

Updates to “LHCb Computing Resources: 2011 re-assessment, 2012 request and 2013 forecast”, LHCb-PUB-2011-009.

Following a preliminary discussion with the LCG project management, LHCb has decided to **reduce the use of Tape Storage** with respect to the initial proposal. This has been achieved with the following changes to the model:

- **Archival is done on T1D0** Storage both at the Tier0 and the Tier1s, except for the RAW data that is kept on T2D0 at CERN. This extra safety is justified for RAW data since the CERN T2D0 copy remains the unique replica for few days until it gets replicated to the Tier1s and because RAW is the primary data source that can not be recovered if lost.
- Having 2 “archive” replicas of the data, the requirement for “master” (T1D1) and “secondary” (T0D1) replicas is dropped. The “archive” (T1D0) replicas become the “master” ones and **all other replicas are “secondary”, thus are kept on T0D1 Storage.**
- A bug in the removal of data in 2013 has been fixed.

The tables and figures updated with these new settings are presented below.

Disk	2011		2012		2013	
	PB	%	PB	%	PB	%
Tier0	1.9	26	3.5	27	4.0	26
Tier1	5.3	74	9.5	73	11.1	74
RAW	0.1	1	0.2	1	0.2	1
SDST	0.1	1	0.1	1	0.1	1
DST	2.4	33	4.1	31	4.2	28
MDST	1.4	20	3.9	30	4.6	31
MC	2.4	33	3.6	28	4.6	30
User	0.9	13	1.1	9	1.3	9
All	7.2	100	13.0	100	15.0	100

Table 7-3 1: LHCb 2011-2013 Disk Storage estimated need grouped by Tier level and type of Data.

Tape	2011		2012		2013	
	PB	%	PB	%	PB	%
Tier0	3.4	52	6.4	51	7.7	49
Tier1	3.2	48	6.2	49	8.0	51
RAW	2.7	41	4.8	38	4.8	31
SDST	1.2	19	2.6	21	3.5	22
DST	1.3	20	2.4	19	3.5	22
MDST	0.5	8	1.4	11	1.7	11
MC	0.9	13	1.4	11	2.2	14
All	6.6	100	12.6	100	15.8	100

Table 7-4 1: LHCb 2011-2013 Tape Storage estimated need grouped by Tier level and type of Data.

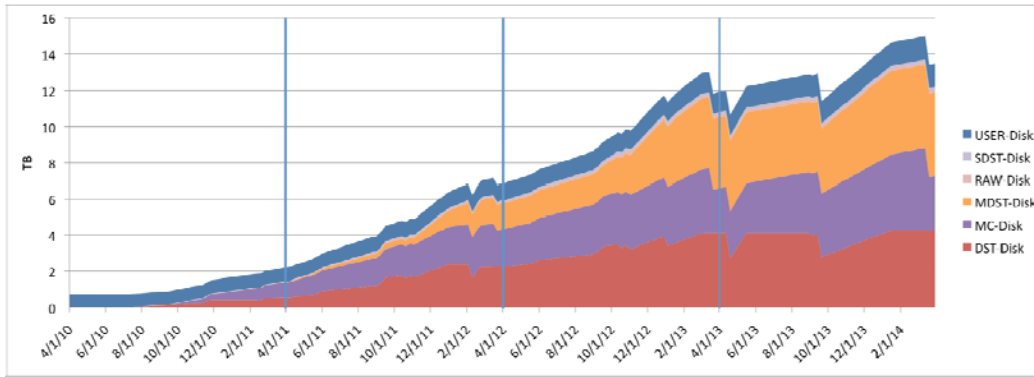


Figure 7-4 1: Disk Storage usage profile for each data type.

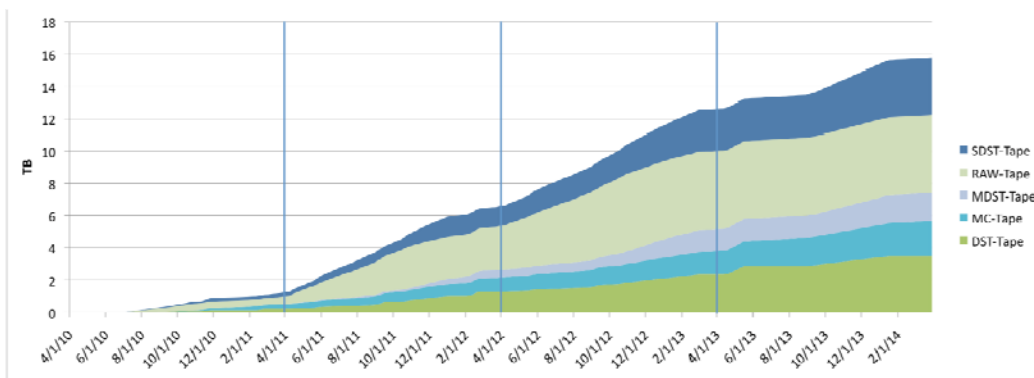


Table 7-5 1: Tape Storage usage profile for each data type.

The updated tables show a small correction of 0.9 PB of extra Disk for 2013, and a reduction in Tape needs of 3.4, 6.6 and 8.3 PB for 2011, 2012 and 2013, respectively.