



ELACCO mid-term Review

Fellow: Barbara Beccati

Supervisor: Frans Meijers

14 November 2008
CERN, Geneva



EDUCATION

2002-2005

Bachelor in Electronic and Telecommunication Engineering

Department of Engineering, University of Ferrara, Italy

2005-2008

Master in Electronic and Telecommunications Engineering (23 July 2008)

THESIS: Development of the system test for the LHC tune measurement and abort gap monitoring.

Department of Engineering, University of Ferrara, Italy

CERN EXPERIENCE

2007-2008

CERN Technical Programme In Engineering, Computing and Applied Science

- LHC project: development of a system test for the LHC tune measurement and abort gap monitoring;
- Design and development of the system and the SW (Labview) for signal processing

SINCE 2008,
AUGUST 1st

Marie Curie Fellowship Programme, CMS group

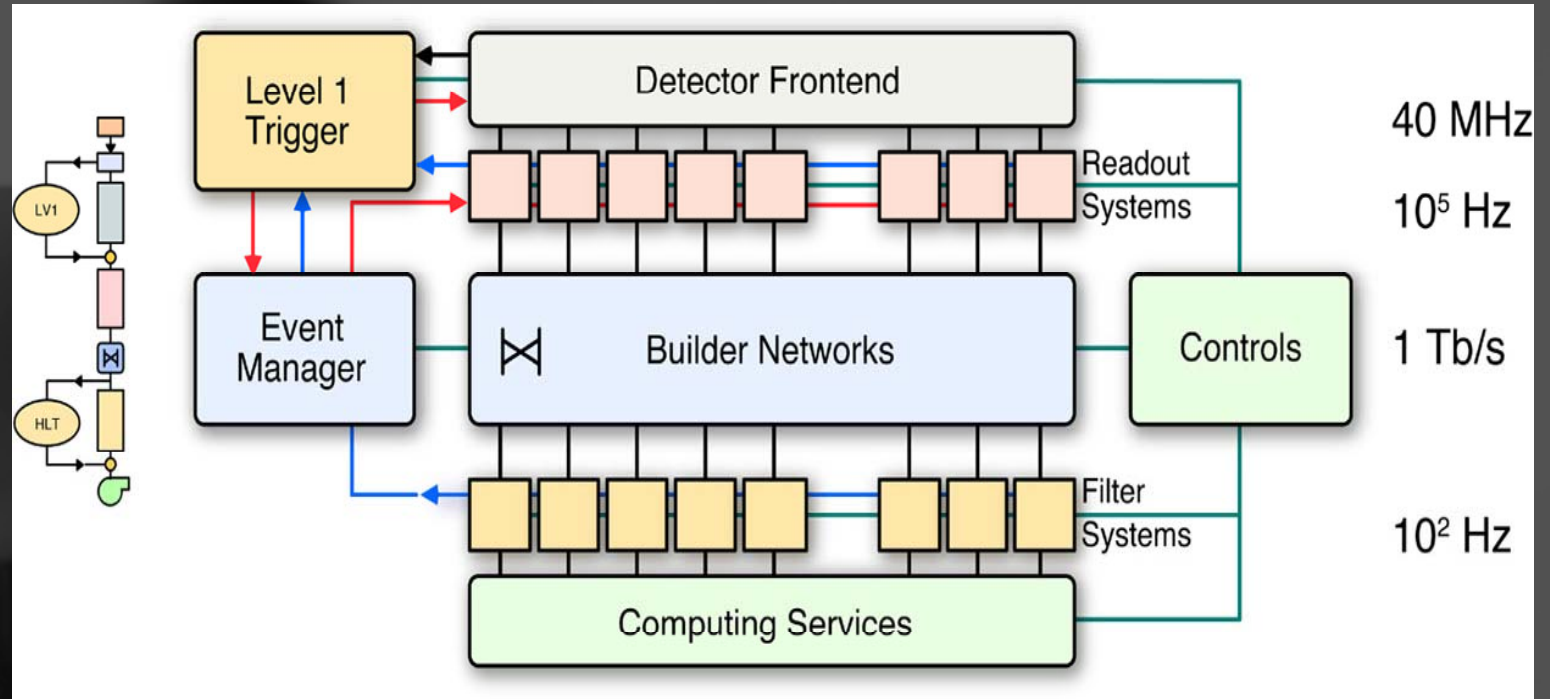


Outline

- Compact Muon Solenoid (CMS) Experiment
- Oracle Portal Technology and Development Tool
- First Results and Objectives



The Compact Muon Solenoid DAQ Baseline Structure



CMS

Collision rate	40 MHz
Level-1 Maximum trigger rate	100 kHz
Average event size \approx	1 Mbyte
Event Flow Control \approx	10^6
Mssg/s	

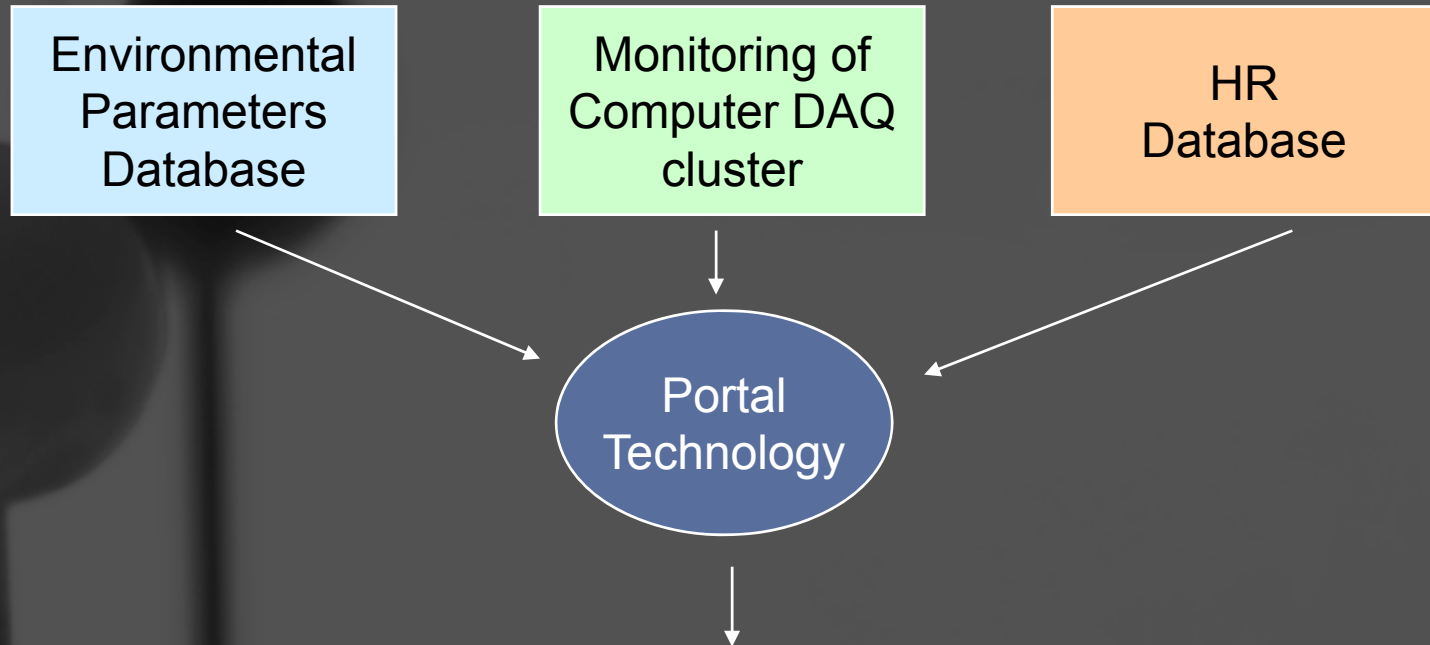
No. of In-Out units	512
Readout network bandwidth	≈ 1 Terabit/s
Event filter computing power	$\approx 10^6$ S195
Data production	\approx Tbyte/day
No. of PC motherboards	\approx Thousands

HIGH COMPLEXITY AND LARGE NUMBER OF COMPONENTS



Oracle Portal Technology

SEVERAL
DATA
SOURCES



WHY ORACLE
PORTAL

- Quickly build, administer, and deploy portals
- Standards driven, scalable, secure, and dynamic

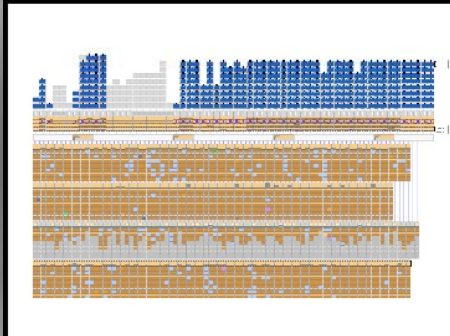


Oracle Portal and Portlets



07/11/08 Fri 13:56. Session 30797 [0:32] <toppro> Fri 13:54 | DAQ "Running", Run#69850
EvSize 411.485 kB, Rate 10.443 kHz [4026.854 MB/s]

Layout



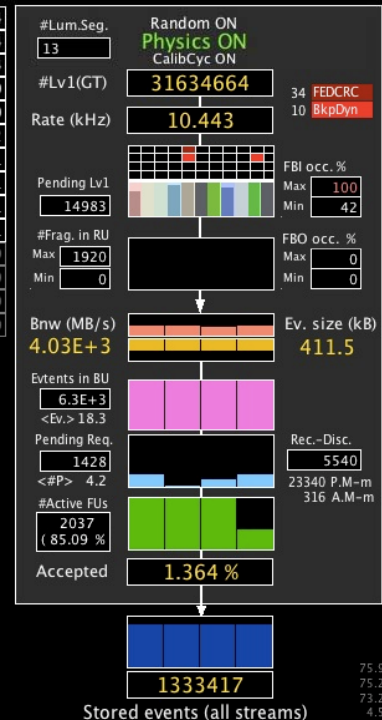
Data to Surface

Sub-System	State	FRL	FED	IN
TRG	Running	5	5	4
DAQ	Running	0	0	0
DQM	Running	0	0	0
DT	Running	5	5	5
ECAL	Running	54	54	35
HCAL	Out	33	33	0
PIXEL	Running	40	40	40
RPC	Running	3	3	3
SCAL	Running	0	0	0
TRACKER	Running	250	439	438
CSC	Out	8	8	0
X		0	0	0
X		0	0	0
X		0	0	0

DAQ items

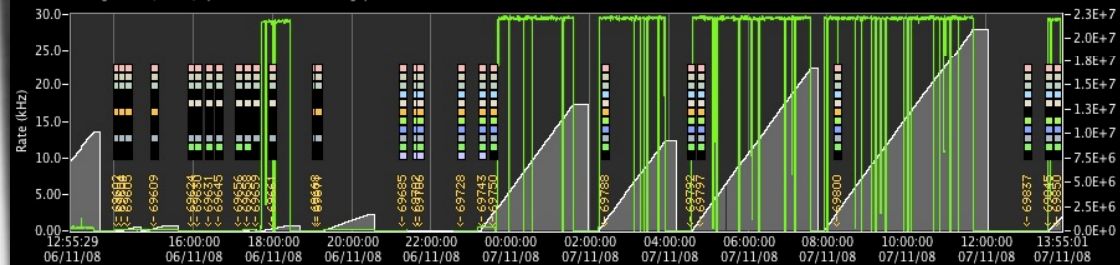
	FED	FRL	EVM	RU	BU	FU	SM
#Tot.	587	398	4	236	342	2394	4
# InFla.	525	337	4	236	288	2037	4
# Enabl.	525	337	4	236	288	2037	4
# Dead	0	0	0	0	54	357	0
dt(s)	2	2	1	1	1	2	0
Late.(s)	71	72	73	73	73	73	72
Slice 1	1	59	86	602	1		
Slice 2	1	59	82	574	1		
Slice 3	1	59	88	616	1		
Slice 4	1	59	86	602	1		
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Data Flow



WHAT IS A PORTLET

[Rate(kHz) | Stored events] / Time



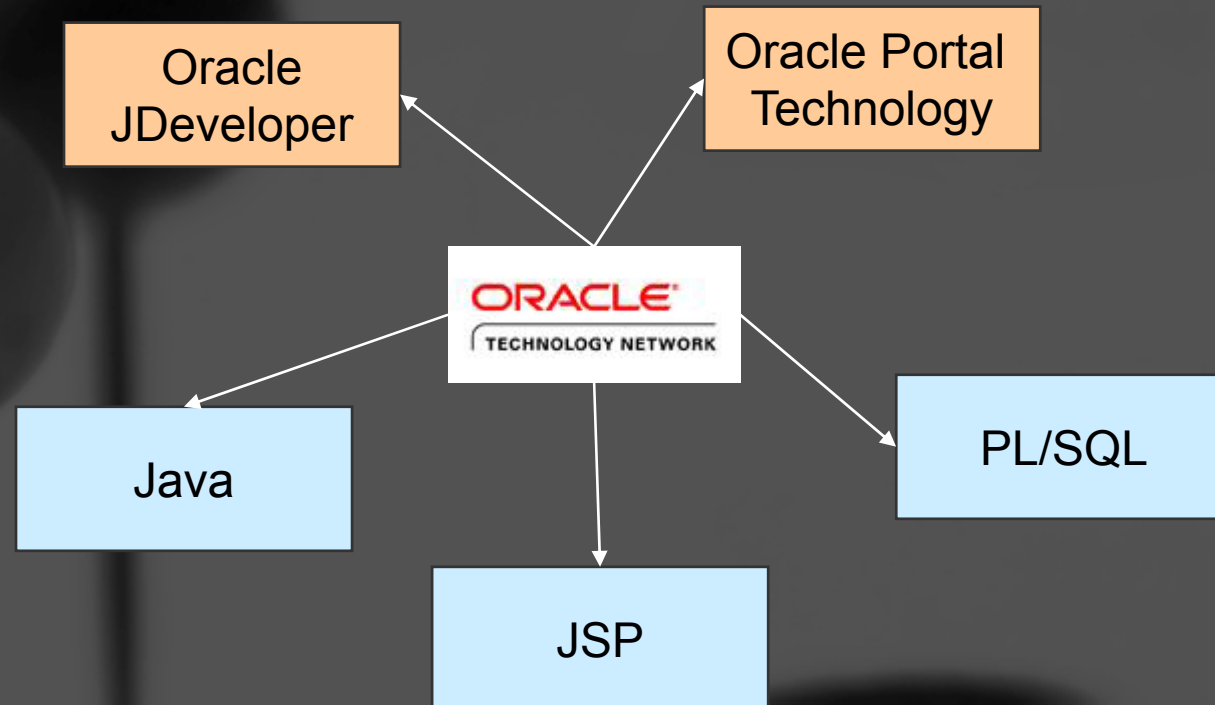
FMURL <http://cmsrc-top:10000/urn:rcms-fm:fullpath=/toppro/PublicGlobal/levelZeroFM.group=levelZeroFM.owner=toppro>

A portlet is a reusable, pluggable Web component that can draw content from many different sources.

75.9
75.2
73.2
4.5



Oracle Java Developer Tool





Since 1st August
until November

In practice

CERN
Training

First Results

Acquisition of a global view of the Oracle Portal Technology

- Training with the Oracle JDeveloper Tool
- Java, HTML and SQL concepts review
- JSP, JavaScript, PL\SQL studying

- Portlet Development for the Shiftlist Database

Java5 course: new language features

Main focus on the addition introduced with Java version 5
(24 hours, 15 – 17 October 2008)



Until
March 2009

Further CERN
Training

2009-2010

Other
training courses

Further Objectives

Introduction to the project and to the Oracle Portal Technologies

- J2EE Web Application course: JSP developing and new standard libraries
- Oracle courses: development and management in Oracle environment

- Mastering the Oracle JDeveloper tool
- Development of complex web components for portal pages in order to allow a quick and easy management of the CMS monitoring data

- CERN Training: Management and Communication courses
- CERN Training: Language courses - French (general and professional)

Training Resume

Technical

- Java5 course: new language features (CERN, 15 – 17 October 2008)

Languages

- General and Professional French Course – Intermediate Level (CERN, 06/10/2008 – 12/12/2008)



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