

Examine Overview

D0 Online Workshop

June 3, 1999

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Outline

1. What is an Examine?
2. How Many Examines?
3. How does it work?
4. What are the features?
5. What do we need more?
6. Conclusions

What is an Examine?

An Online Event Analysis Program that provides sufficient information to monitor *Detector performances and/or Data Integrity.*

What are its jobs?

1. Accept Requests by Triggers or Streams
(*By names or bit numbers*)
2. Perform Analyses and Provide info.
(*Unpack, Reconstruct, and Fill histograms and Ntuples*)
3. Provide Sufficient Tools for Monitoring
(*Histogram comparison, etc*)
4. Store Information into archives
(*Histogram files, hard copy printouts, etc*)
5. Must Incorporate Event Display

How Many Examines?

Detector Examine

1. Tracking Systems:

SVX()

CFT (Andre Mayorov, N. Graf)

2. Pre-shower Systems:

CPS()

FPS()

3. Calorimeter Systems:

CC+EC()

ICD ()

4. Beam Systems:

L0 ()

FPD()

5. Muon Systems:

Central ()

Forward()

6. Which detector did I miss????

Trigger Examine ()

Global Examine ()

Captain's Examine ()

Anything-else-you-can-think-of-Examine

Tested with MC Files

DAQ

L3

D/D

Jerry G.

Carmaneta M.

DOME

ReadEventDag

Integrated

EXAMINE

EXE

Jae

Hbook (ready)

ROOT (Ready)

DOME / CORBA

iframework (jbk)

GUI

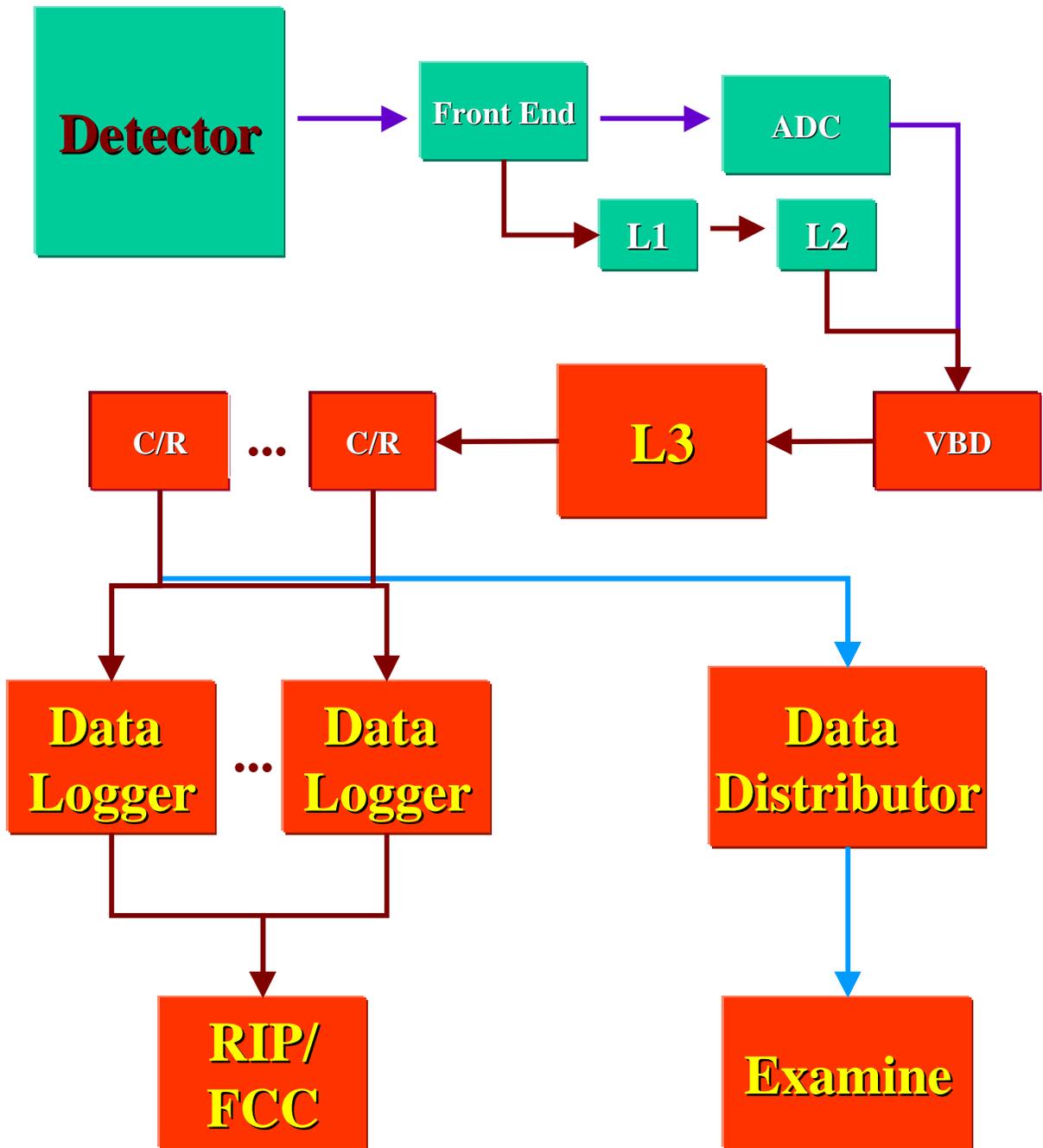
Browser

HistoScope (CD-PAT)

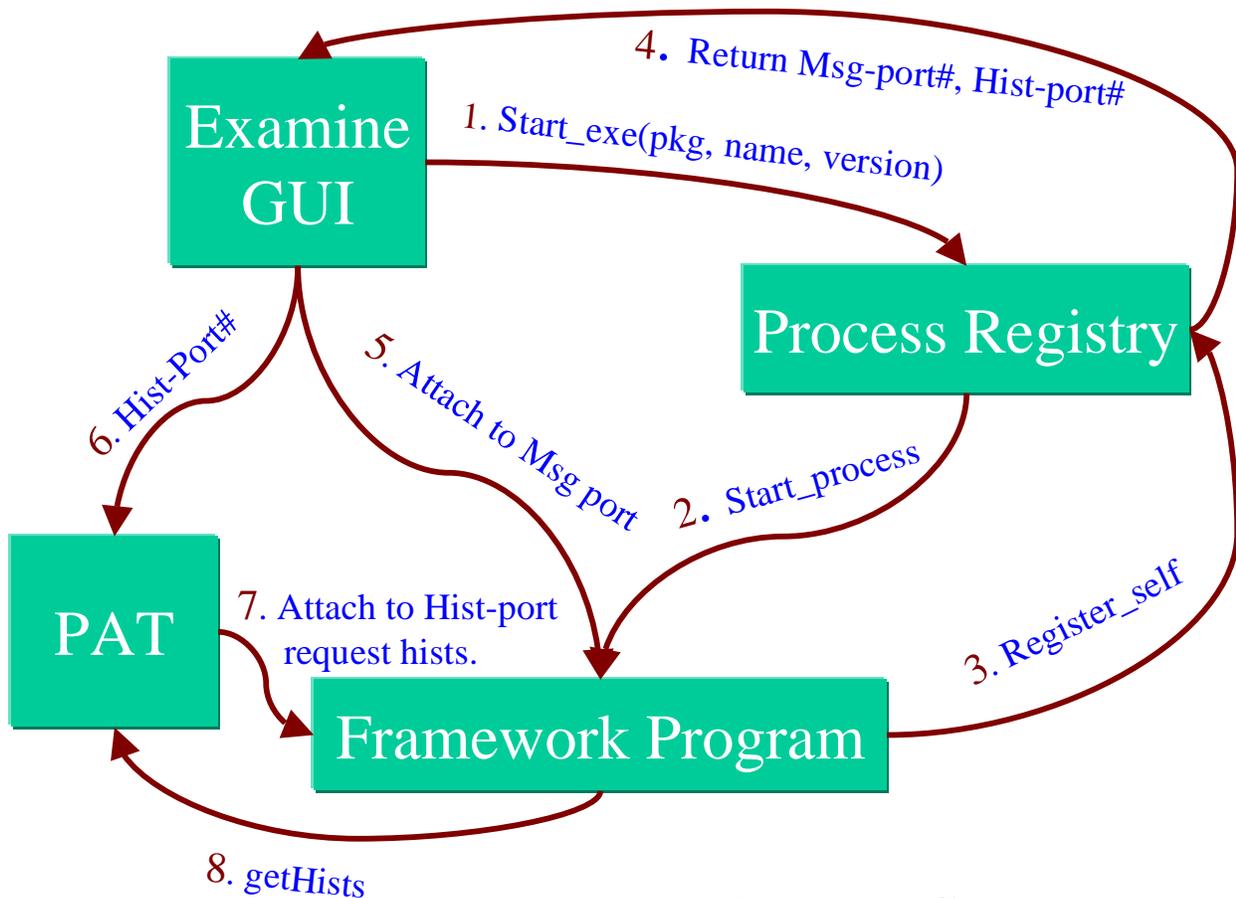
Joel Snow (ROOT)

Tim McMahon
(JAVA)

DAQ Monitoring Control Flow

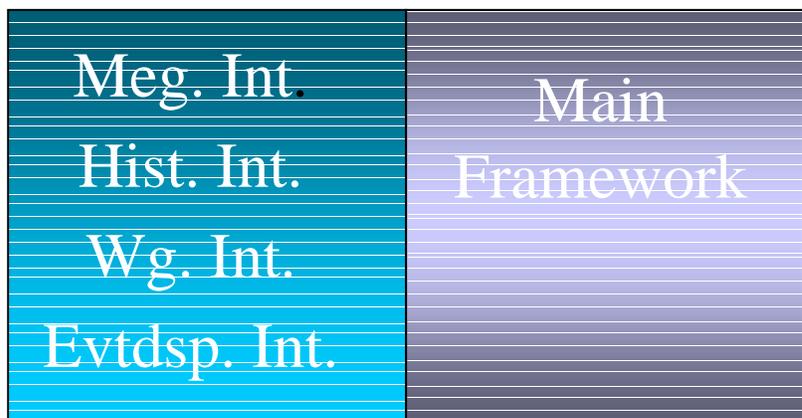


General Sequence of the Examine Framework

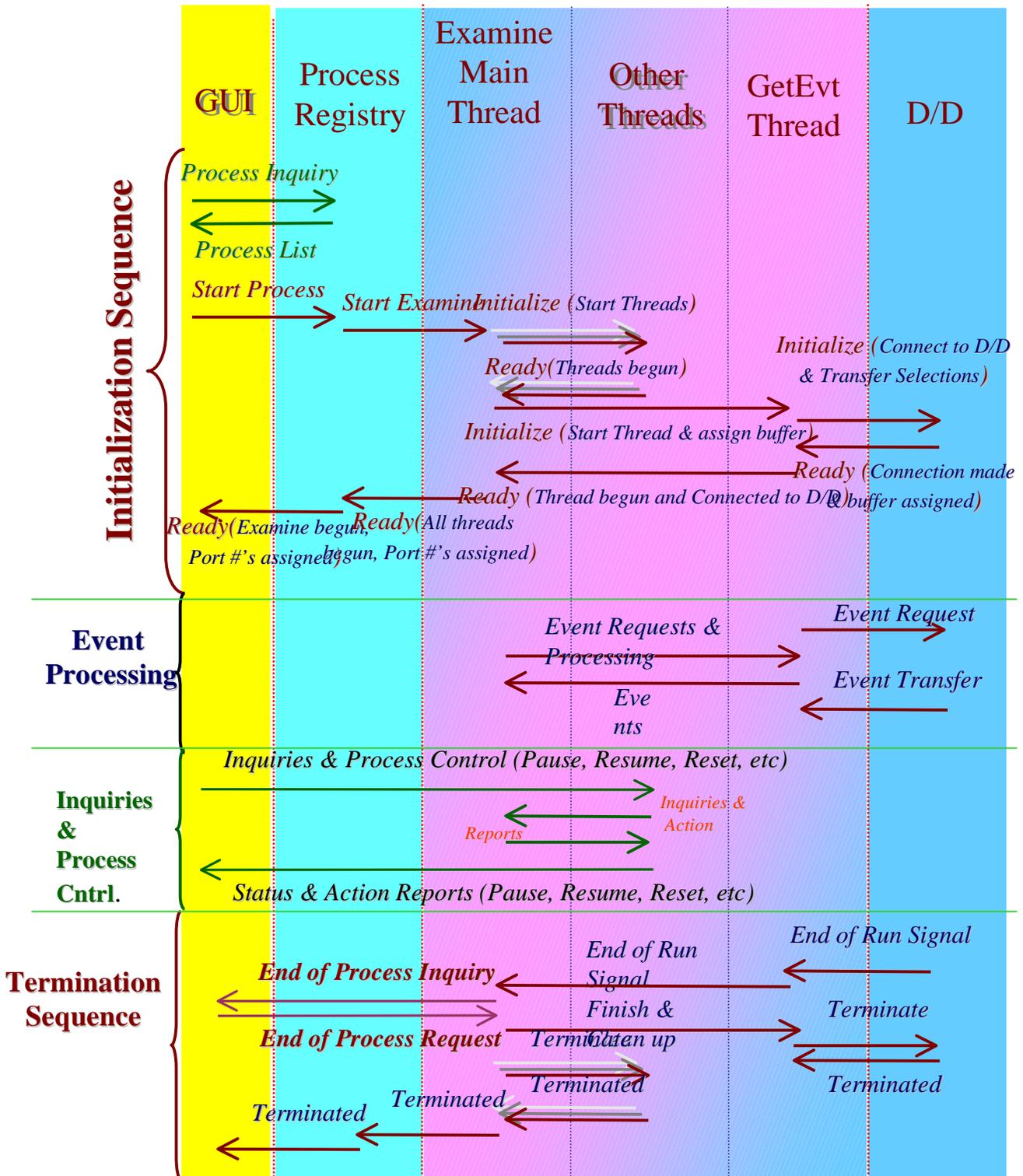


Process Space

Keep Examine Framework as close as possible to Existing Offline Framework



Examine Interaction Sequence Diagram



So What is There?

- 1. Data Distributor & Collector/Router*
- 2. Interactive Framework (D0 Note #3750)*
- 3. Network Event Transfer (ReadEventDaq)*
- 4. Two Detector Examine Packages
(Calorimeter and CFT)*
- 5. Rudimentary ROOT GUI*

Features?

- 1. RCP Controlled Event Selection (ReadEventDaq)*
- 2. RCP Controlled Output Histogram Archive*
- 3. Multi-Threaded Event Buffering in DD and
ReadEventDaq (Depth RCP Controllable)*
- 4. File Event Transfer*
- 5. Histogram on Shared Memory (HBOOK)
-ROOT format to follow soon.*
- 6. First Batch of ROOT Histograms Implemented*
- 7. And many more.....*

```
emacs: ReadEventDaq.rcp
File Edit Apps Options Buffers Tools Help
Open Dired Save Print Cut Copy Paste Undo Spell Replace Mail Info Compile Debug News
// Author: Jae Yu
// Date: 05/15/98
//
// $Id: ReadEventDaq.rcp,v 1.1 1999/04/30 16:27:43 yu Exp $
//
// rcp for read_event_daq package
//
string PackageName = "ReadEventDaq"
string HostAndPort = "localhost:52100"
int DDQueueDepth = 10
int NTriggers = 10
int Group = 1
int StatType = 1
// Queue depth on the Examine side
int EventsPerRequest = 3
bool DDOverwriteQueue = "false"

---*--XEmacs: ReadEventDaq.rcp (Fundamental PenDel CVS-1.1)-----All-----
```

What More Do We Need?

- 1. Complete Interactive Framework (JBK)*
- 2. Finalize Process Control GUI*
- 3. Finalize Event Selection Scheme*
- 4. ROOT Histograms in Shared Memory*
- 5. Finalize Histogram Control GUI*
- 6. Incorporate Sub-detector Examines
(Need to identify representatives)*
- 7. Incorporate Event Display*
- 8. Re-verify $L3 \rightarrow C/R \rightarrow DD \rightarrow$ Examine
Network Event Transfer (NET)*
- 9. Improve Existing ones*
- 10. Global Examine, Captain's Examine...*
- 11. What did I forget?*

Highest Priority:
Detector Commissioning

We have A working version of Examine Framework and two Example Packages

But Not Enough!!!!

Need Commitments from Detector Groups

***You are more than Welcome to
take the Responsibility!!!!!!***

Let's Fill Up the List!!!!!!

Good for your Preparation for Run II Offline Analyses