Data Handling on 4LT and Beyond

Andreas Gellrich
Humboldt-University Berlin, Germany

Physics Commissioning Meeting

17 May 2000

Online Reconstruction
Logging and Archiving
Event Data Access

Online Event Reconstruction

Purpose:

online event reconstruction
information for data quality (DQ) monitoring
information for online calibration and alignment (CnA)

Farm Status:

up to 92 PCs (184 CPUs) in use
distributed database caches

Reconstruction Status:

full chain: 7 sec @ 5 MHz (J/Psi: run 15190)
w/o magnet tracing / VDS-OTR matching: 4 sec @ 5 MHz (J/Psi: run15229/15230)

Needed:

understanding of timing
speeding up

Event Data Logging and Archiving

Data:

DSTs contain ALL tables (Ennn, Dnnn, Rnnn)
MINIs contain subset of tables per event (Ennn, Rnnn, some Dnnn)

Event Directories / Index Files:

developments finished, now in test phase
are used as input files and allow for selection of event class (1-32)
will be used for J/Psi selection

Logging:

disk pool /hb/data with 106 GB
logging rate of up to 10 MB/sec measured
actual rate determined/limited by processing time
current event rate 20Hz (~4 MB/sec)

Archiving:

/acs/data/REAL/00/exp03
average rate 4-5 MB/sec

Event Data Access

Policy:

DST to tape, MINI to disk, ~10% DST-selections

Pools:

/hb/data	(106 GB)	generic logging disk
(http://www-hera-b.desy.de/subgroup/farm/SELECT.html)		
/hb/select	(71.1 GB)	various selections (sltjpsi)
/hb/select2	(88.9 GB)	reprocessing
/hb/select3	(88.9 GB)	DST-selection of GMB April 2000
/hb/select4	(71.1 GB)	MINIs of GMB April 2000
/hb/select5	(88.9 GB)	current MINI-production and index files
/hb/stage	(213.4 GB)	stage disk

Future:

/hb/mini	(3 x 108 GB)	MINI storage
/hb/pool	(21 x 108 GB)	space assignment on request