

Ian Bird

LHCC Referees Meeting

24<sup>th</sup> September 2013

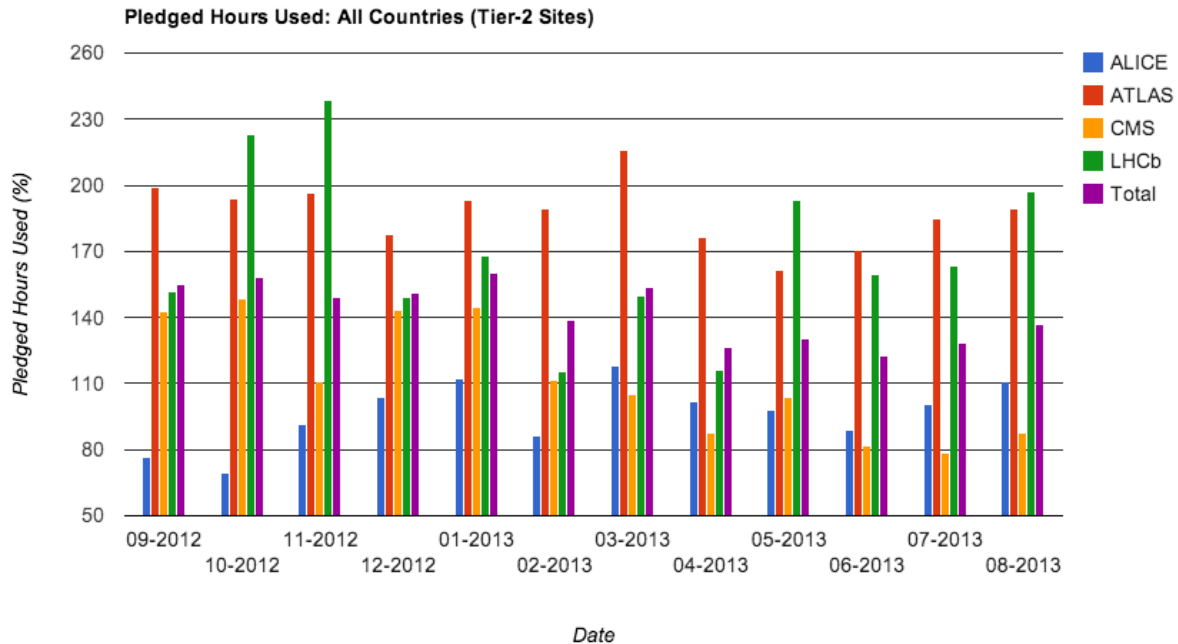
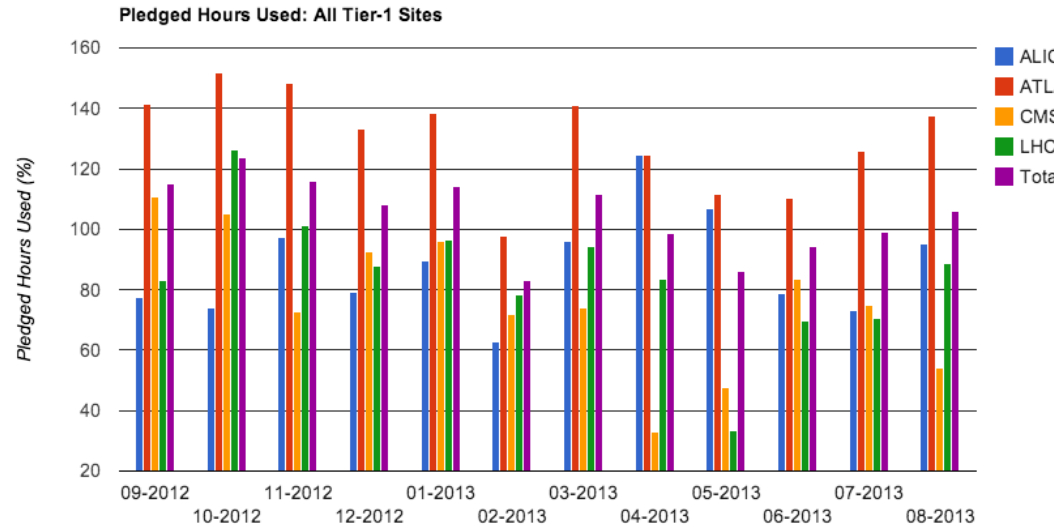
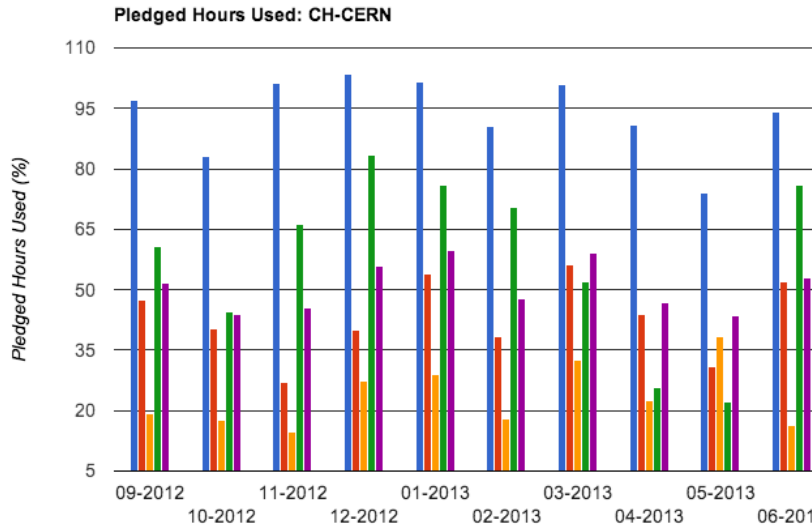
# WLCG



March 6, 2013

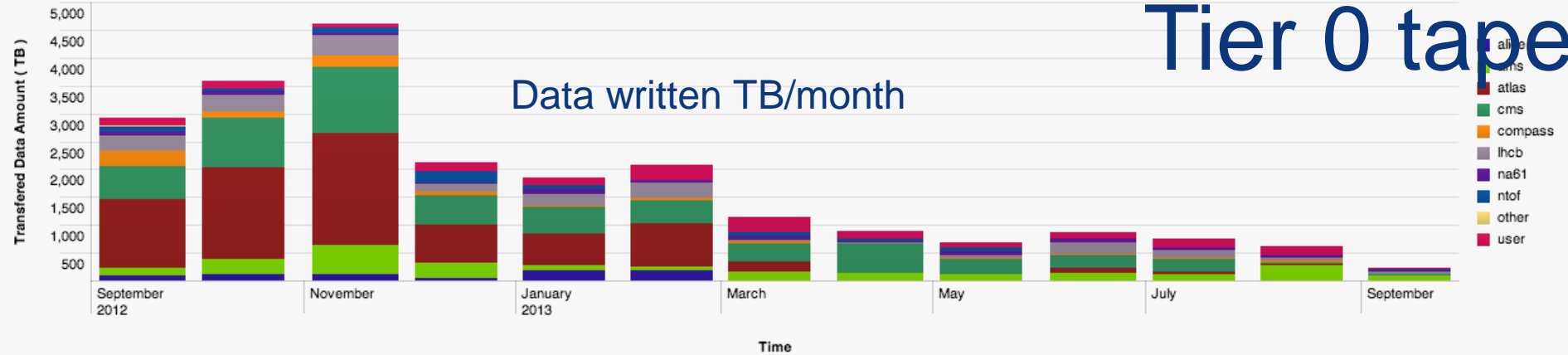
Ian.Bird@cern.ch

# Resource use

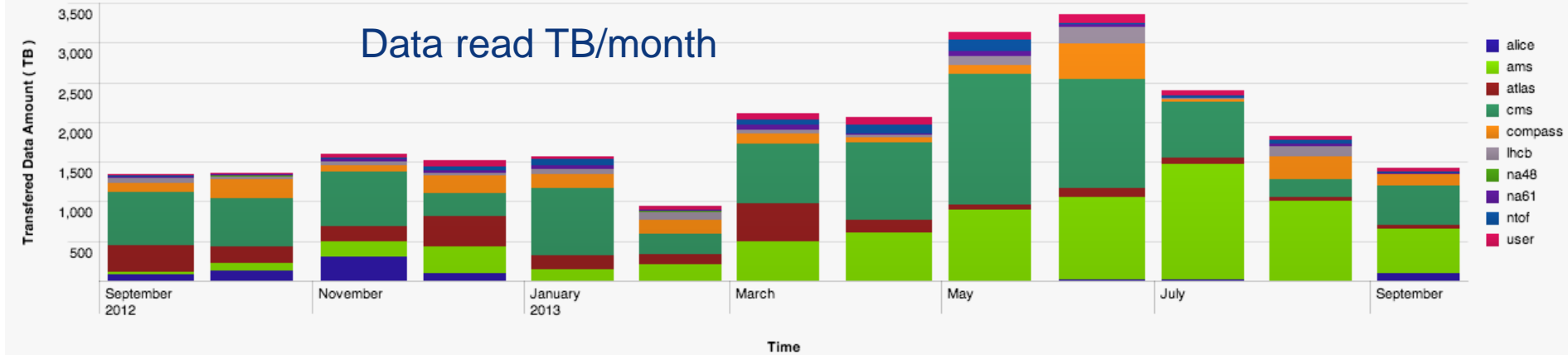


# Tier 0 tape

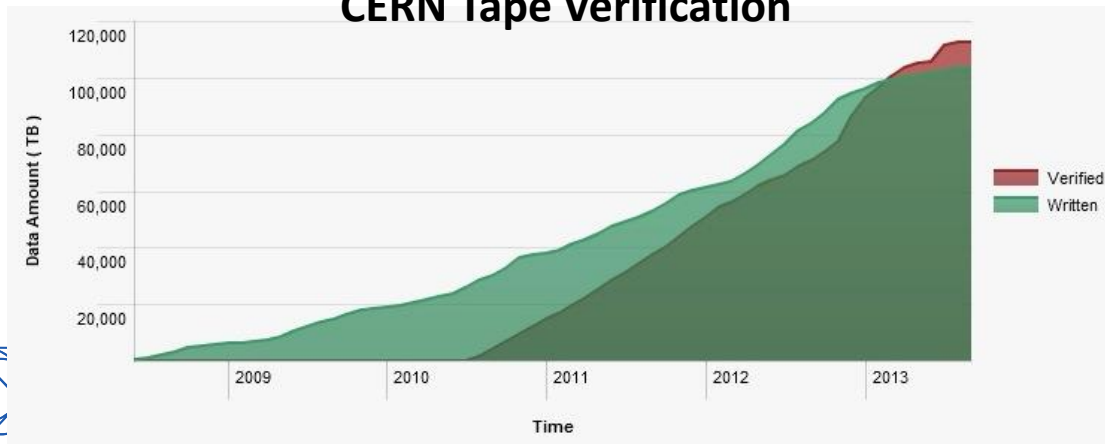
## Data written TB/month



## Data read TB/month



## CERN Tape Verification



Turnaround time: ~2.6 years @ 1.26 GB/s  
 10-12 drives (10%) @ 90% efficiency  
 Data Loss: ~65 GB over 69 tapes

Error rate <math>< 10^{-6}</math>



- “Disk pool” reliability is higher than “raw disk” reliability because we increase it within the service (replication, error correction, ....)
- Disk storage reliability greatly increased by EOS over CASTOR disk
  - RAID-1 does not protect against controller or machine problems, file system corruptions and finger trouble: **huge impact on data loss**
- Tape reliability still  $\sim O(1)$  higher than EOS disk
  - Note: single tape copy vs. redundant copies on disk

