

Progress in Databases (CMS and EMU)

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EMU Meeting
CERN
16 September 2003



5 Databases:

- 1) **DDD** (Detector Description Database)
- 2) **Construction** Database
- 3) **Integration** Database
(**EMDB** - Equipment Management DataBase)
- 4) **Configuration** Database
- 5) **Conditions** Database

Tendency - Relational Databases



Oracle

DDD - Conversion **XML** \Rightarrow **Oracle**



The most probable solution:

Oracle and MySQL

Configuration

Possibilities:

- 1) Standard structure of tables.
- 2) Different tables and common interface.
- 3) Specific to each subdetector.

Conditions

Prototypes in Objectivity, Oracle and MySQL exist.

Accepted by SC2 as a common LCG Project.



Valeri Sytnik:

Simple object oriented Database.

Advantages:

- 1) Tree structure of objects.
- 2) Automatic data evolution.
- 3) Effective storage in file-tree structure.
- 4) Easy and direct access from C++.

To solve:

- 1) Numerous versions of configuration.
- 2) Variation in time.
- 3) Search (keys? indexing?).



Cable selection



URL address:

[http://oraweb03.cern.ch:9000/pls/cmsintegration/
/stat.start_view](http://oraweb03.cern.ch:9000/pls/cmsintegration/stat.start_view)

Netscape: Select Search Conditions

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Bookmarks Location: http://oraweb03.cern.ch:9000/pls/cmsintegration/stat.start_view What's Related

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Select Search Conditions

Detector:
(enter like ME+2, ME+2/2, ME+2/2/12 or any consecutive part of label)

Cable type: ALCTA

Enter a part of EMU cable label to find matching records.



List of cables

Netscape: Cable Labels View

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Cable Labels View

Requested: ME+2 ALL => **702 rows selected**

1) Cable skewclear type ALCTA length 11 parity left date 20-AUG-2003, 11:34:08
Detector: label ME+2/1/01/ALCT/A/X3J41/1/06/6 detector_end ME+2/1/01 rack_end X3J41/1/06/6
CMS: label CME 03882 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03882 type D

2) Cable skewclear type ALCTB length 11 parity left date 20-AUG-2003, 11:34:08
Detector: label ME+2/1/01/ALCT/B/X3J41/1/06/7 detector_end ME+2/1/01 rack_end X3J41/1/06/7
CMS: label CME 03883 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03883 type D

3) Cable skewclear type DAQ length 9 parity left date 18-AUG-2003, 17:11:26
Detector: label ME+2/1/01/C1/DAQ/X3J41/1/07/1 detector_end ME+2/1/01 rack_end X3J41/1/07/1
CMS: label CME 03884 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03884 type D

4) Cable skewclear type TRG length 9 parity left date 18-AUG-2003, 17:11:26
Detector: label ME+2/1/01/C1/TRG/X3J41/1/06/1 detector_end ME+2/1/01 rack_end X3J41/1/06/1
CMS: label CME 03877 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03877 type D

5) Cable skewclear type DAQ length 9 parity left date 18-AUG-2003, 17:11:26
Detector: label ME+2/1/01/C2/DAQ/X3J41/1/07/2 detector_end ME+2/1/01 rack_end X3J41/1/07/2
CMS: label CME 03885 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03885 type D

6) Cable skewclear type TRG length 9 parity left date 18-AUG-2003, 17:11:26
Detector: label ME+2/1/01/C2/TRG/X3J41/1/06/2 detector_end ME+2/1/01 rack_end X3J41/1/06/2
CMS: label CME 03878 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03878 type D

7) Cable skewclear type DAQ length 9 parity left date 18-AUG-2003, 17:11:26
Detector: label ME+2/1/01/C3/DAQ/X3J41/1/07/3 detector_end ME+2/1/01 rack_end X3J41/1/07/3
CMS: label CME 03886 P4101/D/X3J41 start_point P4101 end_point X3J41 serial_code 03886 type D



EMU cables



CMS Integration Database

EMU-label, CMS-label, both sides
connection, type, length, parity, serial
number

To enter:

label issued
location



New Oracle server:

cerndb1, Oracle 8i



pdb01, Oracle 9i

Test Beam Database:

- 1) Run Log
- 2) Online Text Log



Run view



Netscape: Test Beam Run-Log Database

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Bookmarks Location: [http://oraweb03.cern.ch:9000/pls/cms_emu_cern.pro/run_log_form_view\(1011\)](http://oraweb03.cern.ch:9000/pls/cms_emu_cern.pro/run_log_form_view(1011)) What's Related

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Run Number -> 1011
([Previous Run: 999](#), [Next Run: 1012](#))

Start Run : [17-JUN-2003 , 23:48:06] **End Run :** [17-JUN-2003 , 23:49:48] **Number of Events :** [7199]

Same as previous run: no Updated (regular): yes

Persons on shift: Bylsma Entered by: gilmore

Run type (calibration, taking data etc.) setup test

Data file format ASCII **Analysis value:** do_not_analyze

Trigger:

Source - scintillator Window - Type - Rate - 5000 per spill

TTC delay - k= CFEB sample delay - ns ALCT sample delay - ns

Beam:

Status (on, off) - on Type (muons, pions etc.) - muons Momentum -

Beam Rate - 5000 per spill; SPS 25ns mode: false

Geometry: Geometry ID -

Theta 1 - 20 Phi 1 - 0 X1 - 38 cm Height 1 - 138.5 cm
Theta 2 - 20 Phi 2 - 0 X2 - 17 cm Height 2 - 116 cm

HV (Volts)(Ch.1): 3600 **HV (Volts)(Ch.2):** 3600

Run Comment:

```
CFEB time samples : 8
tune setup for CCB front panel control (no TTC)
```

100%



Top page of Run-log Database



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Test Beam Run-Log Database

For people on shift:

[Regular Update](#)

[Selective Update](#)

For common use (view of runs):

[Run View](#)

[List of Runs](#)

[List of Runs\(1\)](#) [List of Runs\(2\)](#)

[Run-Log File](#)

For experts:

[Run Edit](#)

[Online Text Log](#)



Online log



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Test Beam Online Log

15-SEP-2003 20:43:38

Page number 1, created 15/SEP/2003 11:15:59, last updated 15/SEP/2003 12:06:12

15 Sept. 2003, 11am: First test entry for Online Log system.
See previous beamtest webpage [HERE](#)

11:09: See Online Run Log [HERE](#)

11:48 Another test entry.



Outlook

**Next important task - creation of
Configuration and Conditions
Databases.**