

LIVERPOOL HEP SYSTEM

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CURRENT CONFIGURATION

- 8 ALPHAs, to be replaced with LINUX PCs over next ~ 6 months
- ~ 50 LINUX PCs, running Redhat 5.2 (most in dual boot mode with Windows)
- move to Redhat 6.1 soon

PLANS & CONCERNS

- Security work on this in next while
 - Five-wall ✗ "too restrictive"
 - TCP-wrappers ✓
- + security features for INET, NFS & NIS which come with Redhat 6.1

MAP

JUSTIFICATION

- LHC.B : 1 int / 25 ns $\Rightarrow 4 \times 10^{14}$ / year
- physics requires knowledge of backgrounds $\sim 10^7 \rightarrow 10^8$ events
- needed now

PHILOSOPHY

- No Gbit ethernet till price falls
- don't use top of range processors
- no tapes \rightarrow plan architecture with future in mind

HARDWARE

- 400 MHz PII
- 128 Mbyte memory
- 3 Gbytes disk quick analysis of local data
- commercial units BUT customised boxes for packing and cooling

SOFTWARE

- LINUX ... stripped-down Redhat 5.2
- Batch system
- Network robust packet handling.

MAP (cont'd)

USE

- submit job to batch queue
- histograms / ntuples / DST transmitted back at end of job

STATUS

- in production for ~ 3 months, 300 processors
- have produced 250k LHCb events in 24 hours
500k DELPHI events in 24 hours
- 8 million (+) events so far

ISSUES

- packet loss handle with code at UDP level
now not a problem
- power ... infrastructure for cooling

COMPASS (Computer Analysis & Storage)

- get working with MAP
- store events on disks
- 1 Tbyte installed (rack-mounted) with 2 500 MHz PIII