



Mock Data Challenge II Status

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Processing Stages

- Simulation
 - Output is .xdr files
- Mixing
 - Input is .xdr files
 - Output is Objy Sim and Raw data
 - No Conditions Database access (?)
- Reconstruction
 - Input is Raw
 - Output is Rec, Esd Aod, Tag Involves access to Conditions database
- Physics Analysis
 - Main input is Esd, Aod, Tag
 - Some Conditions Database access

Dataflow

- Simulation
 - Input: none
 - Output: Stage system
- Mixing
 - Input: Stage system
 - Output: HPSS
- Reconstruction
 - Input: HPSS & Conditions DB
 - Output: HPSS (Rec) and Physics Anal (Esd, Aod, Tag)
- Physics Analysis
 - Input: Physics Anal & Conditions DB
 - Output: PAW, Histograms??

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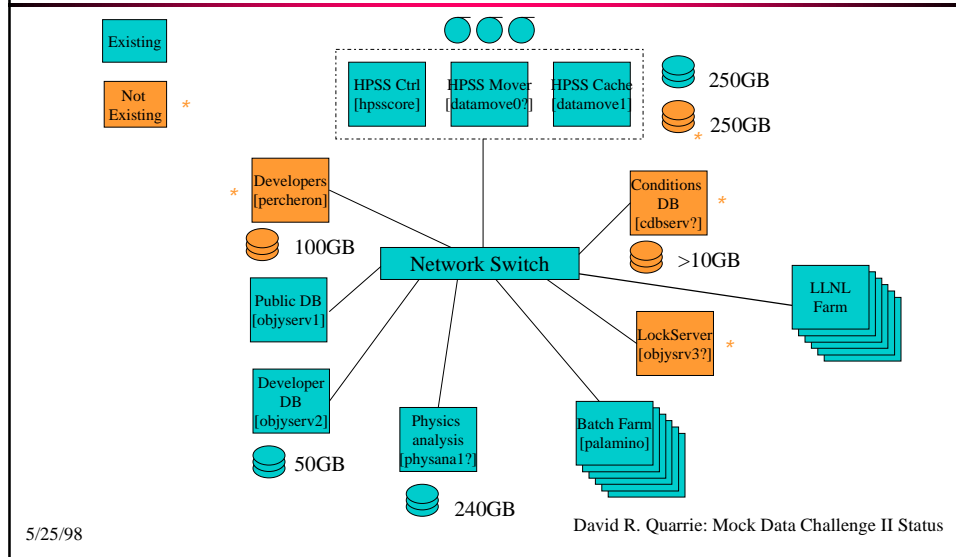
Payload Volume

<i>Event Component</i>	<i>Per Event</i>	<i>Per 500k events</i>	<i>Per 4 processings</i>	
SIM	500KB	250GB	250GB	
RAW	30KB	15GB	15GB	
REC	100KB	50GB	200GB	465GB
ESD	20KB	10GB	40GB	
AOD	2KB	1GB	4GB	
TAG	200B	100MB	400MB	
COND DB			1GB	~46GB

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Hardware Configuration



Hardware Status

- New machine (Sun 450) due at end of May
- Use existing Sun 6000 (percheron) for all roles until then
 - Physics Analysis
 - Primary (*catalog*) database file server
 - Software development
- Which machine will act as software development machine is still being decided
 - Whichever it is, it'll still be called percheron
- Conditions DB Server might not get used for MDC-II
 - Problems with placement software

Hardware Status (2)

- File Servers
 - Primary
 - ◆ percheron (60GB)
 - HPSS
 - ◆ datamove1 (250GB with another 250GB on order)
- HPSS
 - Will use datamove1 as an externally managed disk cache
 - ◆ PFTP to datamove0 to access tapes
 - Will not integrate with HPSS for MDC-II
 - ◆ Missing software
 - Objectivity linkable AMS for Solaris

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MDC-II Processing Model

- Based on event collection names
- Database loader (SimApp) creates a named event collection
 - MC00nnnnnnXmV01
 - ◆ nnnnnn MC run number
 - ◆ Xm is background in Hex (X1 or XA)
 - ◆ V01 is processing version
- These collections get added to “master” collection(s)
 - Different master for different physics generation types
 - ◆ What are the generation types?
- Filtering jobs iterate over master collection
 - Generate new collection having just events with desired characteristics

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MDC-II Processing Model (2)

- Not everything in place yet
 - Meeting 26 May 98 with Adil & Paul
- Also looking at using System authorization level for run-based files & different Groups for each generation type
 - Spreads things out so easier to find collections
 - ◆ BdbInspector module
- Need to decide on generation types

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Event Selection Tags

- Two tag classes created
 - Transient & persistent
- Generic & extensible
 - Arrays of named ints, floats & bools
- Adequate for long term?
 - Require both extensible and optimized/fixed tags?
 - Review after MDC-II
- Don't know status of decision on what is being used in tag
- One of goals of MDC-II is to try several options
 - Keep what's useful

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Event Selection/Filtering

● First Alternative

- Form transient tag & filter on that
 - ◆ Filter module must inherit from base class
 - TagFilterModule
 - ◆ Easy access to attributes
 - status = tag()->getInt(anInt, "theName");
 - ◆ Requires several modules in path
 - BdbCreateCM TagBdbLoad BdbEventUpdate TagFilterExample
 - ◆ Works on events input from .xdr files as well as the database

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Event Selection/Filtering (2)

● Second Alternative

- Filter directly on persistent tag
 - ◆ Filter module must inherit from base class
 - TagFastFilterModule
 - ◆ More complex access to attributes
 - Tag attribute data members: TagAttribute<int> anInt
 - Add tag attributes to "tag manager"
 - Use them as conventional variables
 - ◆ Requires fewer modules in the path
 - TagFastFilterExample
 - ◆ Only works on events input from the database
- About 3 times faster than first alternative

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Schedule

- Rebuild (6.7.2) on 26 May 98
 - Specific bug fix build of 6.7.1
 - Further minor bug fixes if necessary
- Setup production federation
 - percheron as primary server, datamove1 as HPSS server (250GB)
 - /u3 as “fast” file server (60GB)
- Test loading on 27-28 May
- Attempt to start production loading on 28 May
 - Trying to get something started before many people disappear to Annecy

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Objectivity Version 5

- Available for Solaris & Win-NT
 - The latter is useful for database administration
- HP-UX, DEC, AIX to follow (in that sequence)
- One bug found & fix obtained from Objy within 24 hours
 - Not actually using their fix
 - Makefiles modified to post-process generated hh file
- Release build of 6.7.1 looks good
 - Same bugs as real 6.7.1
 - Not complete coverage
 - Building version with same patches as 6.7.1 now
- Upgrade to Objy 5 between MDC-II & MDC-II prime

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MDC-II Issues

- Collection names?
 - Decision 26 May 1998
- Setting up production federation
 - Underway
- Access from LLNL
 - Patched 6.7.1 had OSF-specific bug - fixed?
- Stability?
- Scaling?
 - Our maximum tests have been with 50,000 events
- Data protection?