CMS ROC Report
(getting ready for the CPT MTCC Data Monitoring Shifts)

LHC@FNAL meeting (10 August '06)

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also many thanks to:

Albert, Martijn, Frederic, Yana, Dorian, Patrick Gartung, Yujun Wu, Hans Wenzel, Tony Wildish, Michael Schmitt, Eric James, Wade,

and many more people.....

- About 10 days ago, we were asked by Albert, if we (FNAL ROC) were interested in preparing and taking-shifts for the CPT MTCC data monitoring.
- We said, 'yes', and intensified our effort to get ready.
- In addition to people already working for the ROC, we added the full time effort by 3 Fermilab postdocs (Carsten, David, & Ingo) and one Wilson Fellow (Jeff) for the short time (August).
- This is a coordinated effort with CPT-MTCC group (Albert/Martjn, et. al.,)
- Time scale of this quasi-online MTCC (magnet test cosmic challege) data monitoring shift:
  - 3T run this Friday (tomorrow)
  - 4T run before the end of August

Topics covering

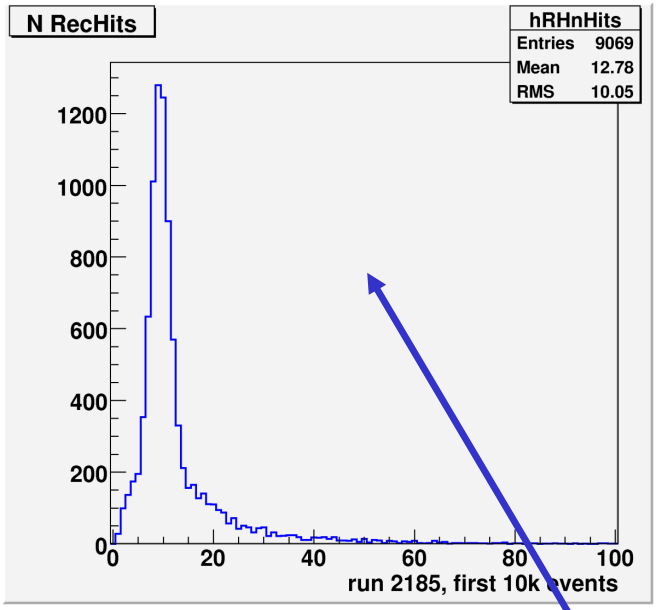
- Muons (Ingo Bloch)
- Twiki page, and Event Display (David Mason)
- HCAL (Alan Stone)
- Trigger (Jeff Berryhill)
- Tracker (Carsten Noeding)
- Making information available on Web(Bill & Zongru)
- Data Transfer and related issues
- Possible operation mode, summary and plan

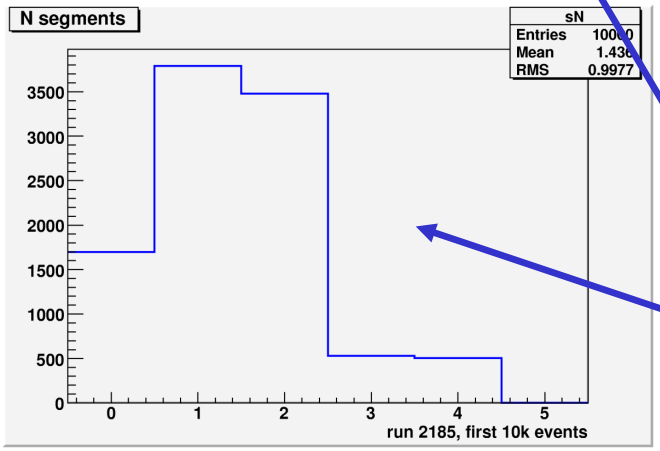
NOTE: We are NOT developing new DQM code. We are trying to run 'existing programs' (being developed by sub-detector group) on the latest MTCC global DAQ data at FNAL, in order to prepare for the MTCC data monitoring shifts in the 2nd half of August.

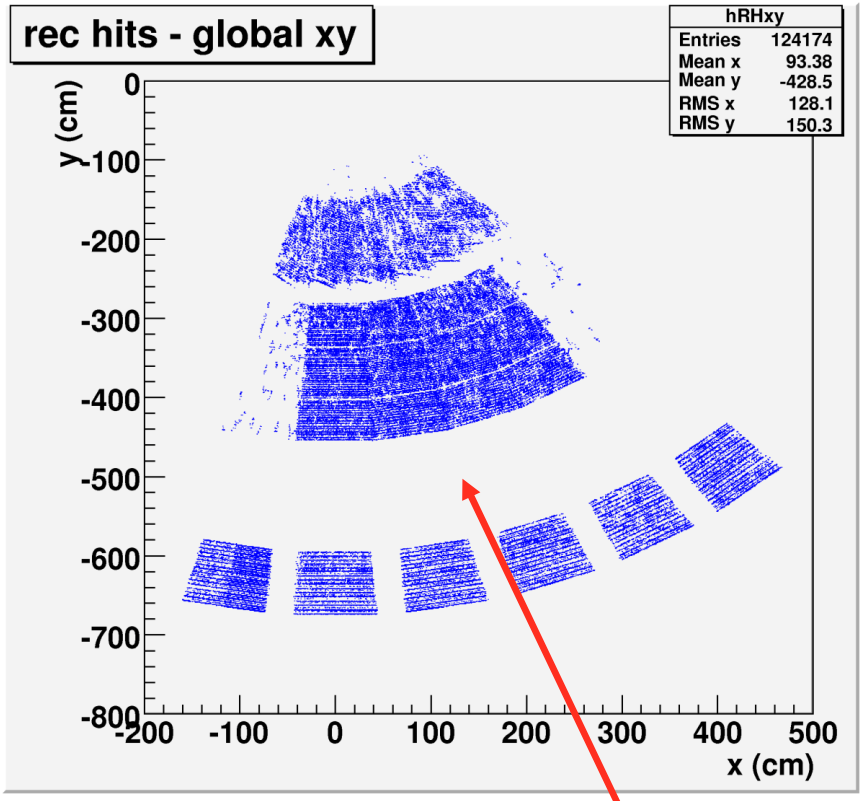
Muons

- Michael Schmitt (Northwestern) is creating and maintaining a package in CMSSW to make simple histograms from cosmic data.
- The current version is in CMSSW_0_9_0_pre2 with some patches.
- We (Ingo Bloch working together with Eric James) have successfully built and run this package at LPC on recent run number 2185 (see histograms on following slide).
- Plan is to continue picking up package updates from Michael and continue validation on the most recent data arriving at Fermilab.

Muon Histograms







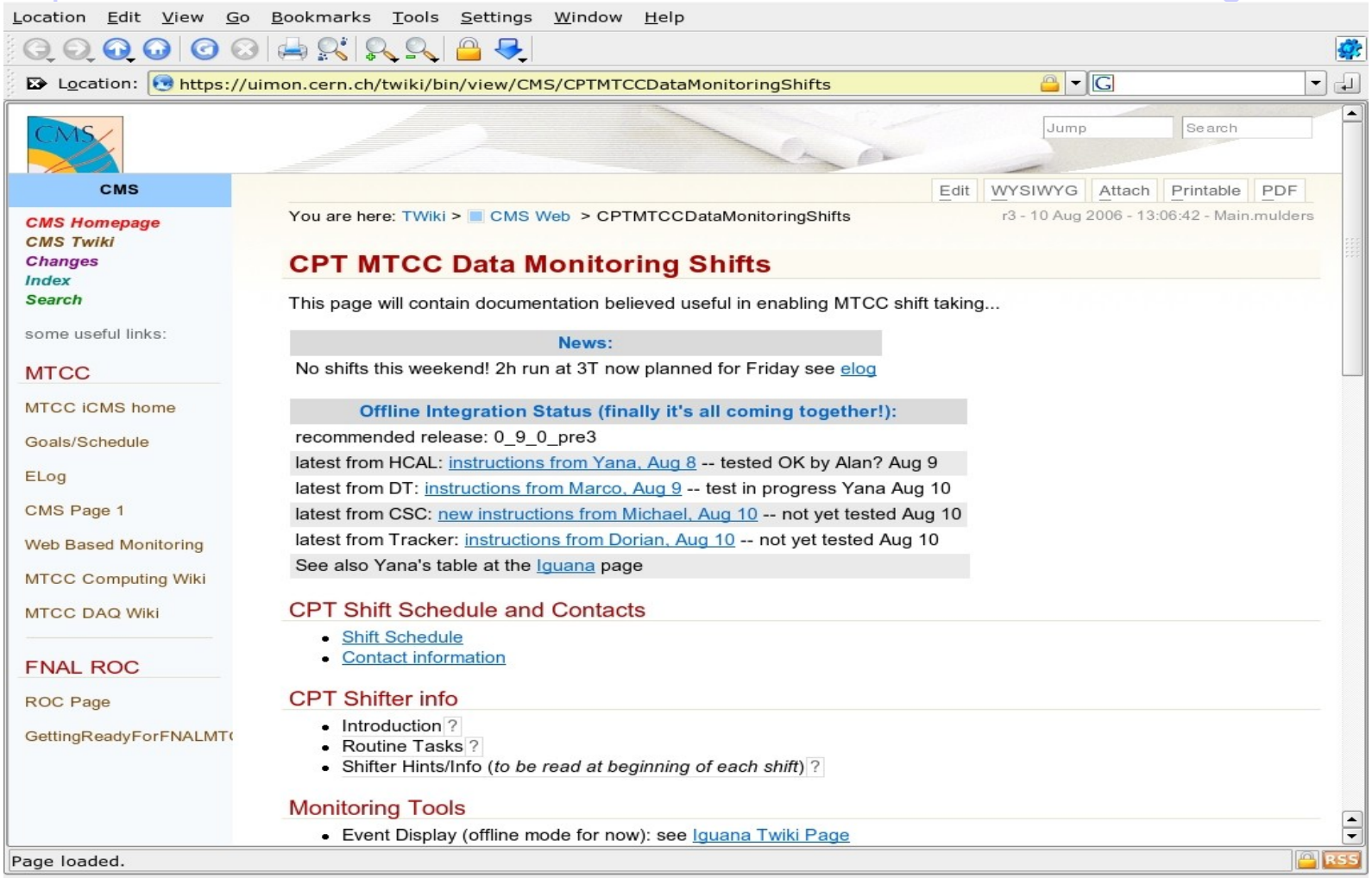
RecHit Global X,Y Coordinates

Number of CSC RecHits
and Segments per event

Twiki Page and Event Display (David Mason)

- ✓ CPT MTCC TWIKI page now exists:

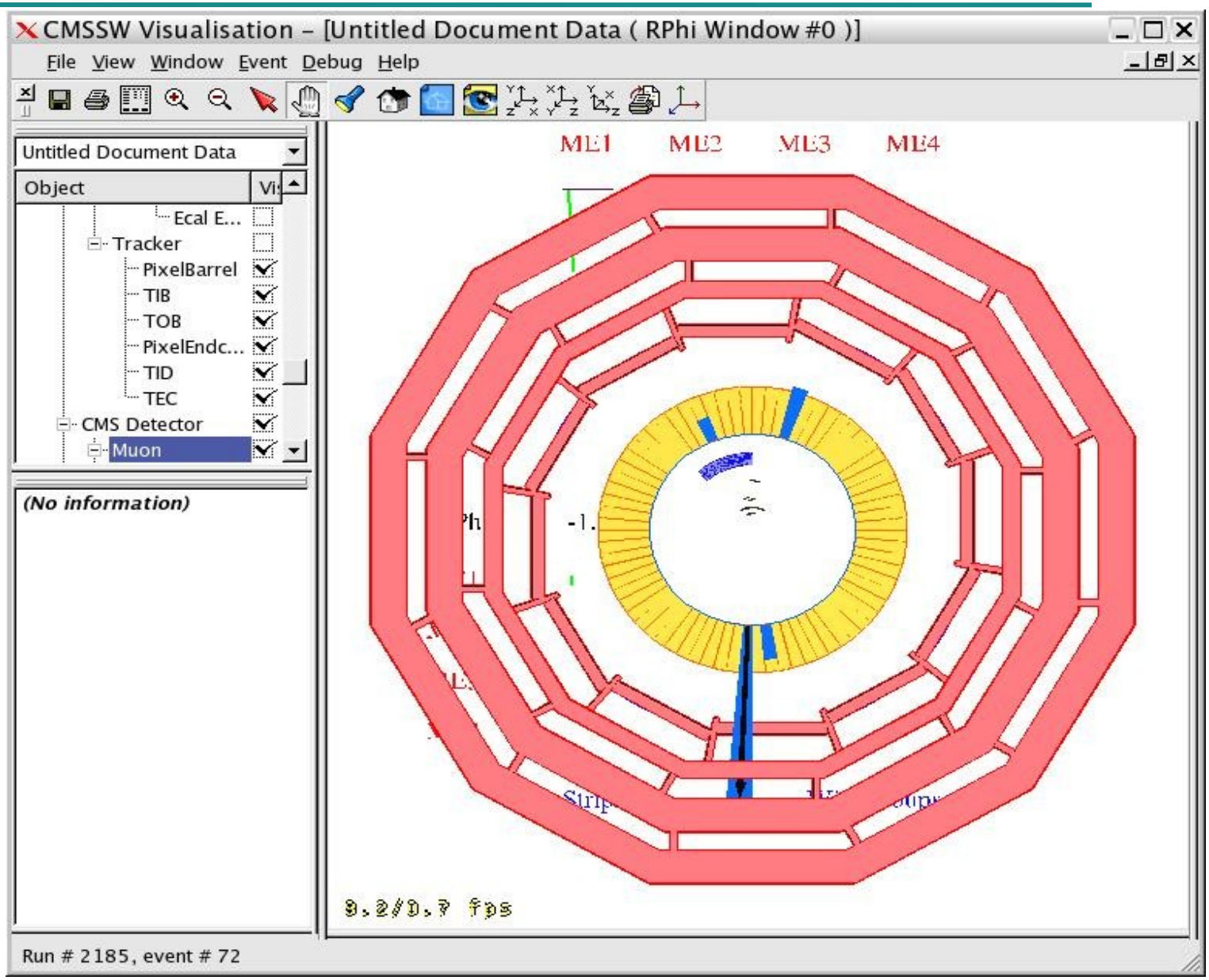
https://uimon.cern.ch/twiki/bin/view/CMS/CPTMTCCDataMonitoringShifts



Event Display (David Mason)

- ✓ IGUANA Event Display is starting to work at FNAL!
  - ➔ Able to view data as soon as available in dcache
  - ➔ Working on scripts to make execution more convenient for shifters
- Current Issues/Questions:
  - ➔ How to ensure calibrations/pedestals are correct?
    - ◆ is there a common area where these will be held?
  - ➔ Keep seeing persistent features (e.g. Ecal and tracker)
  - ➔ Automation? Possible to start up in auto event mode?
  - ➔ Currently need to click on many boxes to see detector
    - ◆ can objects be turned on via .cfg file?

IGUANA EventDisplay ran at ROC



- Tracker: Carsten Noeding is working on trying to run Tracker DQM code on MTCC global DAQ data (from a disk file). He is in contact with Dorian Kcira to resolve some issues.

- HCAL: Alan Stone is working on trying to run HCAL DQM code on MTCC global DAQ data (from a disk file). So far, it runs but produces empty histograms. Trying to get help from HCAL people (Wade Fisher, et. al.).

- Trigger: Jeff Berryhill contacted Peter Wittich. Jeff just received trigger monitoring code and instruction from Peter and Jeff is working on it.

Data Transfer and related issues

- Latency: Main issue. At moment often files arrive a day or two later to Fermilab. The bottle neck is identified --- the caster/phedex. In contact with T0/T1 data transfer people, to significantly improve this, for the coming weeks for the MTCC shifts. From the experience of test beam data transfer, the latency of the data transfer between CERN to Fermilab is known to be in order of 5 min. or less.
- File-size, checksum, etc.: need to check consistency between data files at Cessy and the files transferred automatically. There are some indications that it is not, sometimes....
- Files not closed properly: This happens for some files. Root seems to be able to 'repair', but takes time each time when we run on the file, since we can not replace the 'repaired file' in dcash. Need to investigate more, but need to come up with a better procedure how to handle this case must be established.

Run Information and file(run) cataloging

A few useful location to find run/file information:
Linked all from the ROC page:

http://uscms.org/LPC/lpc_roc/index.html

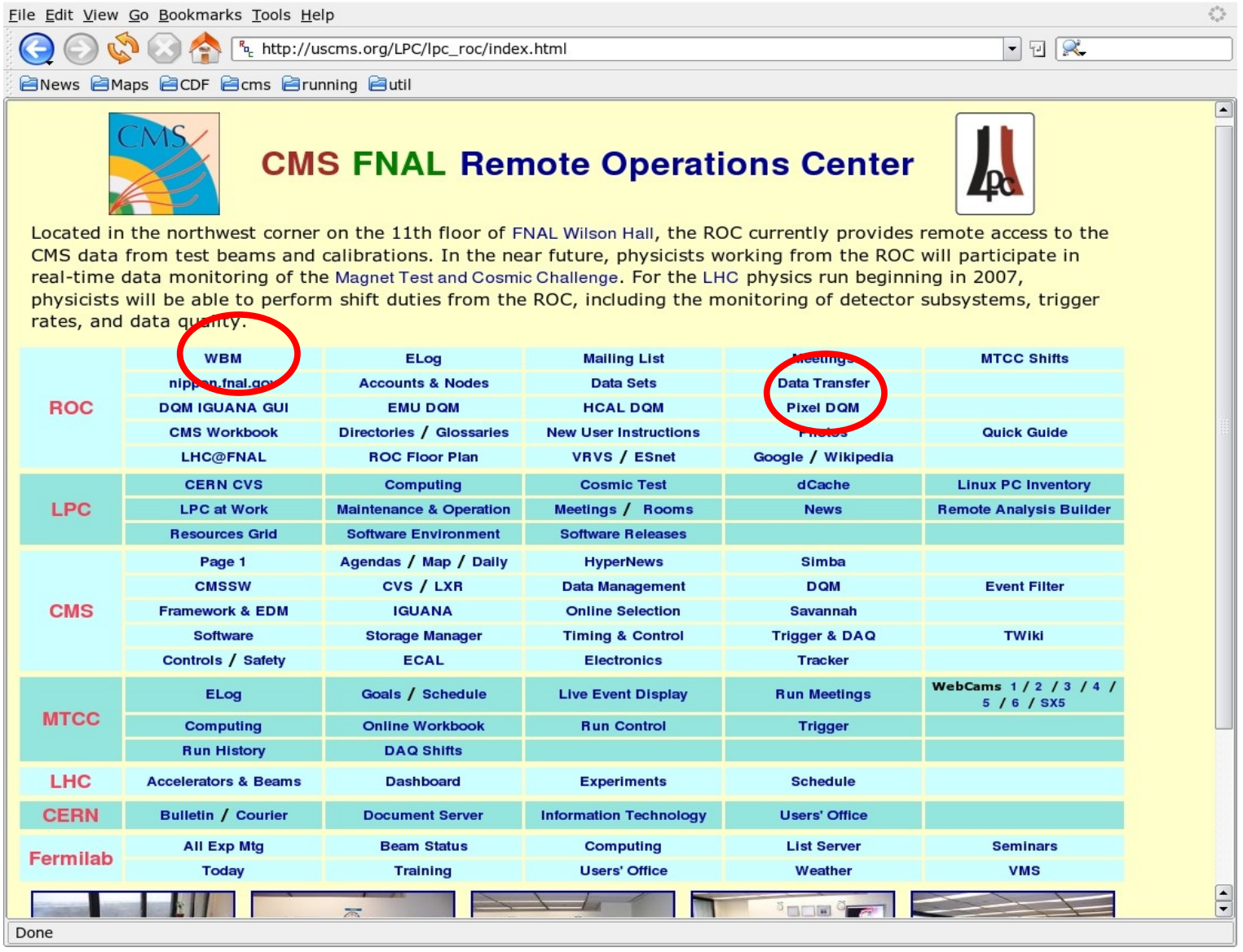
Run at Cessy: Run Summary page (Bill Badgett):
(from the ROC page, go to “WBM”, then “Run Summary”)

Run (files) at castor
output processed by Martijn/Frederic program (Zongru):
(from the ROC page, go to “WBM”, then “MTCC files”)

What transferred to Fermilab (Yujun Wu):
(From the ROC page, go to “Data Transfer” under ROC)

plan to improve: on one page, with checksum, timestamp,...

ROC Web Page


File Edit View Go Bookmarks Tools Help
http://uscms.org/LPC/lpc_roc/index.html
News Maps CDF cms running util
CMS FNAL Remote Operations Center
Located in the northwest corner on the 11th floor of FNAL Wilson Hall, the ROC currently provides remote access to the CMS data from test beams and calibrations. In the near future, physicists working from the ROC will participate in real-time data monitoring of the Magnet Test and Cosmic Challenge. For the LHC physics run beginning in 2007, physicists will be able to perform shift duties from the ROC, including the monitoring of detector subsystems, trigger rates, and data quality.
ROC
WBM
ELog
Mailing List
MTCC Shifts
Accounts & Nodes
Data Sets
Data Transfer
DQM IGUANA GUI
EMU DQM
HCAL DQM
Pixel DQM
CMS Workbook
Directories / Glossaries
New User Instructions
Quick Guide
LHC@FNAL
ROC Floor Plan
VRVS / ESnet
Google / Wikipedia
LPC
CERN CVS
Computing
Cosmic Test
dCache
Linux PC Inventory
LPC at Work
Maintenance & Operation
Meetings / Rooms
News
Remote Analysis Builder
Resources Grid
Software Environment
Software Releases
CMS
Page 1
Agendas / Map / Daily
HyperNews
Simba
CMSSW
CVS / LXR
Data Management
DQM
Event Filter
Framework & EDM
IGUANA
Online Selection
Savannah
Software
Storage Manager
Timing & Control
Trigger & DAQ
TWiki
Controls / Safety
ECAL
Electronics
Tracker
MTCC
ELog
Goals / Schedule
Live Event Display
Run Meetings
WebCams 1 / 2 / 3 / 4 / 5 / 6 / SX5
Computing
Online Workbook
Run Control
Trigger
Run History
DAQ Shifts
LHC
Accelerators & Beams
Dashboard
Experiments
Schedule
CERN
Bulletin / Courier
Document Server
Information Technology
Users' Office
Fermilab
All Exp Mtg
Beam Status
Computing
List Server
Seminars
Today
Training
Users' Office
Weather
VMS
Done

possible operation mode, summary

- possible operation (CPT MTCC shifts) mode as far as what (officially) runs where:
  - run the Martijn/Frederic program at CERN
  - run series of sub-detector monitor programs at Fermilab.
  - in anycase, put results/reference/instruction what to do with --- all on web pages.
- Keep twiki page up-to-date with 'instructions'/'information'. We make sure programs can run both at CERN and Fermilab and produce the same results.
- We plan to put together as much as possible for tomorrow's 3T runs.... and continue to improve.....

Other activity at ROC

- HCAL test beam people:
  - meeting 9-11 every morning.
  - preparing to take cal test beam shift as last year.