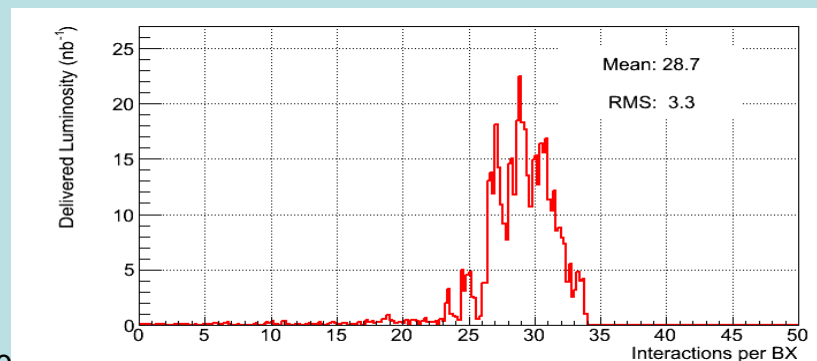


Overview Board

- Status report
 - Experiment proposals for “additional” data – next slides
- Procedure for new Tier 1 sites
 - See above
- Tier 1 proposal from KISTI for ALICE
- Status report on TEGs

2012 expectation

- 400Hz rate in physics streams
 - Expect LHC to run with $\beta^* = 0.6\text{m}$, average 24 interactions per event (34 at beginning at fills)
 - $\sim 1.6\text{e}9$ events like 2011, assuming shorter running (21 weeks), with ratio of stable beams / total physics time of 0.3
 - 15Hz of Zero Bias events for pileup overlay studies and MC
- Plan 75Hz rate in “delayed” streams (to be processed in 2013)
 - $\sim 250\text{e}6$ events
 - Strong physics case for B-physics
 - RAW written to tape $\sim 200\text{TB} * 2$ copies, processed to DAODs in 2013 on disk $\sim 100\text{TB} * 2$ copies
- HLT, Tier0 and Grid processing making full use of improvements in latest software release for CPU and AOD size
 - High bunch charge runs of 2011 had the pileup expected for 2012 and were used in tuning



Data Parking

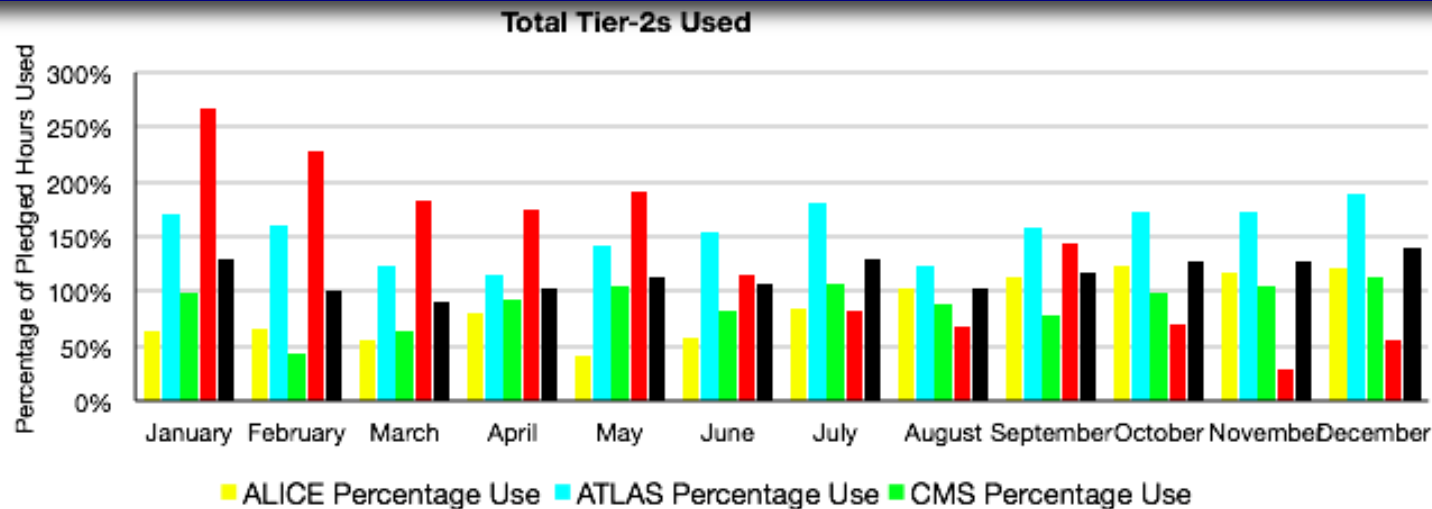
- ▶ Given the challenging triggering environment, potentially interesting physics, and impending long shutdown CMS would like to take more data than we have resources to reconstruct at the Tier-0
- ▶ We will repack into RAW additional data and “Park” it at Tier-1s for reconstruction at a later time
- ▶ How long data stays parked will depend on available Tier-1 resources
 - ▶ Some data can be reconstructed during the year, and some may safely wait



Impact of Data Parking Processing

- ▶ Data Parking scenarios roughly double the dataset taken in 2012
 - ▶ About Half Promptly Reconstructed and Half reconstructed later at Tier-1
- ▶ We believe in 2013 we need 20% more T1 CPU resources than 2012 and 15% more T2 CPU than we estimated last year
 - ▶ Further increases over the small changes presented in 2011 in tape and disk storage were not expected from the planning
 - ▶ Primarily this is caused by changes in what CMS stores and analyzes
 - ▶ Write out fewer MC Raw events, as they are not needed and new MC can be recreated out of smaller formats
 - ▶ Analysis has moved more completely to AOD formats, which saves space
 - ▶ Aggressive clean-up campaigns of old MC and old processing passes also frees resources for new things

Impact of Data Parking on Analysis



- ▶ Analysis Resources are well used
- ▶ Additional data will have some impact in increasing analysis needs
- ▶ Further constraining resources
- ▶ Need to ensure that high priority activities can complete even in the presence of additional load
 - ▶ Stretch out lower priority activities
- ▶ Expect to use the glide-in WMS global queue functionality to enforce priority

LHCb event rate

- During 2011, there have been a number of changes introduced in the LHCb computing model to bridge the gap between the extended physics reach of LHCb and the available pledges which were defined before this. Already in 2010, and more clearly in 2011, LHCb has decided to expand its physics reach beyond the original vision to include significantly more Charm physics. In particular, the recent observation of a possible evidence of CP in charmed meson decays, has pushed the Collaboration at the end of 2011 in a campaign of optimization of the HLT filter which will have the effect of increasing in the yield of collected charm events. We also expect a general increase in signal events due to the operation of LHC at higher energy and from exploiting the full bandwidth of the LHCb L0 trigger (1 MHz).
- As a result, the trigger rate, already increased to 3 kHz in 2011 (from an original 2 kHz), will reach 4.5 kHz in 2012. The foreseen 2012 pledges will not allow to fully exploit the physics potential of the new trigger bandwidth, due to disk space limitations and therefore, unless extra resources will become available during the year, parts of recorded data will have to be "locked" during 2012, the Stripping will be tuned to produce the same data bandwidth as in 2011. However, this data will be "unlocked" in 2013 re-stripping passes by introducing additional channels and looser requirements, increasing by 50% the final output. This will allow both enhanced analyses as well as true data mining searches.

ALICE: 2012 requirements

CPU (KHEP06)	T0	CAF	T1s	T2s
Required	90.0	35.0	95.0	207
Pledged	90		95	115 (194)
Difference	0%		0%	-80%

Disk (PB)	T0	CAF	T1s	T2s
Required	7.6	0.24	7.0	12.4
Pledged	8.1		7.22	9.11 (12.9)
Difference	6%		3%	-36%

Tape (PB)	T0	T1
Required	17.1	11.3
Pledged	20.0	11.5
Difference	14%	2%

2013 requirements

CPU (KHEP06)	T0	CAF	T1s	T2s
Required	90.0	35.0	95.0	194.8
Pledged				
Difference				

Disk (PB)	T0	CAF	T1s	T2s
Required	13.2	0.24	10.9	19.4
Pledged				
Difference				

Tape (PB)	T0	T1
Required	23.5	19.1
Pledged		
Difference		