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# Онлайн система ATLAS TDAQ.



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“the ‘glue’ that holds the various sub-systems together”

# ATLAS DETECTOR

Centre mass energy 14 TeV

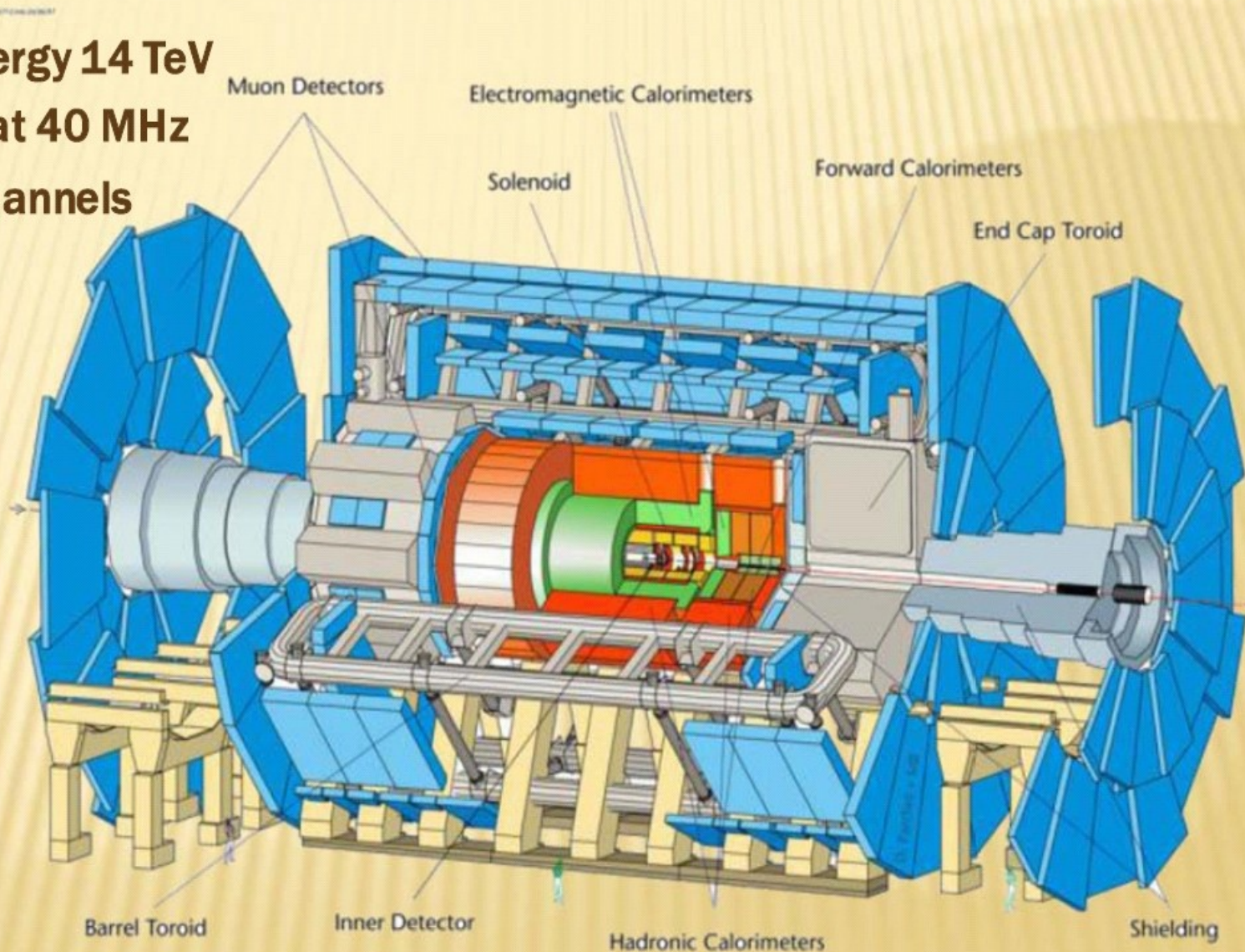
Bunch crossing at 40 MHz

140 000 000 channels

Weight 7000 t

Diameter 22m,

Length 46m

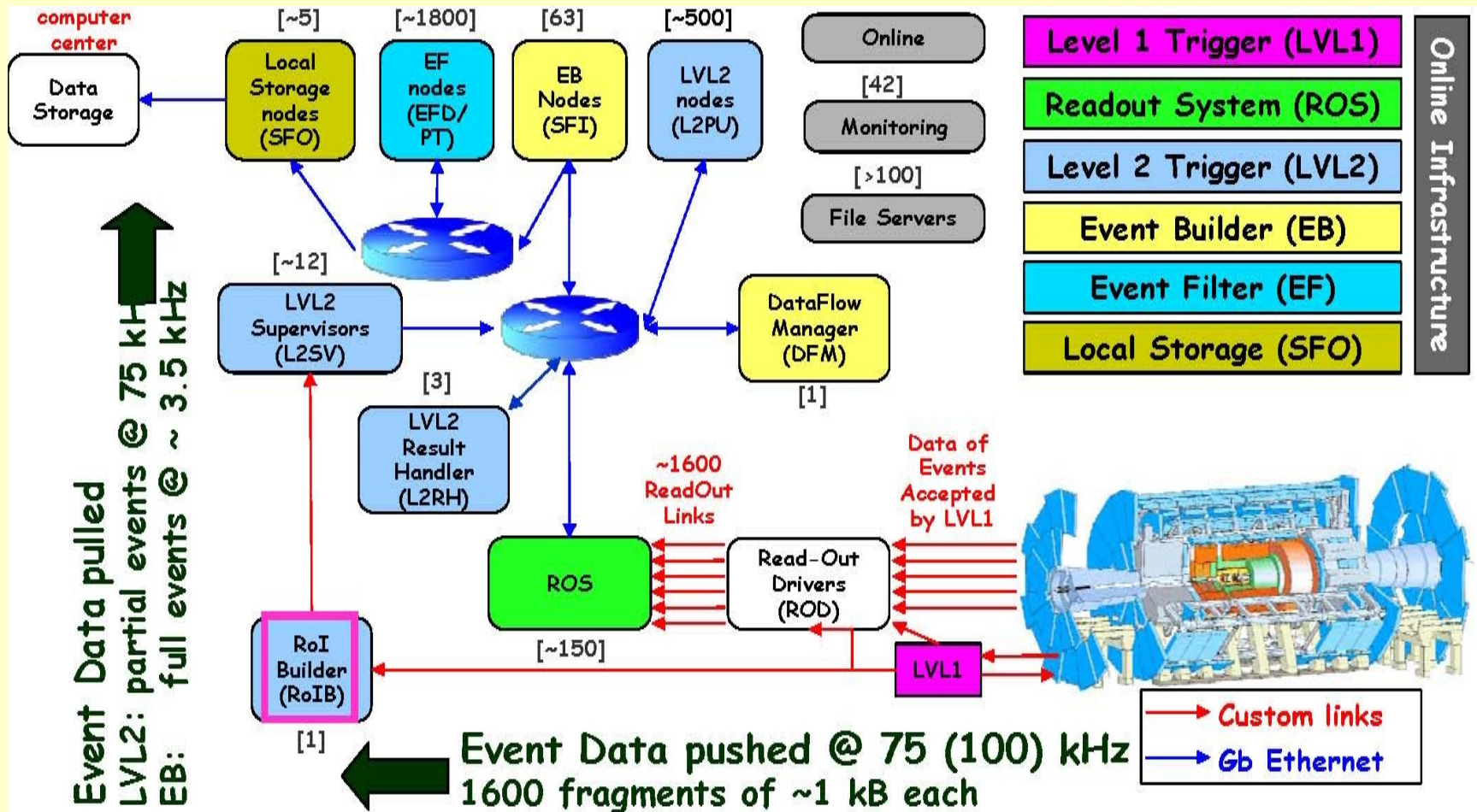


# ATLAS TDAQ System

RUN2: 3000 machine

>50000 concurrent processes

All TDAQ: ~10000 processes



# ATLAS TDAQ Online System

## **Configuration**

Configuration Database  
Online Bookkeeper

**Condition DB**

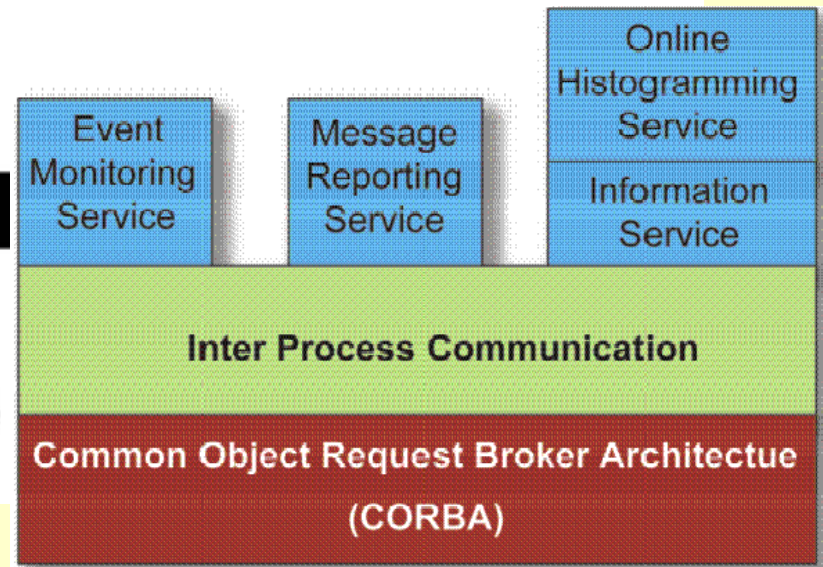
## **Control**

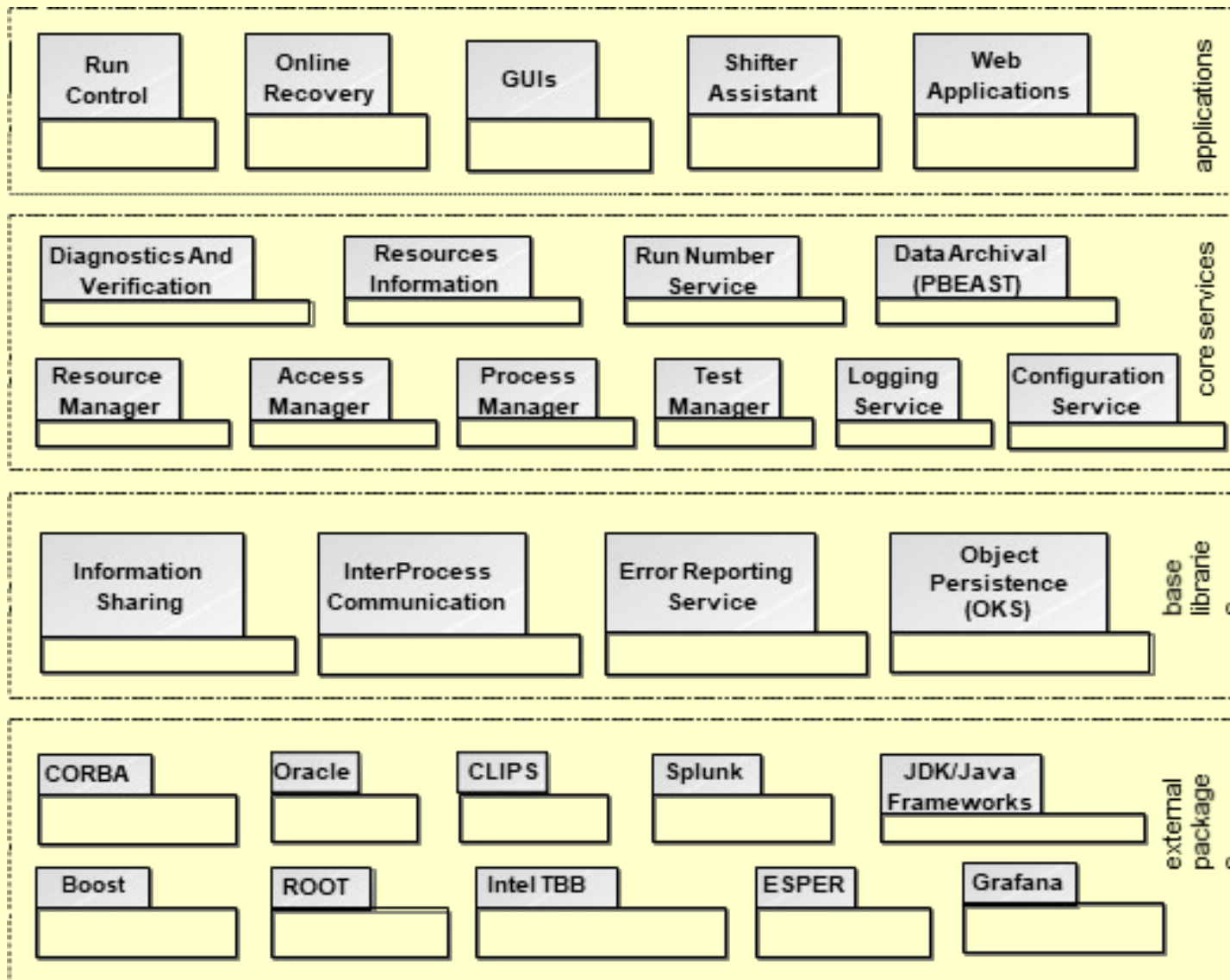
## **Core Components**

Run Controller  
DAQ Supervisor  
Process Manager  
Resource Manager  
Graphical User Interface

## **Information Sharing**

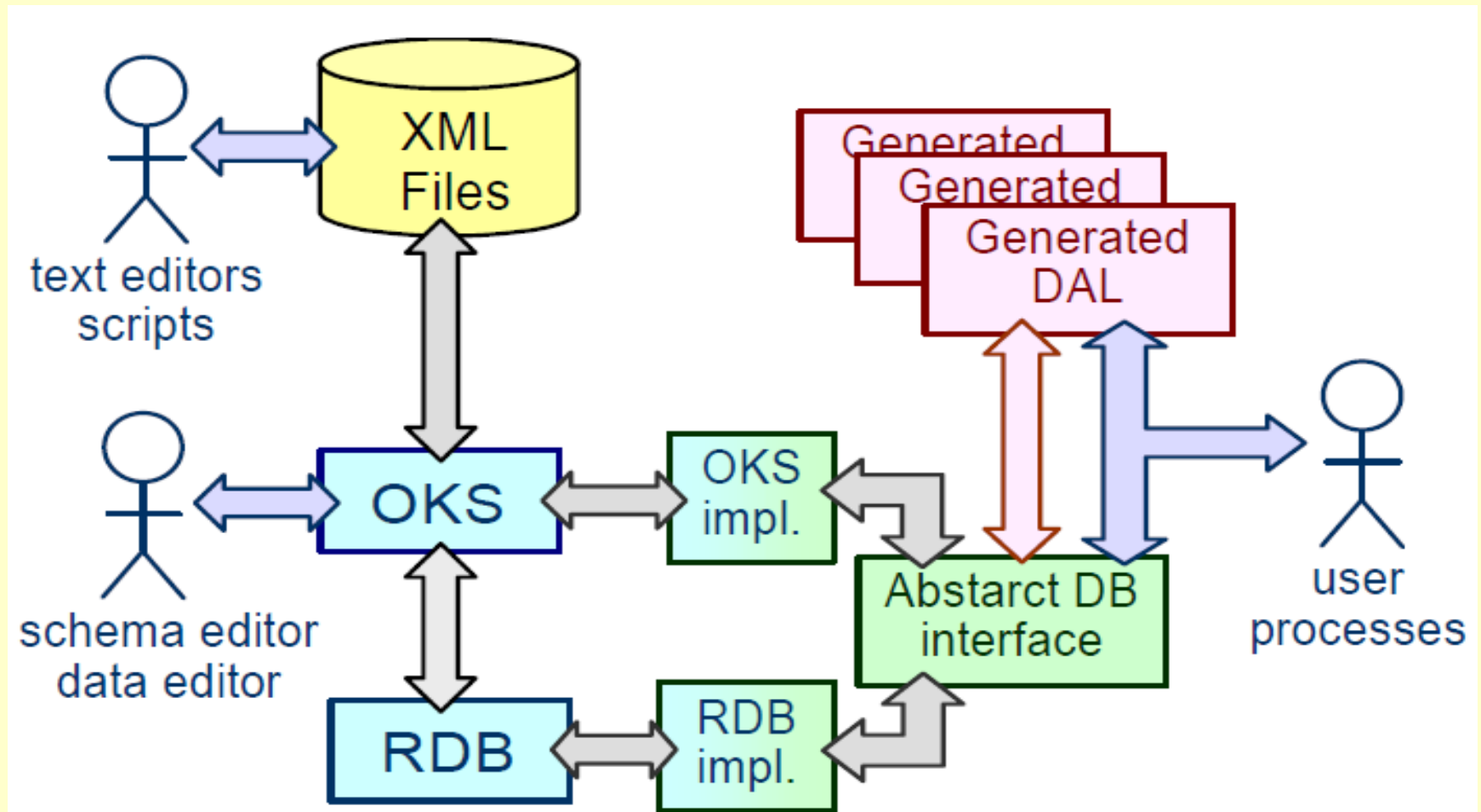
Information Service  
Message Reporting Service  
Online Histogramming Service  
Event Monitoring Service





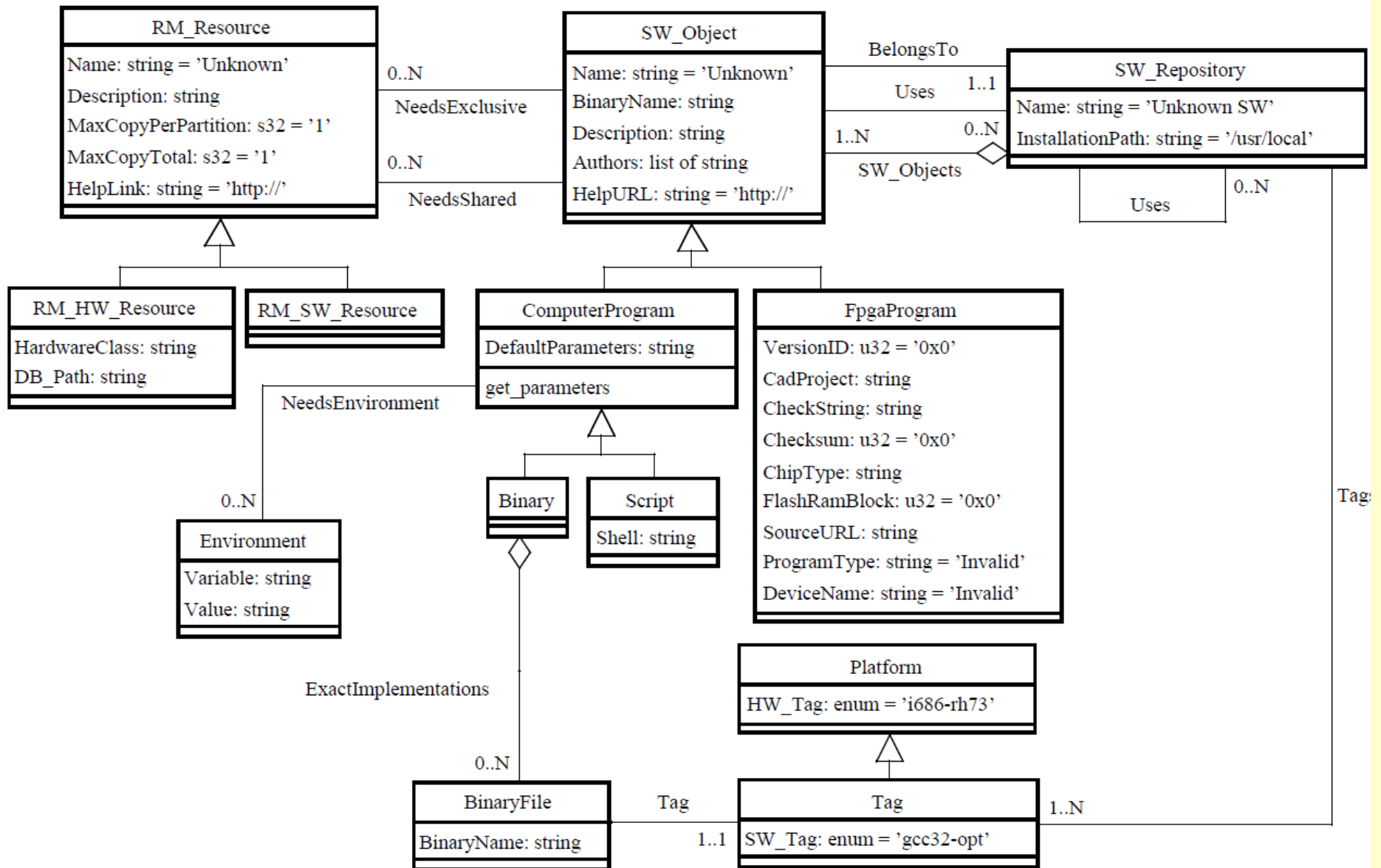
# Configuration

## ConfigDB: Database's interfaces and users



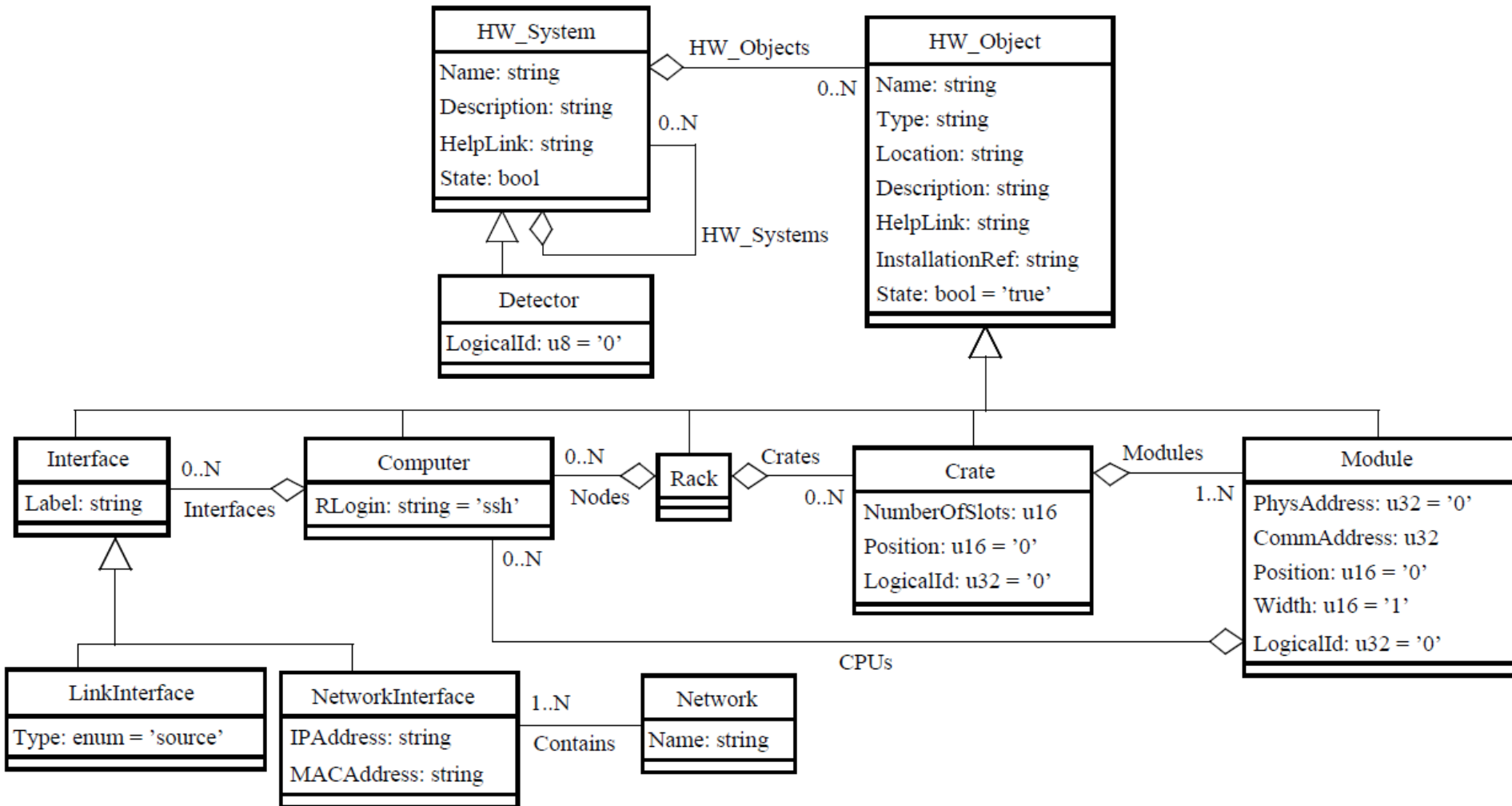
# Configuration

## ConfigDB: Software repository



# Configuration

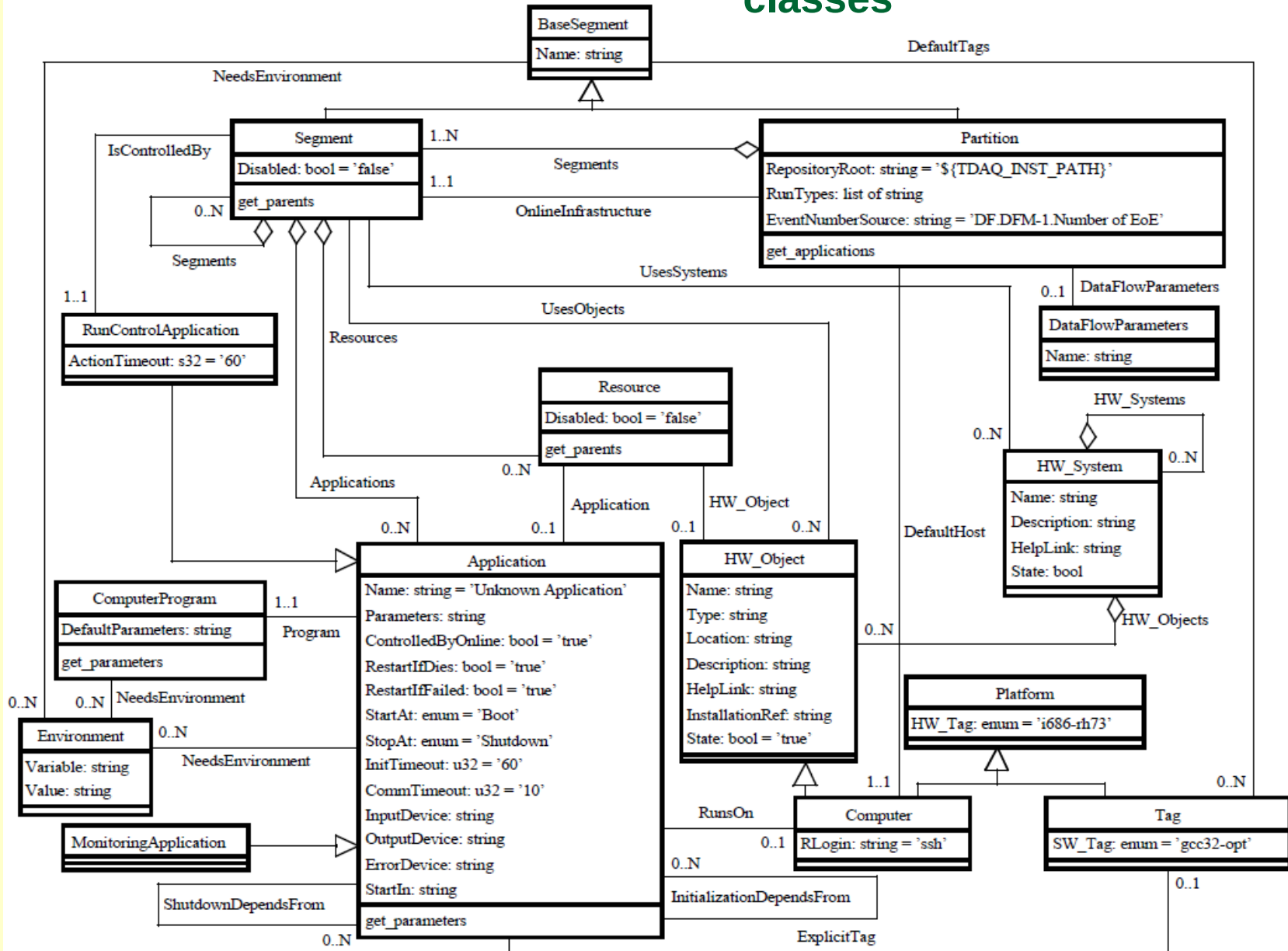
## ConfigDB: Hardware Classes





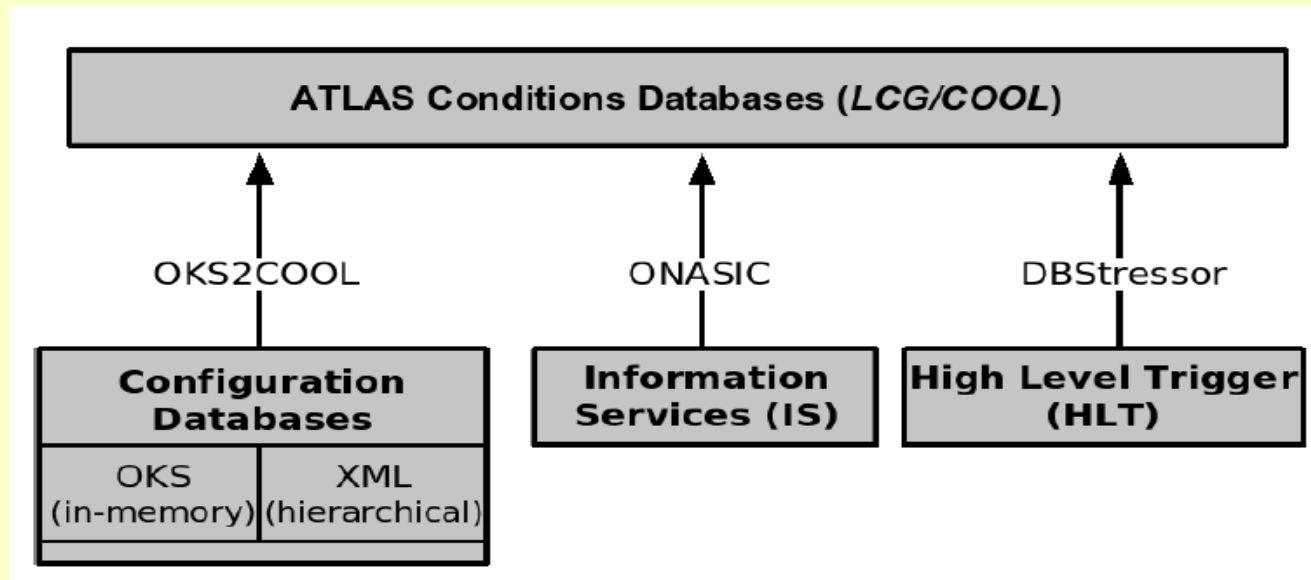
# Configuration

## ConfDB: Configuration description classes



# Configuration

## Online interfaces to Conditions database context diagram



# Lessons learned (RUN1 -> RUN2) 2015-2018

С точки зрения эксплуатации архитектура системы должна быть направлена на **обеспечение надежной и бесперебойной работы**:

- сосредоточиться на оперативной автоматизации и аналитике;
- обеспечивать **мониторинг** важных рабочих параметров в режиме реального времени и **оповещение** дежурных;
- обеспечить возможность просмотра истории операций для лучшего понимания системы и **выявления потенциальных и скрытых проблем**;
- широкое использование **тестирования** компонентов для прогнозирования и диагностики проблем;
  - привлекать экспертов и разработчиков детекторов к формализации и обмену эксплуатационными знаниями, специфичными для подсистемы.

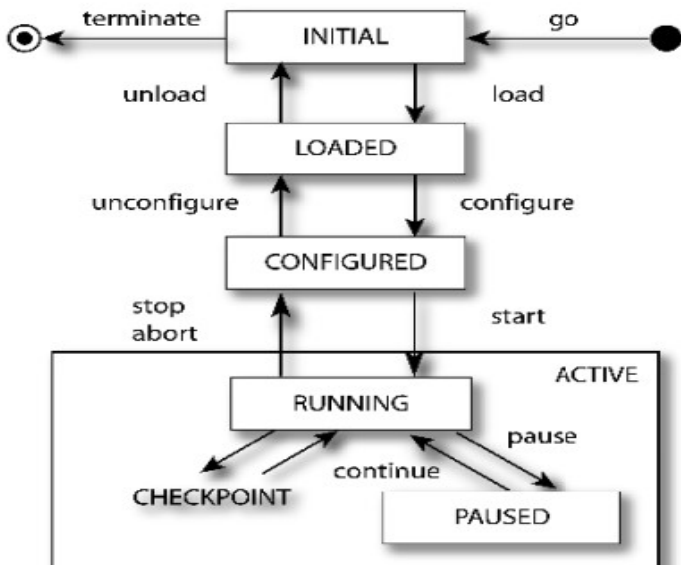
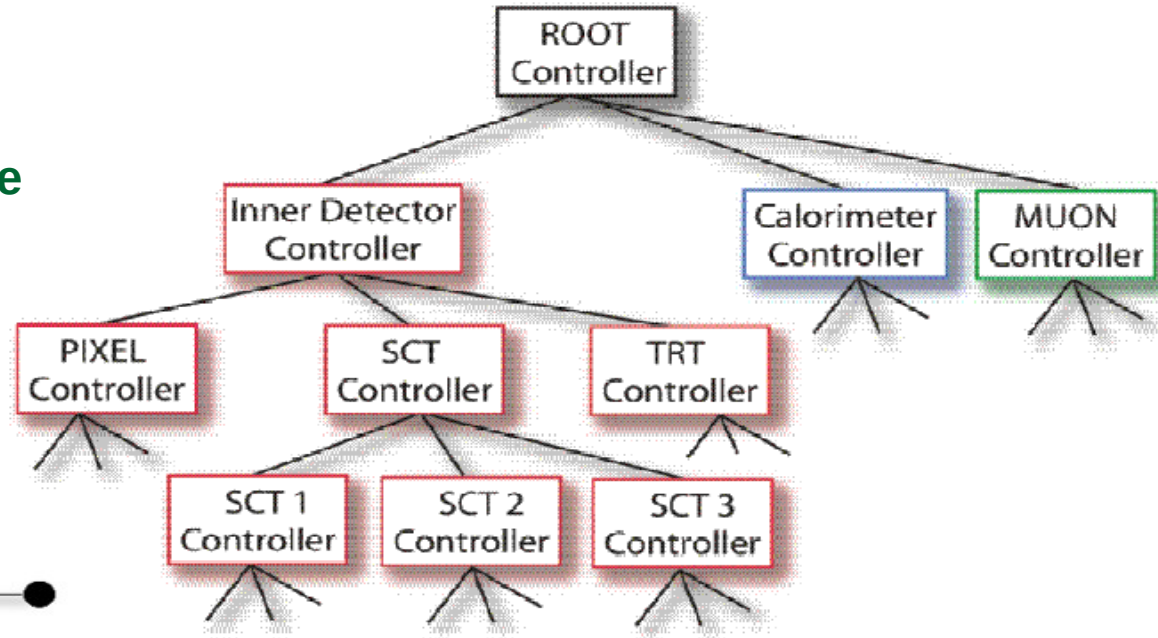
# RUN1 -> RUN2 upgrade goals

- use 3<sup>rd</sup> party software toolkits and libraries where and when possible;
- improve performance and scalability of the software by exploiting modern C++11 features and utilizing modern threading techniques and multi-core CPUs;
- revise the old and historical code, and re-implement pieces of it where possible – even if all functional requirements are fulfilled, for the sake of better and simpler architecture, code clarity and maintainability;
- follow the trends in software technologies, like **web-based applications**.

# Control

## Root Controller

Hierarchical controller tree

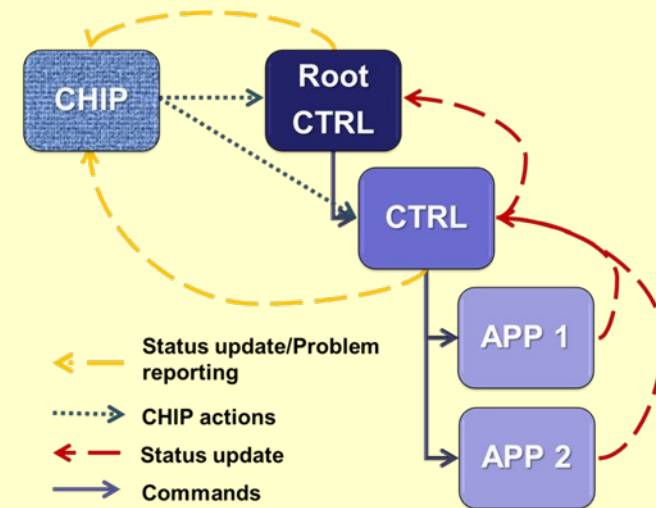
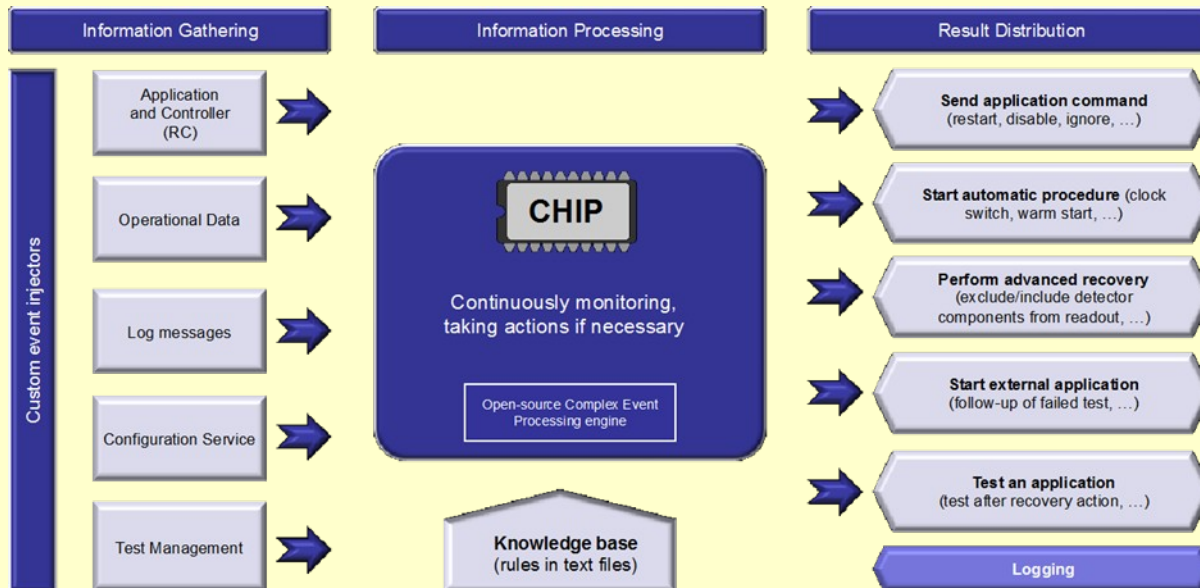


Finite state machine

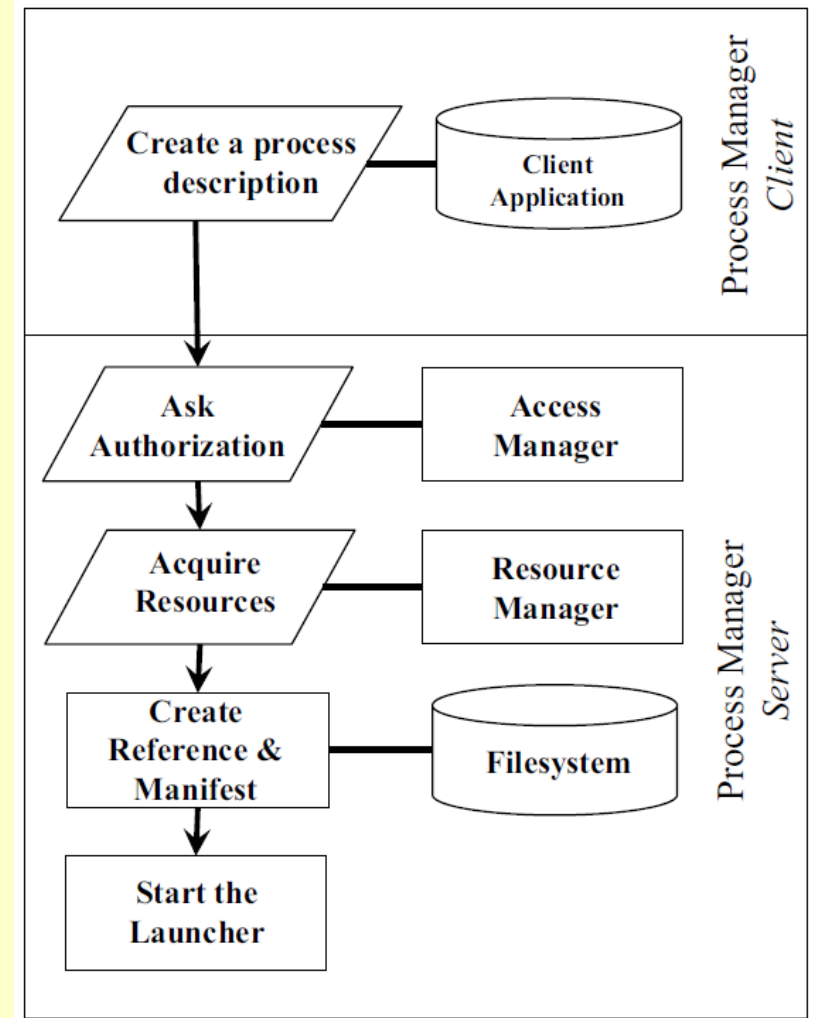
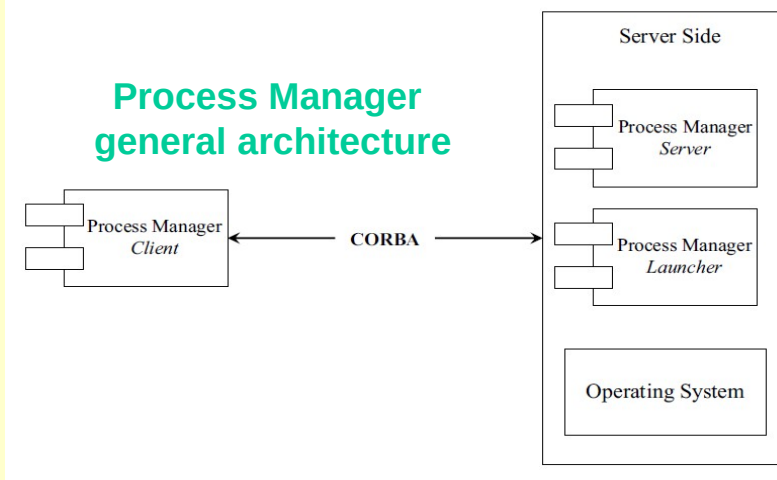
# Control system in RUN2

CHIP's tasks can be divided into 3 main categories:

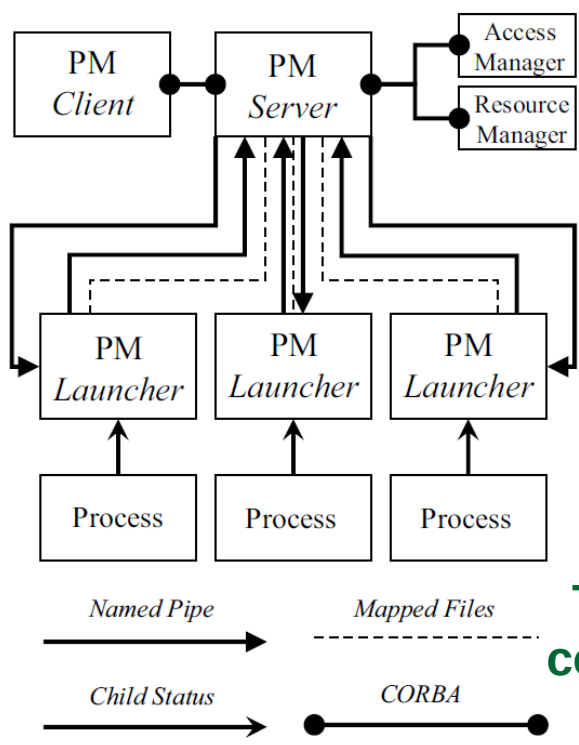
- handling abnormal conditions
- automating complex procedures
- performing advanced recoveries



# Control: Process Manager



Flow diagram showing all the phases to launch a process



The Process Manager communication schema.

# Control

## Process Manager Control Panel

The screenshot displays the Process Manager Control Panel interface. The main window is divided into several sections:

- Partition Wide Commands:** Includes buttons for 'Kill Partition', 'List Partition' (highlighted in red), 'Kill on Host(s)', 'List on Host(s)', and 'All Procs on Host(s)'.
- Agents published in IPC:** A list of agents such as 'AGENT\_pc-atlas-cr-01.cern.ch' through 'AGENT\_pc-atlas-cr-17.cern.ch'.
- Log messages:** A text area showing the execution of commands, such as 'Executing the requested action(s)...', 'Got the list of running processes from agent AGENT\_pc-tdq-xpu-0612.cern.ch', etc.
- List of running processes (popup window):** A window titled 'List of running processes' with a red warning bar: 'WARNING: the current list may be outdated'. It features a search bar and a list of processes under the agent 'AGENT\_pcatd122.cern.ch', including 'pmg://pcatd122.cern.ch/part\_l2ef/DDC...', 'pmg://pcatd122.cern.ch/part\_l2ef/DF/1', etc. The window has buttons for 'Out', 'Err', 'Info', and 'Kill'.

- Use it to...
  - ... make sure all the process in the partition are correctly terminated at exit
  - ... list and kill **partition** processes
    - On all the hosts or only on the selected ones
- Operations are usually fast (less than 30 seconds)



# Contro

## Resource Manager

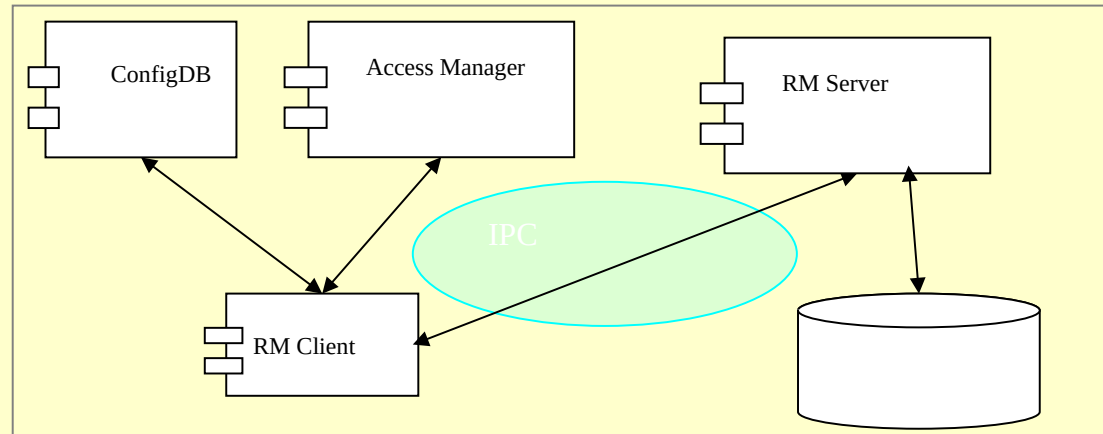
### 1

- Любое программное обеспечение или аппаратное средство – это ресурс
- Resource manager управляет правами доступа к ресурсам, которые ограничены по тем или иным параметрам
- Цель: избежать конфликты, возникающие в силу программных ошибок или ошибок оператора

Периодически одновременно поступает более 3000 запросов, которые необходимо обработать за несколько секунд

RM сервер работает без перезапуска много месяцев

### Resource manager general architecture



Resource Manager Viewer

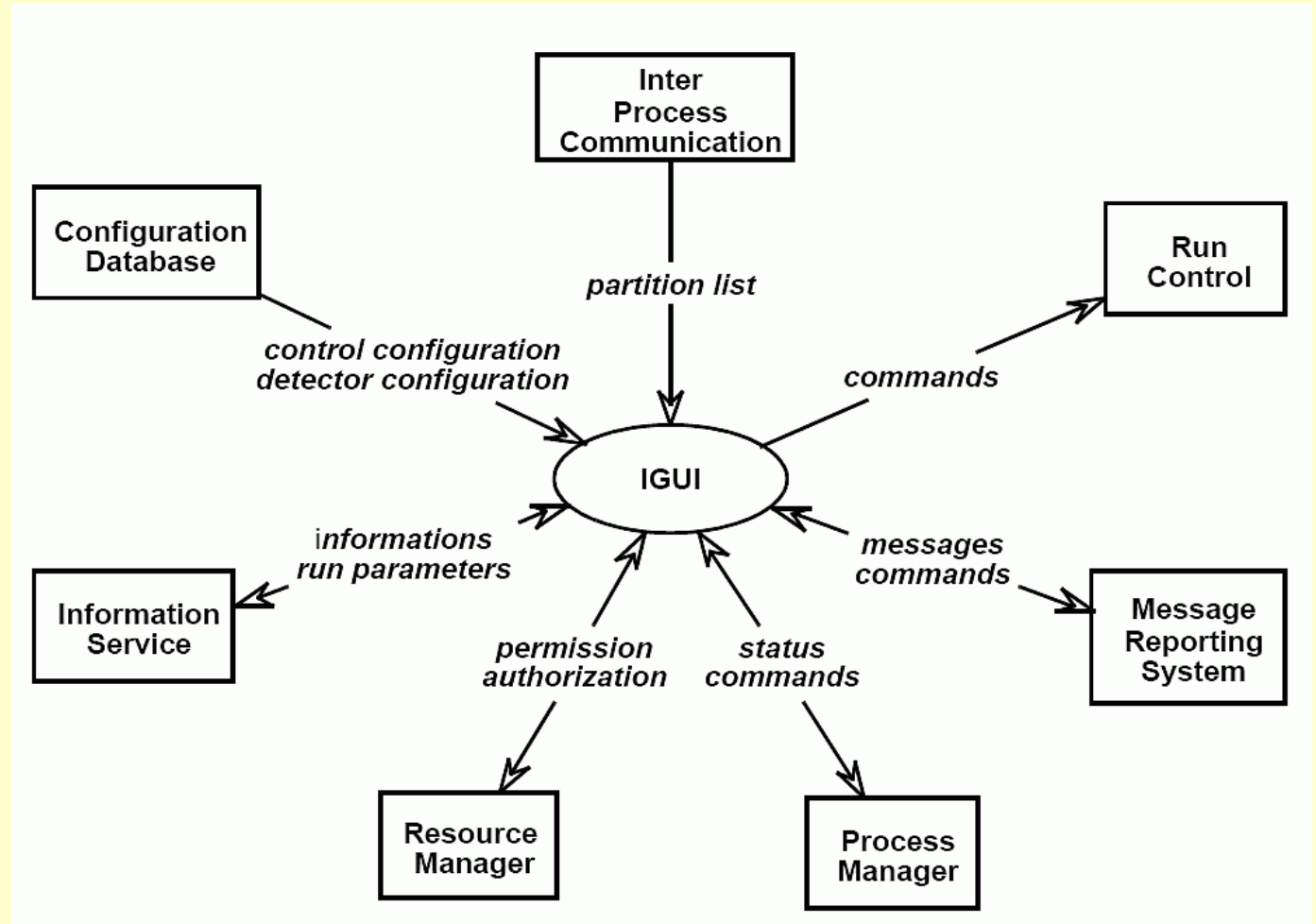
Refresh Help Exit

Resource :  Application :  Client :  Search

Partition List	Resources										
be_test	Resource ...	Partition	Max Total	Granted T...	Max Per P...	Granted P...	Handled ID	Applicatio...	Client	PID	Granted F...
initial	UserControl	be_test	100	1	1	1	3	32422@lx...	mmineev	32422	1
	StatusDis...	be_test	5000	1	50	1	4	780@lxpl...	mmineev	780	1
	RunContr...	be_test	1000	2	1	1	1	22736@lx...	mmineev	22736	1

# Control

## Integrated Graphical User Interface (IGUI) Context diagram



# Control

# IGUI Expert Control Panel

ATLAS TDAQ Software Graphical User Interface - Expert Control

File Commands Access Control Tools Settings Help

Partition *techrun-may-07*

Run control

RUN CONTROL STATE **RUNNING**

Shutdown Boot

Unconfig Config

Stop Start

Pause Continue

Run Parameters

Run type **Physics**

Run number 9913

Event number 1146928

Event rate 1.272 kHz

Recording **Enable**

Run Start Time 25/05/07 02:53:27

Run Stop Time

Integrated active run time 00:15:55

DataFlow Monitor Segment & Resource Data Set Tags Infrastructure

Run Control Run Parameter MRS PMG

ROS-Segment

L2-Segment

SFI-Segment-All

DFM-Segment-8

DFM-8

ROS-1000

ROIBSegment

EF-Farm-Segment

Gatherer-Segment

DQM-HLT

Parameter	Value
SFI non busy messages	5536
current XOFF	0
number of XOFF	0
Rate of LVL2 accepts	1257.2971246356103
Rate of LVL2 rejects	71.14898647522448
Rate of assigned events	1257.2971246356103
Rate of built events	1256.7995792756435
Rate of cleared events	1327.948565750868
Averaging time for rates	2.009867

1,275

1,250

1,225

1,200

1,175

1,150

1,125

1,100

1,075

1,050

1,025

1,000

975

03:05:30 03:06:00 03:06:30 03:07:00 03:07:30 03:08:00 03:08:30 03:09:00 03:09:30

Time

DFM-8.Rate of built events

03:09:14 ERROR dqm\_core:BadConfig Invalid configuration (Invalid configuration (Constant) was provided for the 'None' object) was provided for the 'TauCheck1' object

03:09:13 ERROR dqm\_core:BadConfig Invalid configuration (Invalid configuration (Constant) was provided for the 'None' object) was provided for the 'TauCheck2' object

03:08:42 ERROR dqm\_core:BadConfig Invalid configuration (Invalid configuration (Constant) was provided for the 'None' object) was provided for the 'TauCheck1' object

03:08:42 ERROR dqm\_core:BadConfig Invalid configuration (Invalid configuration (Constant) was provided for the 'None' object) was provided for the 'TauCheck2' object

03:08:31 WARNING transport:TransportCann... Cannot connect to host: 10.147.39.245 port: 9057 reason: Connection refused

# Control

## Using the IGUI – Run Settings

The screenshot displays the ATLAS TDAQ Software - Partition ATLAS IGUI interface. The main window is titled "ATLAS TDAQ SOFTWARE - Partition ATLAS" and features a menu bar with "File", "Commands", "Access Control", "Settings", "Logging Level", and "Help". Below the menu bar are buttons for "Commit & Reload" and "Load Panels".

The interface is divided into several panels:

- Run Control State:** Shows the system is **RUNNING**. It includes buttons for "SHUTDOWN", "BOOT", "TERMINATE", "INITIALIZE", "UNCONFIG", "CONFIG", "STOP", "START", "HOLD TRG", and "RESUME TRG".
- Run Information & Settings:** A red-bordered panel containing the following information:
  - Run type: Physics
  - Run number: 143657
  - Super Master Key: 690
  - LHC Clock Type: Enabled
  - Recording: Enabled
  - Start time: 20-Jan-2010 21:27:04
  - Stop time: (empty)
  - Total time: 13 h, 56 m, 19 s
- Run Control:** A tree view showing the status of various components, all marked as **RUNNING**. The components include:
  - RootController
    - TDAQ:pc-tdq-onl-15
    - RPC
      - RPC-MDA
      - RPC-BC-RunControlApp
      - RPC-BA-RunControlApp
      - RPC-DDC-RCA
    - TRT
    - DQMController
    - MDT
      - MDT-MDA-Monitoring
      - MDTBarrelA
      - MDTBarrelC
- Dataset Tags:** A panel showing the "RootController" tree structure with sub-panels for "Infrastructure" and "Advanced".

At the bottom of the interface, there is a "Subscription criteria" section with checkboxes for "WARNING", "ERROR", "FATAL", "INFORMATION", and "Expression". Below this is a table of messages:

TIME	SEVERITY	APPLICATION	NAME	MESSAGE
-11:22:28	WARNING	ROS-TRT-ECC-05	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:28	WARNING	ROS-TRT-ECC-02	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:28	WARNING	ROS-TRT-ECC-01	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:28	WARNING	ROS-TRT-ECC-04	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:28	WARNING	ROS-TRT-ECC-00	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:28	WARNING	ROS-TRT-ECC-03	ROS::CoreException	Timeout: in request for fragment with L1 ID 889192472
-11:22:13	INFORMATION	IGUI	INTERNAL	All done! IGUI is going to appear...
-11:22:13	INFORMATION	IGUI	INTERNAL	Waiting for the "Dataset Tags" panel to initialize...

At the bottom of the message table, there are controls for "Clear", "Message format", "Number of visible rows" (set to 100), and "Current MRS subscription" (set to WARNING|ERROR|FATAL).

# Control

# Using the IGUI

RootController Commands

Tab Panels

The screenshot displays the ATLAS TDAQ Software IGUI interface. The main window is titled "TDAQ SOFTWARE - Partition ATLAS" and includes a menu bar with "Access Control", "Settings", "Logging Level", and "Help". The interface is divided into several panels:

- Run Control State:** Shows the current state as "RUNNING". It includes buttons for "SHUTDOWN", "BOOT", "TERMINATE", "INITIALIZE", "UNCONFIG", "CONFIG", "STOP", "START", "HOLD TRG", and "RESUME TRG". There are also "Beam Stable" indicators and "Warm Start" / "Warm Stop" buttons.
- Run Information & Settings:** Displays run parameters such as "Run type" (Physics), "Run number" (143657), "Super Master Key" (690), "LHC Clock Type", "Recording" (Enabled), "Start time" (20-Jan-2010 21:27:04), and "Stop time".
- Run Control:** A tree view showing the hierarchy of running components, including "RootController", "TDAQ:pc-tdq-onl-15", "RPC", "RPC-MDA", "RPC-BC-RunControlApp", "RPC-BA-RunControlApp", "RPC-DDC-RCA", "TRT", "DQMController", "MDT", "MDT-MDA-Monitoring", "MDTBarrelA", and "MDTBarrelC".
- MRS Log Window:** A table showing subscription criteria and log messages. The criteria include WARNING, ERROR, and FATAL. The log messages show "CoreException Timeout" errors for various RPC components.

Run Information & Settings

MRS Log Window

# Control

# Using the IGUI - PMG

The screenshot displays the ATLAS TDAQ Software IGUI interface. The main window title is "ATLAS TDAQ SOFTWARE - Monitor A...". The menu bar includes "File", "Commands", "Access Control", "Settings", "Logging Level", and "Help". The toolbar contains "Commit & Reload" and "Load Panels".

The interface is divided into several sections:

- RUN CONTROL STATE:** Shows "RUNNING" in a green box. Below are "Run Control Commands" with buttons for SHUTDOWN, BOOT, TERMINATE, INITIALIZE, UNCONFIG, CONFIG, STOP, START, HOLD TRG, and RESUME TRG.
- Beam Stable:** A red indicator light is shown, along with "Warm Start" and "Warm Stop" buttons.
- Run Information & Settings:** A table with fields for Run type (Physics), Run number (143657), Super Master Key (690), LHC Clock Type, Recording (Enabled), Start time (20-Jan-2010 21:27:04), Stop time, and Total time (13 h, 58 m, 9 s).
- Run Control / Segments & Resources / Dataset Tags / PMG:** The "PMG" tab is active. It shows "Available partitions" (Hosts) and "Running Processes". The "Hosts" list includes various "pc-tdq-onl-...cern.ch" entries. The "Running Processes" list includes "EBF-Segment-1:pc-tdq-onl-05" through "EBF-Segment-9:pc-tdq-onl-05", "EF-TopCoralProxy", and "ROIBSegment:pc-tdq-onl-05".
- Subscription criteria:** Checkboxes for WARNING, ERROR, FATAL, INFORMATION, and Expression are visible. A "Subscribe" button is present.
- Message Log:** A table showing system messages with columns for TIME, SEVERITY, APPLICATION, NAME, and MESSAGE. The messages include information about IGUI panel loading and warnings about histogram merging and ROS timeouts.
- Bottom Bar:** Includes "Clear" (with a red X), "Message format" (SHORT, LONG), "Number of visible rows" (set to 100), "Current MRS subscription" (WARNING|ERROR|FATAL), and "Subscribe" and "Reload" buttons.

# Control Using the IGUI - Trigger Panel

The screenshot displays the ATLAS TDAQ Software IGUI interface, specifically the Trigger Panel. The window title is "ATLAS TDAQ SOFTWARE". The menu bar includes "File", "Commands", "Access Control", "Settings", "Logging Level", and "Help". The toolbar contains "Commit & Reload" and "Load Panels".

The main interface is divided into several sections:

- RUN CONTROL STATE:** Shows "RUNNING" in a green box.
- Run Control Commands:** Includes buttons for SHUTDOWN, BOOT, TERMINATE, INITIALIZE, UNCONFIG, CONFIG, STOP, START, HOLD TRG, and RESUME TRG.
- Beam Stable:** A red indicator light is shown, along with "Warm Start" and "Warm Stop" buttons.
- Run Information & Settings:** A table showing run details:
 

Run type	Physics
Run number	143657
Super Master Key	690
LHC Clock Type	
Recording	Enabled
Start time	20-Jan-2010 21:27:04
Stop time	
Total time	13 h, 58 m, 59 s
- Trigger Panel (v5.2.3):**
  - Configuration: 690 Cosmic2009\_inclMuons v12
  - L1 Prescale Set: 1065 TRT\_1HzRD0 v1
  - HLT Prescale Set: 1002 streaming+muons+TRT+RDNMPS\_10000 v1
  - L1 Bunch Group Set: 13 Cosmics\_EmptyAIBCID (Current L1 Bunch Group Set: 0)
  - Lumi Block Interval: 120 Seconds (Change Lumi Block Interval)
  - Current keys: smk 690, l1 1065, hlt 1002
  - SMT Name: Cosmic2009\_inclMuons
  - L1 PS Name: TRT\_1HzRD0
  - HLT PS Name: streaming+muons+TRT+RDNMPS\_10000
  - Current PS keys for "Standby": L1: 1040 Collisions\_BPTX\_1700\_items\_4x4\_RD1Hz HLT: 983 HLT\_streamin
  - Current PS keys for "Physics": L1: 1045 Collisions\_BPTX\_22\_21\_items\_4x4\_RD1Hz HLT: 981 HLT\_HighRat
- Buttons:** Read TriggerDB, Update Partition, Select default PS for beam conditions.

At the bottom, there is a log window with the following table:

TIME	SEVERITY	APPLICATION	NAME	MESSAGE
11:25:53	WARNING	LVL2-L2-4-rack-...	gatherer:Issue	Histogram'L2PU-4065./EXPERT/T2VertexBeamSpot_Fex/EventStatistics_runsummary' can not be summed because histograms with variable axes can not be merged
11:25:49	INFORMATION	IGUI	INTERNAL	Panel of class "triggerpanel.TriggerPanel" has been loaded
11:25:47	INFORMATION	IGUI	INTERNAL	Waiting for the "Trigger" panel to initialize...
11:25:47	INFORMATION	IGUI	INTERNAL	Creating panel of class "triggerpanel.TriggerPanel"...
11:25:47	INFORMATION	IGUI	INTERNAL	Loading panel whose class is "triggerpanel.TriggerPanel"...
11:24:56	INFORMATION	IGUI	INTERNAL	Panel of class "PmgGui.PmgISPanel" has been loaded
11:24:56	INFORMATION	IGUI	INTERNAL	Waiting for the "PMG" panel to initialize...

Log window controls include "Clear", "Message format" (SHORT, LONG), "Number of visible rows" (100), "Current MRS subscription" (WARNING|ERROR|FATAL), and "Subscribe".

# WebRC requirements


## 3.3.2 Choice of technology: Apache Wicket

The main factors affecting the choice of technology for the WebRC application were the following:

- Its backend part needs to be tightly integrated with main TDAQ services like Run Control, Information Service and ERS;
- The frontend part should offer rich set of widgets, allowing to implement features similar to Java Swing elements;
- It shall be well scalable and conservative in resource usage, allowing connections for many users and serving multiple TDAQ partitions in parallel;
- Support of dynamic and interactive web features like Ajax or Web Sockets.



# WebRC


**TDAQ web RUN CONTROL**

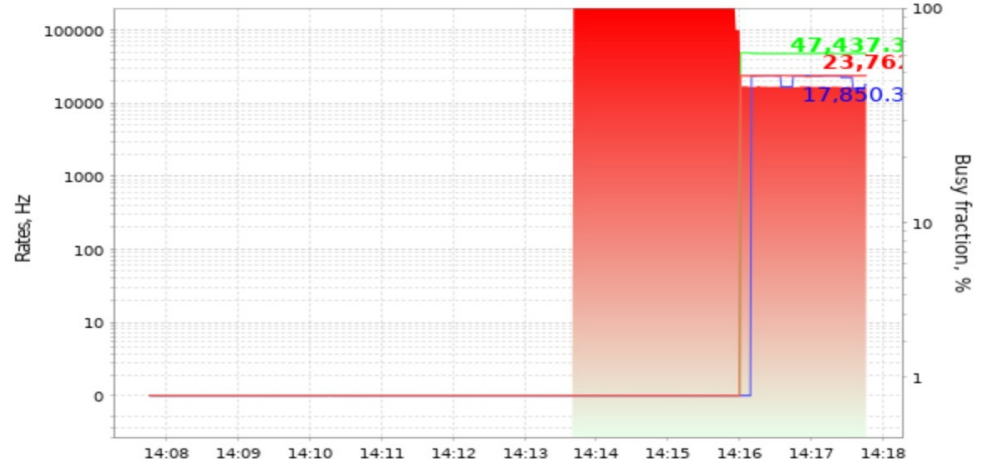
 Logged in as: **Andrei Kazarov (akazarov)** [Log Out](#)
 Mode: **DISPLAY**
 Control owner: **bernius**

**[RUNNING] ATLAS** 42.86

- Online Segment
- [RUNNING] TDAQ**
- infrastructure
  - [UP] ddcdtATLAS\_ATLGCSDDC Last 10 minutes
  - [RUNNING] L1CentralTrigger**
  - [RUNNING] HLT**
  - [RUNNING] TRP\_Segment**
  - [RUNNING] TDAQ\_Monitoring**
  - [RUNNING] MUCalServerSegment**
- [RUNNING] InnerDetectors** 1.06
- infrastructure
  - [RUNNING] TRT\_Segment** 1.06
- [RUNNING] GlobalMonitoringSegment**
- [RUNNING] DOMSegment**

RN: **385024** LB: **3** Recording: **ON** T0: **data20\_calib** Trigger keys: **[1] 36/163/136**

10mins rates      12hrs rates



— L1 Rate    — HLT Rate    — Recording Rate    ■ Busy

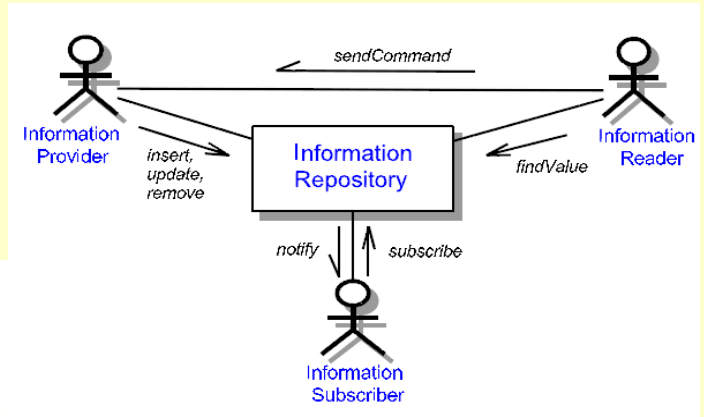
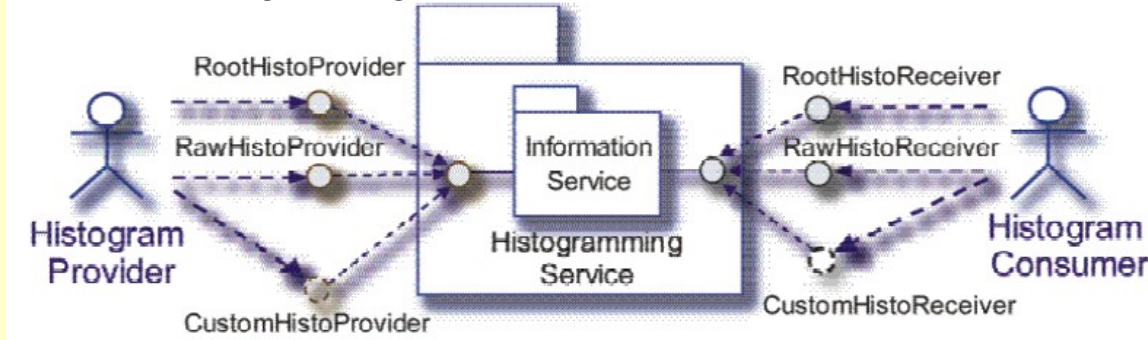
Current subscription:     rows:   chained  filters

Showing 1 to 10 of 9527    << < 1 2 3 4 5 6 7 8 9 10 >>

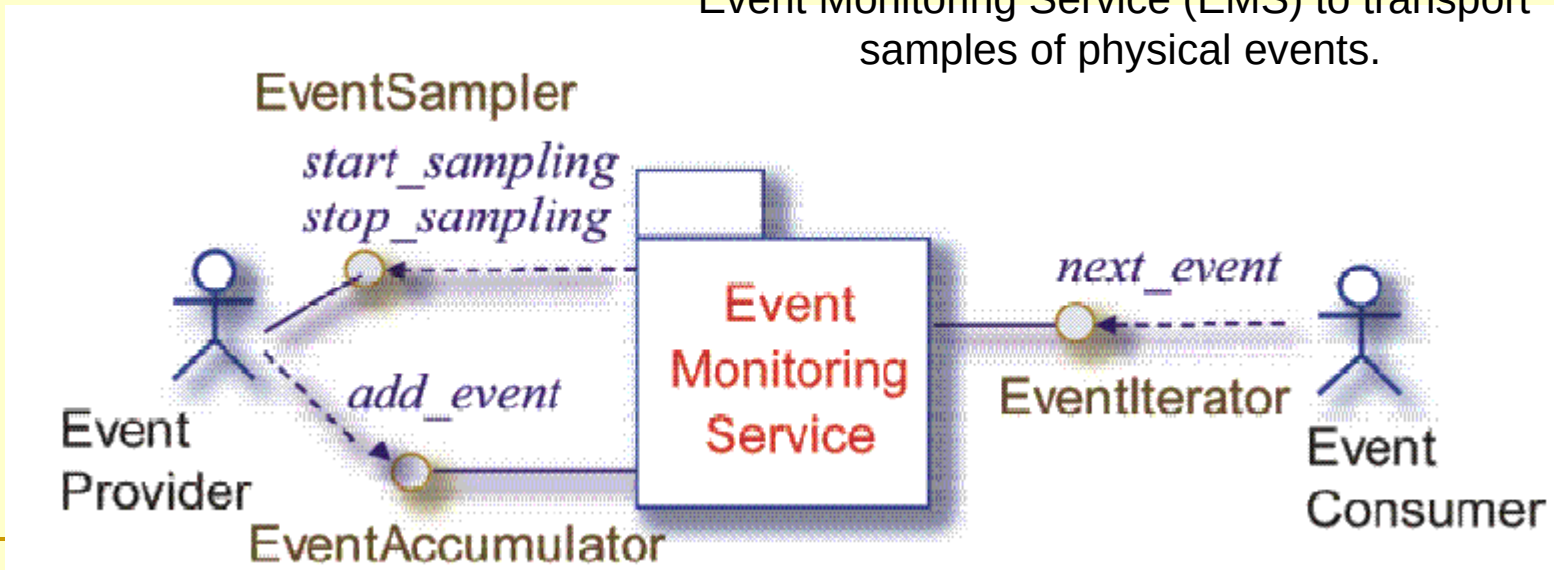
23/10 14:14:24	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app_mig" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_mig_pc-tdq-mon-07.cern.ch_1603455264.out/err".
23/10 14:14:24	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_pc-tdq-mon-07.cern.ch_1603455264.out/err".
23/10 14:14:23	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_pc-tdq-mon-07.cern.ch_1603455263.out/err".
23/10 14:14:23	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app_mig" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_mig_pc-tdq-mon-07.cern.ch_1603455263.out/err".
23/10 14:14:22	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app_mig" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_mig_pc-tdq-mon-07.cern.ch_1603455262.out/err".
23/10 14:14:22	WARNING	TRP_Segment_XMON	rc::ApplicationExited	Application "xmonadapter_app" on host "pc-tdq-mon-07.cern.ch" exited with exit code "127". Logs are "/logs/tdaq-09-02-01/ATLAS/xmonadapter_app_pc-tdq-mon-07.cern.ch_1603455262.out/err".

# Information sharing

Online Histogramming Service (OHS)  
to exchange histograms

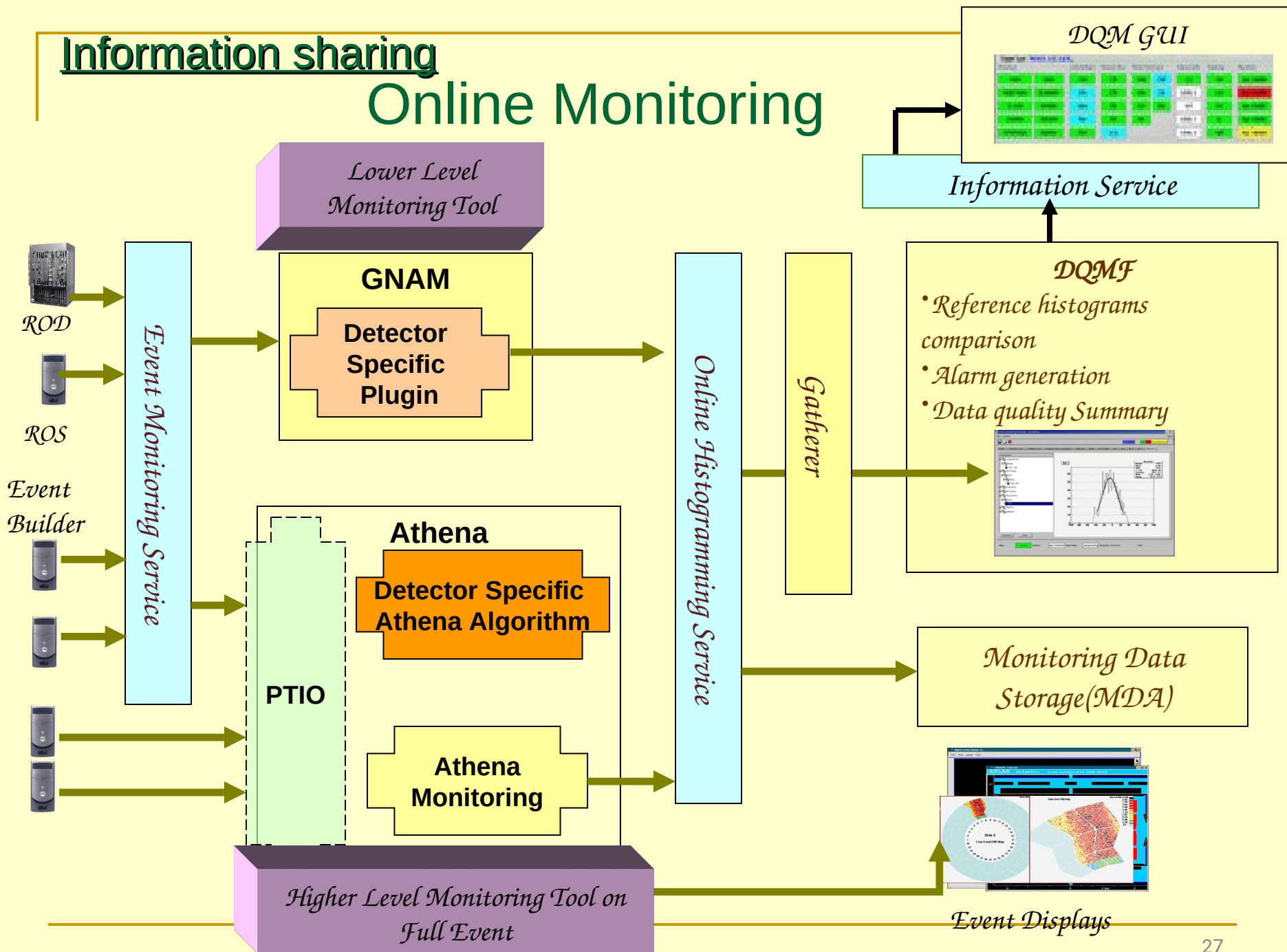


Event Monitoring Service (EMS) to transport  
samples of physical events.

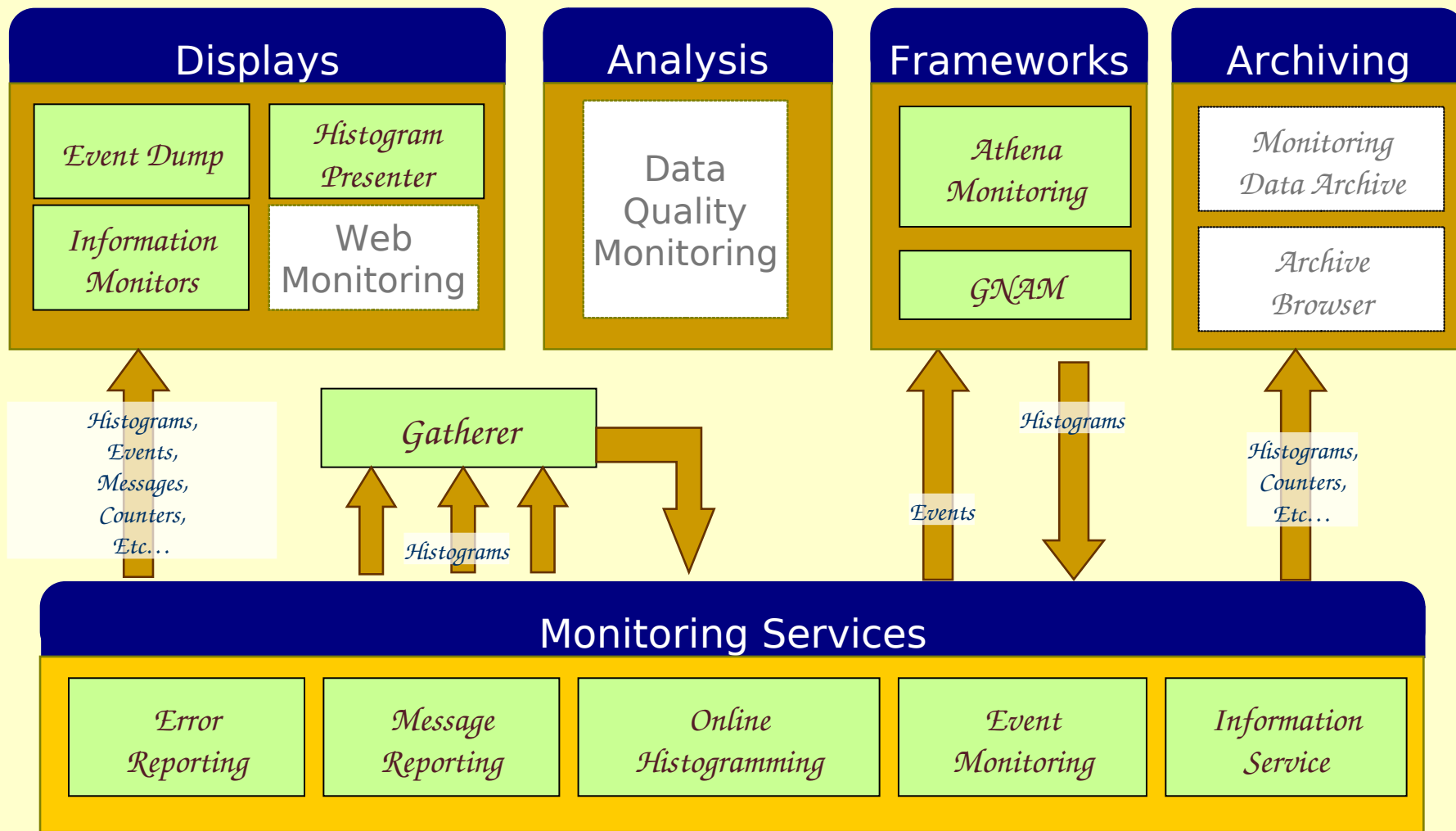


# Information sharing

# Online Monitoring



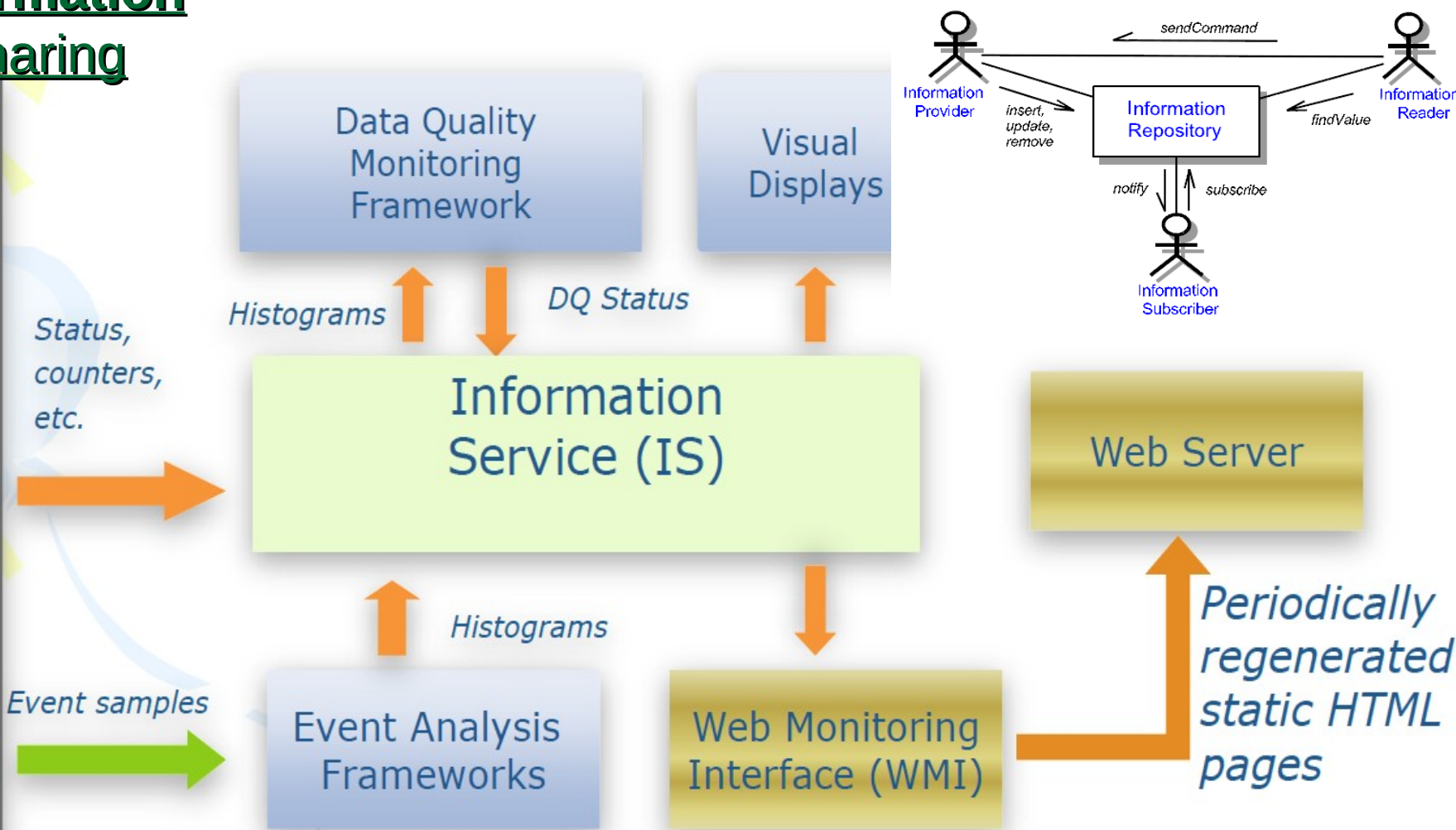
# Online Monitoring System



# General public remote monitoring: Design

## Information sharing

Trigger/DAQ system



# Information sharing

## Event Dump

- The ED can retrieve events from various points of the Data Flow chain (ROD, ROS, SFI)
- Displays event structure and content

The screenshot displays the 'Event Dump' application window. The interface is divided into several panes:

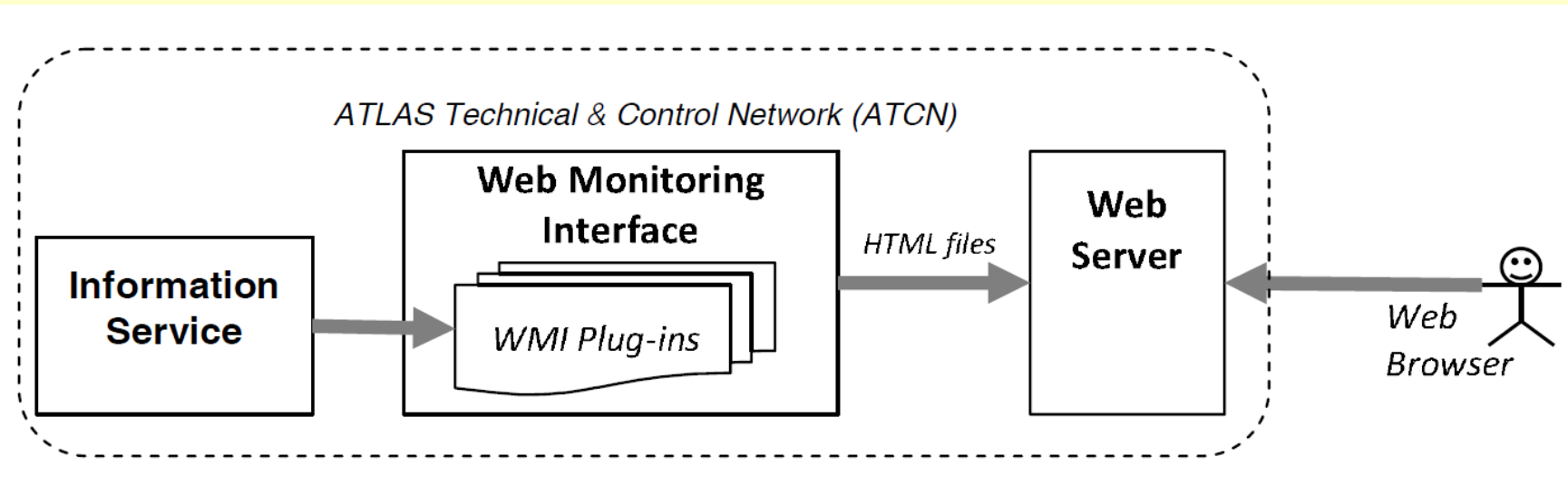
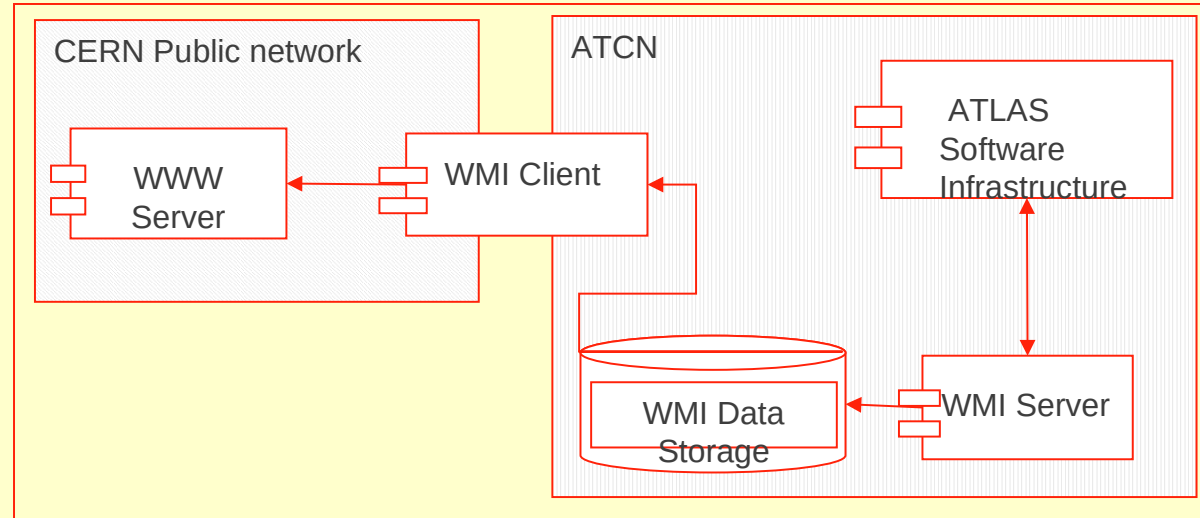
- Left Pane:** A tree view showing the event structure. The selected path is `/SFI:SFI-29`. Other paths include `/ReadoutApplication:TileLBA_TTC`, `/ReadoutApplication:TileLBC_ROD`, `/ReadoutApplication:Timing_RCD`, and various detector paths like `/TRTBarrel_B-01:TRTBarrel_B-0`.
- Top Center Pane:** A tree view showing the event structure for the selected event. The root is `Full event (0,6779680)`, which branches into `Sub-detector (72;216)` and a list of other sub-detectors.
- Right Pane:** A text area showing event details. It includes the header `Full1 Event ( started with: [0xaa1234aa] [0x19dcc8] [0x12] [0x30]`, header marker `0xaa1234aa`, total fragment size `1694920`, and header size `18`. It also shows the format version (Major: 3.0, Minor: 0.0), source identifier (Module ID: 0x501d, Sub-detector ID: 0x79), and data elements (Number of status elements: 1, Number of specific elements: 10).
- Bottom Pane:** A table showing the event data in hexadecimal format. The table has columns labeled A through J and rows numbered 0 through 20. The data is presented in a standard hexadecimal dump format.

At the bottom of the window, there is a status bar indicating `Little-Endian Byte Ordering`.

# Information sharing

# Web monitoring architecture

Exposes a subset of Monitoring information from the ATLAS site to the public network



# WMI DAQ pages

File Edit View History Bookmarks Tools Help

Run Status

## Partition ATLAS

TTC Partitions: Pix Barrel - Pix Disk - Pix B-Layer - SCT BA - SCT BC - SCT SA - SCT EC - TRT BA - TRT BC - TRT SA - TRT EC - LAr EMBA - LAr EMBB - LAr EMECA - LAr EMECC - LAr MECA - LAr MECC - LAr FCALA - LAr FCALC - TV BA - TV BC - TV SA - TV EC - MDT BA - MDT BC - MDT SA - MDT EC - RPC BA - RPC BC - TGC SA - TGC EC - CSC SA - CSC EC - L3 calo preprocessor - L3 calo cluster DAQ - L3 calo cluster ReJ - L3 calo Jet/E DAQ - L3 calo Jet/E ReJ - MUCTPI - CTP - L2SV - SFO - SFO - LVL2 - EF - BCM - Lucid - ZDC -

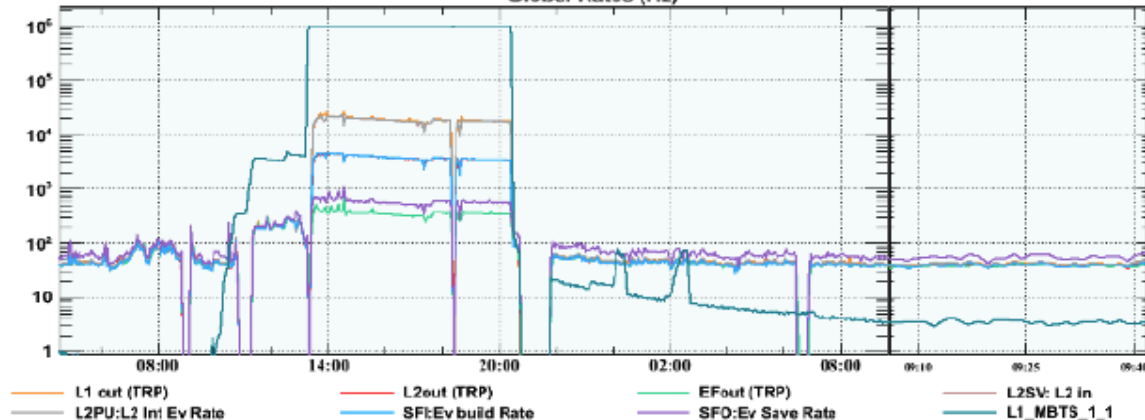
[Check today's program here! Data taking efficiency](#)  
[Other active partitions can be seen here.](#)

Run Info		Run Statistics		Trigger Info		Beam Info	
Run State	<b>RUNNING</b>	RunTime	11:54:57	Master & Prescale Keys	<a href="#">920, 2284, 2281</a>	Beam Mode	INJECTION PROBE BEAM
Run Tag	data10_7TeV	Luminosity Block	367	L1 Bunch Group	<a href="#">106</a>	Beam 1 Status	Present & Safe
Run Type	Physics	LB changes every	120 seconds	Simple Deadtime	5	Beam 2 Status	Present & Safe
Run Number	166150	Average Event Size [MB]	1.408	Complex Deadtime	7/415	Stable Beams	FALSE
Run Mode	Standby	Throughput to Disk [MB/s]	62.0425	HLT Release Version	15.6.9.28	Beam Energy	450.12

## Busy Status

CTPMI	CTPCORE	CTPOUT 12	CTPOUT 13	CTPOUT 14	CTPOUT 15	
VME	0% Backplane	1.192% CTP(LUCID)	0% BCM	0% LHCF	OUT CSC	0%
ECR	0.041% Result	1.192% Pixel	0% ZDC	0% MDT B	0% ALFA	OUT
Veto 0	0%	SCT	0% LAr H/F	0% MDT EC	0% TGC	0%
Veto 1	0%	TRT	1.152% LAr EMEC	0% Tile EB	0% RPC	0%
Backplane	1.192%	L3Calo	0% LAr EMB	0% Tile LB	0% MUCTPI	0%

Global Rates (Hz)





Flat View Threaded View New Entry Advanced Search Display Thread Notification Configuration

Entries from last:  Fetch Search all cols:  Showing 1 to 15 of 500 entries Show  entries << < > >>

Entry ID	Date&Time	Author	Subject	Message Type	System Affected	Text
423300	<a href="#">2021-02-09 14:40</a>	Etienne Marie Fortin	Mapping generation for ltdb C01L	LAr	LAr	Latome_ID Ltldb_Fiber Latome_Fiber72 1 1272 2 1172 3 1072 4...
423299	<a href="#">2021-02-09 14:39</a>	Etienne Marie Fortin	Mapping generation for ltdb C01R	LAr	LAr	Latome_ID Ltldb_Fiber Latome_Fiber71 1 1271 2 1171 3 1071 4...
423298	<a href="#">2021-02-09 14:36</a>	Etienne Marie Fortin	Mapping generation for ltdb C03L	LAr	LAr	74 1 1274 2 1174 3 1074 4 974 5 874 6 774 7 674 8 574 9...
423297	<a href="#">2021-02-09 14:34</a>	Etienne Marie Fortin	Mapping generation for ltdb C03R	LAr	LAr	LAtome_id Ltldb_fiber latome_fiber73 1 1273 2 1173 3 1073 4...
423296	<a href="#">2021-02-09 14:19</a>	Ellis Kay	Strange result from FEC pinging...	LAr	LAr	This morning I ran a simple HFEC pinging test to confirm...
423295	<a href="#">2021-02-09 14:15</a>	atlog	Synchronization at Point 1	Default Message Type	SysAdmins	Synchronization results of /sw/oracle/admin/ at Point 1...
423294	<a href="#">2021-02-09 14:10</a>	Dev Panchal	Restart of OPC UA SCA server	LAr	LAr	We have been receiving ICINGA messages about steadily...

**LAr\_EntryType:** Observation/Problem

**LAr\_Templates:** No Template

Info

**Subject:** Restart of OPC UA SCA server

We have been receiving ICINGA messages about steadily increasing memory usage on pc-lar-felix-ltdb-05. Since Sunday, the memory usage has been increasing past the warning threshold (90%). This afternoon, the memory usage was ~92%. Therefore I restarted the OPC UA SCA server.

Reply

Edit

423293	<a href="#">2021-02-09 14:01</a>	Philipp Fleischmann	temporary stop of MDT gas rack 67	GAS	DCS, GAS, MDT	Today we will connect the sMDT BIS78A14 to the gas system...
423292	<a href="#">2021-02-09 13:24</a>	Nataschia De Bortoli	Shift Summary for SLIMOS desk	Shift Summary	DSS	Start of Shift: ===== ATLAS DSS Warning: Yes all...
423291	<a href="#">2021-02-09 13:12</a>	Adriana + Alessandra	LAr LTDB-LATOME Barrel Weekly...	LAr	LAr	Run 388076: LAr LArCalib: LArPedestals; High; LArAll-A;...
423290	<a href="#">2021-02-09 13:07</a>	Adriana Milic	Deploy new LAR_PARTITION version with...	LAr	LAr	For the Phase-I weekly set to run we had to replicate the...
423289	<a href="#">2021-02-09 12:43</a>	Georges Aad	Latomes on larc-08 have BCR error	LAr	LAr	./configure_ttc.from_ttc_generator.gbt_clock.sh...
423288	<a href="#">2021-02-09 12:42</a>	Adriana + Avik	FCAL C Pulsing	LAr	LAr	After changing the tcc sbc from sbc-lar-tcc-hecfc1-11...
423287	<a href="#">2021-02-09 12:28</a>	Pavol Strizenec	RE: Low level monitoring of the...	LAr	LAr	Hi Clement, this page is available also at P1.....
423286	<a href="#">2021-02-09 12:18</a>	Clement Camincher	Low level monitoring of the Digital...	LAr	LAr	As requested, the low level monitoring page (With ping,...

# Заключение

- **Онлайн система TDAQ ATLAS - важная часть TDAQ, это клей, который держит отдельные подсистемы вместе**
- **Система должна**
  - задавать требуемую конфигурацию, включая параметры программ
  - хранить все требуемые параметры работы детектора и gun
  - согласованно стартовать и завершать работу всей системы
  - отслеживать правильность работы системы, перезапускать, если возможно, неправильно работающие части системы
  - отслеживать качество поступающих данных
  - обеспечивать передачу между программами, доставлять по подписке или запросу и сохранять, в случае необходимости, сообщения об ошибках и другую запрашиваемую информацию

