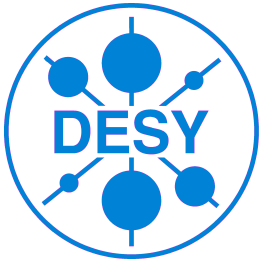
Universität Hamburg



The CALICE Database

Nils Feege
University of Hamburg

CALICE Collaboration Meeting
Arlington (Texas), March 10-12, 2010

Outline

- The CALICE Conditions Database
  - Basic Structure
  - Access
  - Tags
- Software Package calice_db_tools

Database Structure: Folder Sets

- Detector specific: /cd_calice_DETECTOR/...
  - /cd_calice_Hcal/...
  - /cd_calice_Ecal/...
- Beamline specific: /cd_calice_LOCATION/...
  - /cd_calice_beam/...
  - /cd_calice_cernbeam/...
  - /cd_calice_fnalbeam/....
- Setup and converter specific: /cd_calice_CONVERTER_SETUP/...
  - /cd_calice_v_0402_fnalcomb/...
  - /cd_calice_v_0402_fnalecal/...
  - /cd_calice_v_0402_fnalhcal/...
- *Temporary* test folders: /test_USER/...
  - /test_nf/....

Database Access

- Read Access (flccaldb01): use

  "flccaldb01.desy.de:calice:caliceon:Delice.1:3306"

- Write Access (flccaldb02): restricted to DB administrators (one for each sub-detector, responsible for content and tags)
  - Si – W ECAL → Kaloyan Krastev
  - Sci ECAL → Satoru Uozumi
  - AHCAL → N. F.
  - TCMT → ?
  - DHCAL → ?
  - …

Tags

- Allow for permanent reference to all versions of DB folders
  - Compare different versions, e.g. calibration sets
  - Go back to previous versions if necessary
  - ...
- Centrally generated steering files will use **only** tagged folders
  - the 'tag' HEAD will disappear
  - Always use **calice_run** package for generating your private steering files to get correct folders and tags

Tags: Naming Scheme

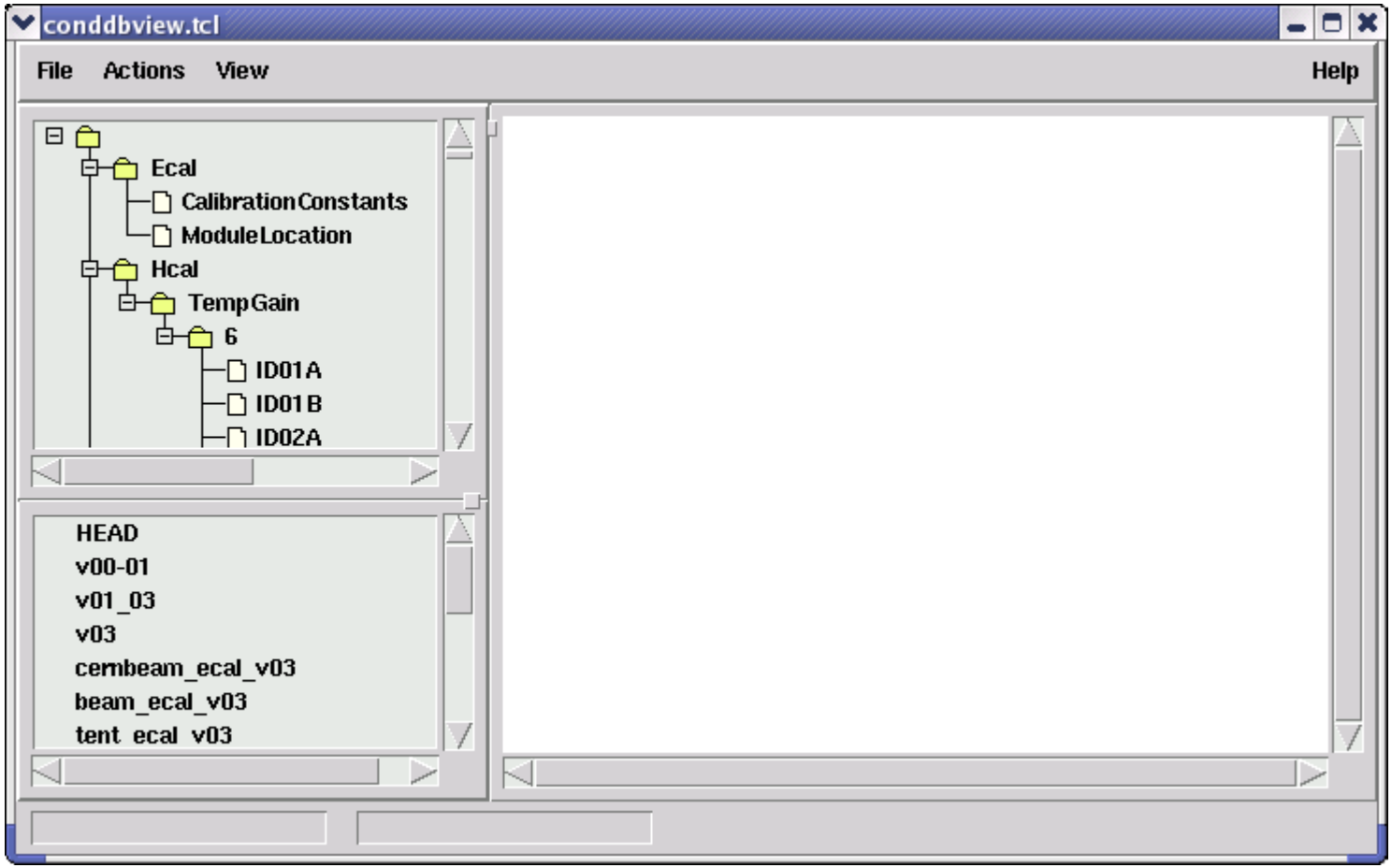
- Basic naming scheme: **DETECTOR_FOLDER_TAGVERSION**
  - /cd_calice/Ahc/ModuleDescription
    → **ahc_ModuleDescription_001**
- Common tag for corresponding folders in different folder sets
  - /cd_calice_beam/TBTrack/AlnConstants
    → **tbtrack_AlnConstants_001**
  - /cd_calice_cernbeam/TBTrack/AlnConstants
    → **tbtrack_AlnConstants_001**
  - /cd_calice_fnalbeam/TBTrack/AlnConstants
    → **tbtrack_AlnConstants_001**
- Common tag for all folders written by converter
  → **calice_conv_CONVVERSION_TAGVERSION**

CALICE DB Tools Package

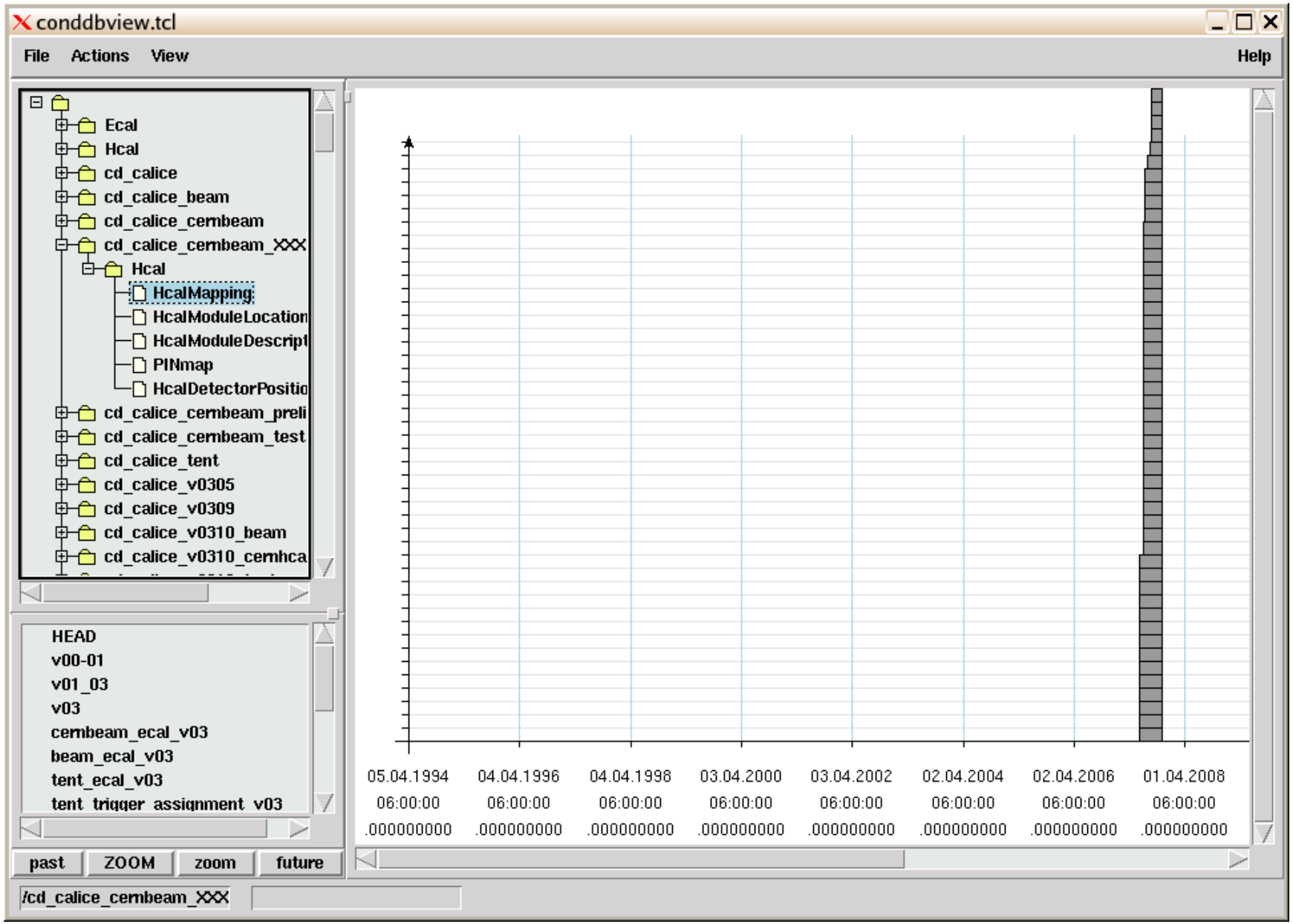
- Sources:
  - https://svnsrv.desy.de/viewvc/calice/calice_db_tools
  - http://www-flc.desy.de/hcal/git/calice_db_tools
- Content:
  - **DBViewe**r: GUI to view database content
  - Set of small tools for direct access to information from the database
- Documentation:
  - http://www-flc.desy.de/flc/flcwiki/Calice%20Database/db-viewer
  - http://www-flc.desy.de/hcal/calice_soft/pro_test/doc/

DBViewer

Launch viewer with `dbview -v`



DBViewer


conddbview.tcl
File
Actions
View
Help
Ecal
Hcal
cd_calice
cd_calice_beam
cd_calice_cernbeam
cd_calice_cernbeam_XXX
Hcal
HcalMapping
HcalModuleLocation
HcalModuleDescript
PINmap
HcalDetectorPositio
cd_calice_cernbeam_preli
cd_calice_cernbeam_test
cd_calice_tent
cd_calice_v0305
cd_calice_v0309
cd_calice_v0310_beam
cd_calice_v0310_cernhca
HEAD
v00-01
v01_03
v03
cernbeam_ecal_v03
beam_ecal_v03
tent_ecal_v03
tent_trigger_assignment_v03
past
ZOOM
zoom
future
/cd_calice_cernbeam_XXX
05.04.1994 06:00:00 .000000000
04.04.1996 06:00:00 .000000000
04.04.1998 06:00:00 .000000000
03.04.2000 06:00:00 .000000000
03.04.2002 06:00:00 .000000000
02.04.2004 06:00:00 .000000000
02.04.2006 06:00:00 .000000000
01.04.2008 06:00:00 .000000000

DBViewer

Open Database

ModuleConnection
i[7]: crate, slot, fe, side, llcellindex, module type, module id
7 0 0

crate	slot	fe	side	llcellindex	module type	module id
172 (ac)	5 (5)		0 (0)		0 (0)	
637599872 (26010080)	3 (3)		38 (26)			
172 (ac)	5 (5)		0 (0)		1 (1)	
637632704 (260180c0)	4 (4)		38 (26)			
172 (ac)	5 (5)		3 (3)		0 (0)	
620822656 (25010080)	3 (3)		37 (25)			
172 (ac)	5 (5)		3 (3)		1 (1)	
620855488 (250180c0)	4 (4)		37 (25)			
172 (ac)	5 (5)		4 (4)		0 (0)	
604045440 (24010080)	3 (3)		35 (23)			
172 (ac)	5 (5)		4 (4)		1 (1)	
604078272 (240180c0)	4 (4)		35 (23)			
172 (ac)	5 (5)		5 (5)		0 (0)	
587268224 (23010080)	3 (3)		34 (22)			
172 (ac)	5 (5)		5 (5)		1 (1)	
587301056 (230180c0)	4 (4)		34 (22)			
172 (ac)	5 (5)		6 (6)		0 (0)	
570491008 (22010080)	3 (3)		33 (21)			
172 (ac)	5 (5)		6 (6)		1 (1)	
570523840 (220180c0)	4 (4)		33 (21)			
172 (ac)	5 (5)		7 (7)		0 (0)	
553713792 (21010080)	3 (3)		32 (20)			
172 (ac)	5 (5)		7 (7)		1 (1)	
553746624 (210180c0)	4 (4)		32 (20)			
172 (ac)	7 (7)		0 (0)		0 (0)	
536936576 (20010080)	3 (3)		31 (1f)			
172 (ac)	7 (7)		0 (0)		1 (1)	
536969408 (200180c0)	4 (4)		31 (1f)			
172 (ac)	7 (7)		3 (3)		0 (0)	
503349312 (1e008040)	2 (2)		24 (18)			
172 (ac)	7 (7)		3 (3)		1 (1)	
503316480 (1e000000)	1 (1)		24 (18)			
172 (ac)	7 (7)		4 (4)		0 (0)	
486572096 (1d008040)	2 (2)		2 (2)			
172 (ac)	7 (7)		4 (4)		1 (1)	
486539264 (1d000000)	1 (1)		2 (2)			
172 (ac)	7 (7)		6 (6)		0 (0)	
469794880 (1c008040)	2 (2)		1 (1)			
172 (ac)	7 (7)		6 (6)		1 (1)	
469762048 (1c000000)	1 (1)		1 (1)			
172 (ac)	7 (7)		7 (7)		0 (0)	
453017664 (1b008040)	2 (2)		30 (1e)			
172 (ac)	7 (7)		7 (7)		1 (1)	
452984832 (1b000000)	1 (1)		30 (1e)			
172 (ac)	9 (9)		0 (0)		0 (0)	
520159360 (1f010080)	3 (3)		36 (24)			
172 (ac)	9 (9)		0 (0)		1 (1)	
520192192 (1f0180c0)	4 (4)		36 (24)			
172 (ac)	9 (9)		1 (1)		0 (0)	
436240448 (1a008040)	2 (2)		29 (1d)			
172 (ac)	9 (9)		1 (1)		1 (1)	
436207616 (1a000000)	1 (1)		29 (1d)			
172 (ac)	9 (9)		2 (2)		0 (0)	
419463232 (19008040)	2 (2)		28 (1c)			
172 (ac)	9 (9)		2 (2)		1 (1)	
419430400 (19000000)	1 (1)		28 (1c)			
172 (ac)	9 (9)		3 (3)		0 (0)	
402686016 (18008040)	2 (2)		27 (1b)			
172 (ac)	9 (9)		3 (3)		1 (1)	
402653184 (18000000)	1 (1)		27 (1b)			

Tools For Direct Access to DB

- Doxygen documentation available for all tools

- Example: `displayRunInfo <runnumber>` gives
  - run time (from – till), duration
  - run type
  - total events
  - stage position
  - beam momentum (calculated from beam settings, CERN only)
  - AHCAL temperature: all single measurements + averages
  - thresholds for multiplicity counter + rejected fraction

Summary

- Using tags for DB folders obligatory
- **calice_run** provides latest folders and tags
- **calice_db_tools** comprises the DB viewer and other tools for direct DB access