Use of the TriDAS for Offline Trigger application

(not simulation nor reproduction: it is the very online trigger applied to MC events)

NEMO F2

Simulations

MuPage

km3*

GenBkg

FemSim**

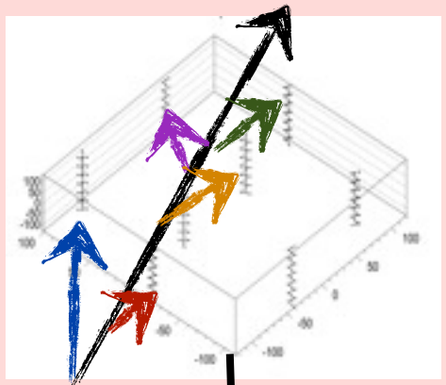
TriggerSim On-Line***

TriggerSim Off-Line

SelectionPois

reco

Mother Nature



TriDAS

PT Data

HitDeco2

KM3-Italia

Simulations

MuPage

km3*

GenBkg

FemSim**

TriDAS

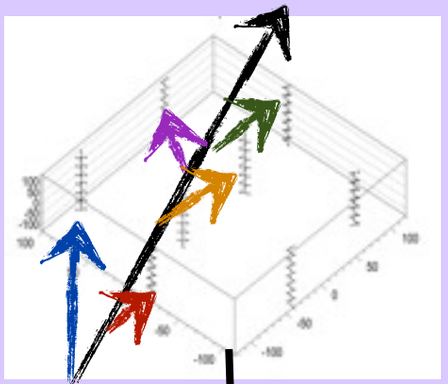
HitDeco2

TriggerSim Off-Line

SelectionPois

reco

Mother Nature



TriDAS

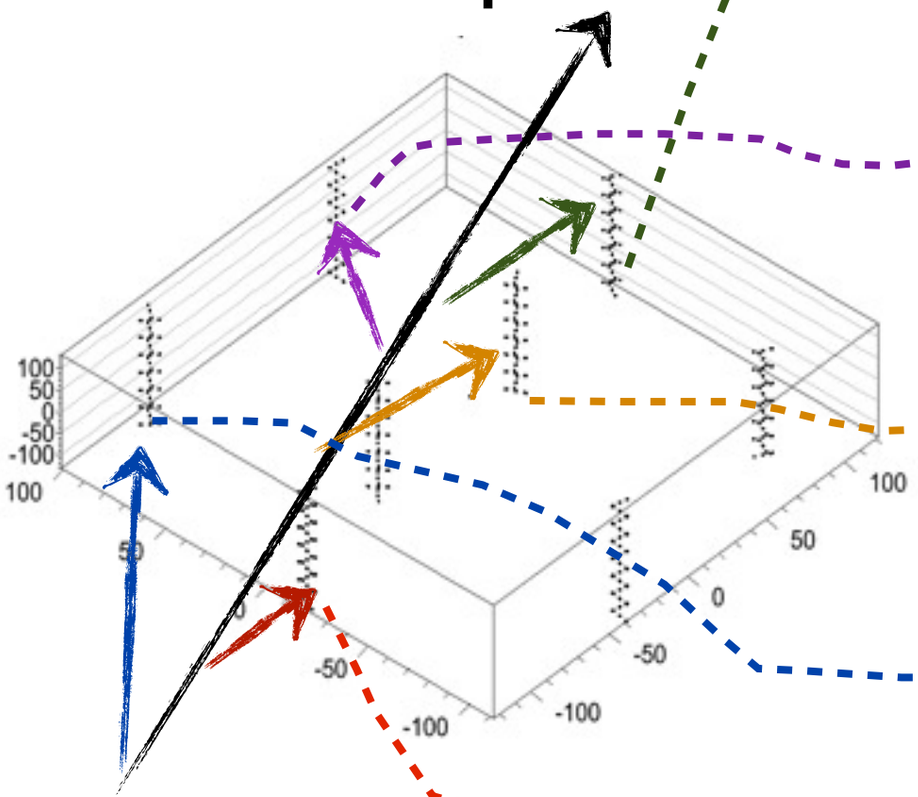
PT Data

Antares

Our codes

What is kept: the TriDAS modularity (and most of the C++ code)

ΔT event
~ O(1 μs)



ΔT
200 ms

HM_0
HM_1
HM_2
HM_3
HM_4

TS_{i+1} TS_i time

HM: handle subsequent data from a fraction of the detector

$TCPU_i$ with TS_i

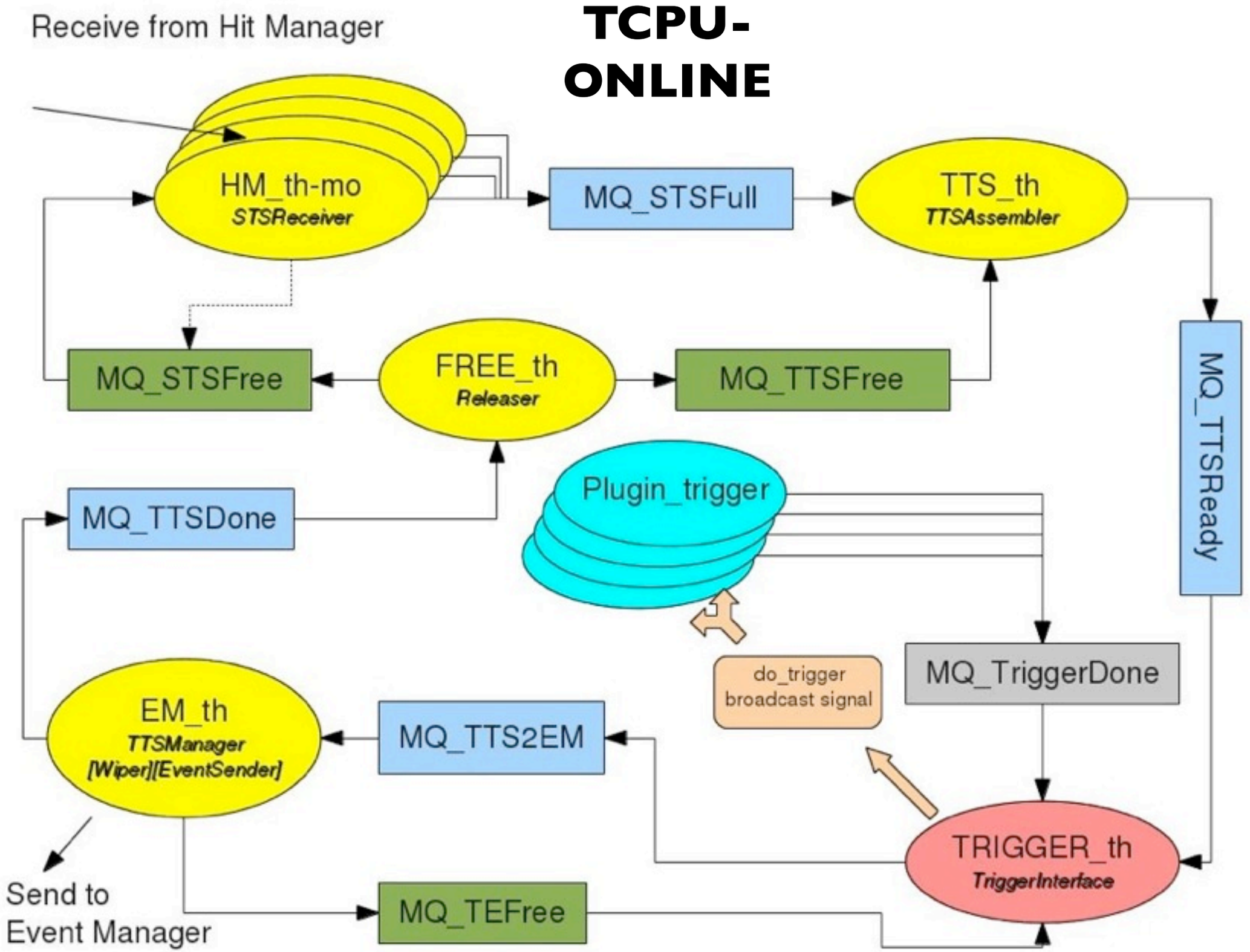
$TCPU_{i+1}$ with TS_{i+1}

EM

EM: collect from all the TCPUs the selected events

TCPU: process data from the full detector for a slice of time (i.e. the *Time Slice*)

TCPU-ONLINE


Receive from Hit Manager
HM_th-mo
STSReceiver
MQ_STSFull
TTS_th
TTSAssembler
MQ_STSFree
FREE_th
Releaser
MQ_TTSFree
MQ_TTSReady
MQ_TTSDone
Plugin_trigger
do_trigger
broadcast signal
MQ_TriggerDone
EM_th
TTSManager
[Wiper][EventSender]
MQ_TTS2EM
TRIGGER_th
TriggerInterface
Send to
Event Manager
MQ_TEFree

TCPU-OFFLINE

Post FEMSim ascii file

each evt is treated as a Time Slice

Only one HM_th
STSReceiver overloaded

MQ_STSFull

TTS_th
TTSAssembler

MQ_STSFree

FREE_th
Releaser

MQ_TTSFree

MQ_TTSReady

MQ_TTSDone

Plugin_trigger

do_trigger
broadcast signal

MQ_TriggerDone

EM_th
TTSManager overloaded

MQ_TTS2EM

TRIGGER_th
TriggerInterface

MQ_TEFree

Write
to file