

LHCb: The Vision for CCRC'08

Nick Brook



“... I have a dream...” - Martin Luther King Jr

“Nothing in all the world is more dangerous than sincere ignorance and conscientious stupidity.” - Martin Luther King Jr

Planned tasks

- Raw data distribution from pit → T0 centre
 - Use of rfcpl into CASTOR from pit - T1D0
- Raw data distribution from T0 → T1 centres
 - Use of FTS - T1D0
- Recons of raw data at CERN & T1 centres
 - Production of rDST data - T1D0
 - Use of SRM 2.2
- Stripping of data at CERN & T1 centres
 - Input data: RAW & rDST - T1D0
 - Output data: DST - T1D1
 - Use SRM 2.2
- Distribution of DST data to all other centres
 - Use of FTS - T0D1 (except CERN T1D1)

Planned tasks

- Preparation of quasi RAW data will occur over the next few month
 - Will use current generated MC data but need to merge datasets into ~2GB files
- February activities
 - Maintain equivalent of 2 weeks data taking
 - Assuming a 50% machine cycle efficiency
- May activities
 - Maintain equivalent of 1 month data taking
 - Assuming a 50% machine cycle efficiency
 - Run fake analysis activity in parallel to production type activities - will be run using generic agents
 - Generic agents are the LHCb baseline that needs to be integral part of CCRC'08

Activities across the sites

- Breakdown of processing activities

<u>Site</u>	<u>Fraction (%)</u>
CERN	14
FZK	7
IN2P3	12
CNAF	8
NIKHEF/SARA	25
PIC	4
RAL	30

Will want to test conditions DB access & LFC service at sites

NB: No other production activities envisaged but user analysis will continue

February's Activities

- 42 TB of data from pit to CERN T0
 - Corresponding 21k files
- Same 21k RAW files from CERN to be distributed over T1 centres
- 14% of rDST production at CERN, remaining 86% at T1 centres (see table on earlier slide)
 - LHCb responsibility to ensure unique files are recons across CERN & T1 centres
 - Additional 21k (rDST) files produced (integrated across all sites) in proportion to figures in previous table
 - Corresponds to an additional 21 TB of data

February's Activities

- Stripping on rDST files
 - Again breakdown given in table in earlier [slide](#)
 - 7k DST files produced during the process (and stored on T1D1) - corresponds to 8TB of data
 - All files are distributed to other sites
 - 7x7k files
 - 7x8 TB

May's Activities

- Scale February's activities by 2
- In addition add a component of "chaotic" analysis
 - ~100 simultaneous analysis jobs accessing data from TxD1 SE
 - Approx breakdown - 25% at CERN; 75% at T1 centres

Summary

- Dress rehearsal will test full chain
 - DAQ to T0 to T1
 - Data transfer & data access running concurrently
 - Current tests have tested individual components
 - Wish to test DB services at site in addition, Conditions DB & LFC replicas
- Tests in May will include an analysis component
 - Test LHCb prioritisation approach to balance production & analysis & T1 centres
 - Test site response to “chaotic activity” going on in parallel to production activity