 130 KSi2K of cpu for MC event generation with 4TB to tape	CERN background disk-disk top up to 200 MB/sec
September	Scheduled analysis tests.	Provide 83 KSi2K of cpu for MC event generation. Take 24.0 MB/sec "Raw" to tape (rate to be reported), ESD at 15.0 MB/s to disk	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Till mid-September take 'raw' data from CERN to	Provide 130 KSi2K of cpu for analysis of reconstructed data and MC event generation with an additional 4 TB to tape	CERN background disk-disk top up to 200 MB/sec.

Month					
		and AOD at 20 MB/s to disk from Tier 0 (total rate 59 MB/s).	tape at 25 MB/s (data can be deleted after 24 hours). From mid-September ramp up to 1 October start of CSA06 at 1750 jobs/day (requiring 420 KSi2K of cpu and a total of 160 TB of disk storage).		
October	Continue the data export tests until the 60 MB/s rate has been reached for a sufficient period. Scheduled analysis tests.	Reprocessing tests - 20 MB/sec incoming	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Continue CSA06 at 1750 jobs/day (requiring 420 KSi2K of cpu and a total of 160 TB of disk storage).	Provide 133 KSi2K of cpu for reconstruction and analysis and MC event generation with an additional 1.4 TB of tape and 0.3 TB of disk.	CERN background disk-disk top up to 200MB/sec
November	Continue the data export tests until the 60 MB/s rate has been reached for a sufficient period. Scheduled analysis tests.	Provide 97 KSi2K of cpu and an additional 2.0 TB of permanent disk and 1.6 TB of temporary (till reconstruction is run) disk plus an additional 2.6 TB of permanent tape storage for MC event generation. Analysis tests - 20 MB/sec incoming at the same time as reprocessing continues	20 MB/sec aggregate Phedex (FTS) traffic to/from temporary disk at each Tier 1. Continue CSA06 at 1750 jobs/day (requiring 420 KSi2K of cpu and a total of 160 TB of disk storage) till mid-November. Demonstrate 50 MB/sec from Tier 0 to tape. Would like it to be an SC4 activity.	Provide 136 KSi2K of cpu for analysis of reconstructed data and MC event generation with an additional 2.7 TB of tape and 0.9 TB of disk	CERN background disk-disk top up to 200MB/sec

|December|Continue the data export tests until the 60 MB/s rate has been reached for a sufficient period. Scheduled analysis tests.|Provide 97 KSi2K of cpu and an additional 2.0 TB of permanent disk and 1.6 TB of temporary (till reconstruction is run) disk plus an additional 2.6 TB of permanent tape storage for MC event

generation.|Backup the October CSA06 disk files of 160TB to new permanent tape storage. Provide 42 KSi2K of cpu and an additional 3.3 TB of permanent tape storage for MC event generation.|Provide 218 KSi2K of cpu for reconstruction and analysis and MC event generation with an additional 3.1 TB of tape and 10.3 TB of disk|CERN background disk-disk top up to 200MB/sec |

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