AGATA Orsay-DAQ EVO meeting February 3rd, 2012

MBS- NARVAL versus ADF

Presents : N. Dosme, X. Grave, A. Korichi, O. Stezowski

X. Grave reported that 2 actors for MBS Receiver and Sender are ready and operational. The data flow encapsulation into MBS sub-ID 0x800 is still to be done but the necessary development are underway with the 0x200 sub-ID.

The FRS events come (MBS to NARVAL) as follow :
MBS header (7 words) followed by AGAVA informations which contain words (4bytes each):

Sub-syst ID-FRS 0x200	Local Tag 24-47	Local Tag-023	Event number status
Local trigger counter	Val local trig counter	Rejection trigger counter	Val tag 24-47 (evt numb)
Val tag 0-23	Rejection tag 24-47	Rejection tag 0-23	LLP status 0-7
GTS status 0-7	MSG in 0-7	Trigger input counter	Timeout counter
Fast clear delay			

Narval sends the following data to MBS :
sub-system id Narval 0x800 (0x200)
Local tag 24-47
Local tag 0-23
Event number

Here comes ADF Encapsulation.
A test mode : Retrieves 0x200 MBS event and Inserts 0x201 sub system ID containing AGAVA informations. The choice of 0x201 is simply due to MBS which does not want to receive the same sent ID for de-synchronization apprehension.

A creation of 2 filters is suggested by Xavier in order to avoid the modification of the Receiver and Sender with a predefined keys that establish usages of both events together.

O. Stezowski has already been working on that and made progress. The definition of the keys has been sent by OS and can be seen the following table.

Key name for data type and number

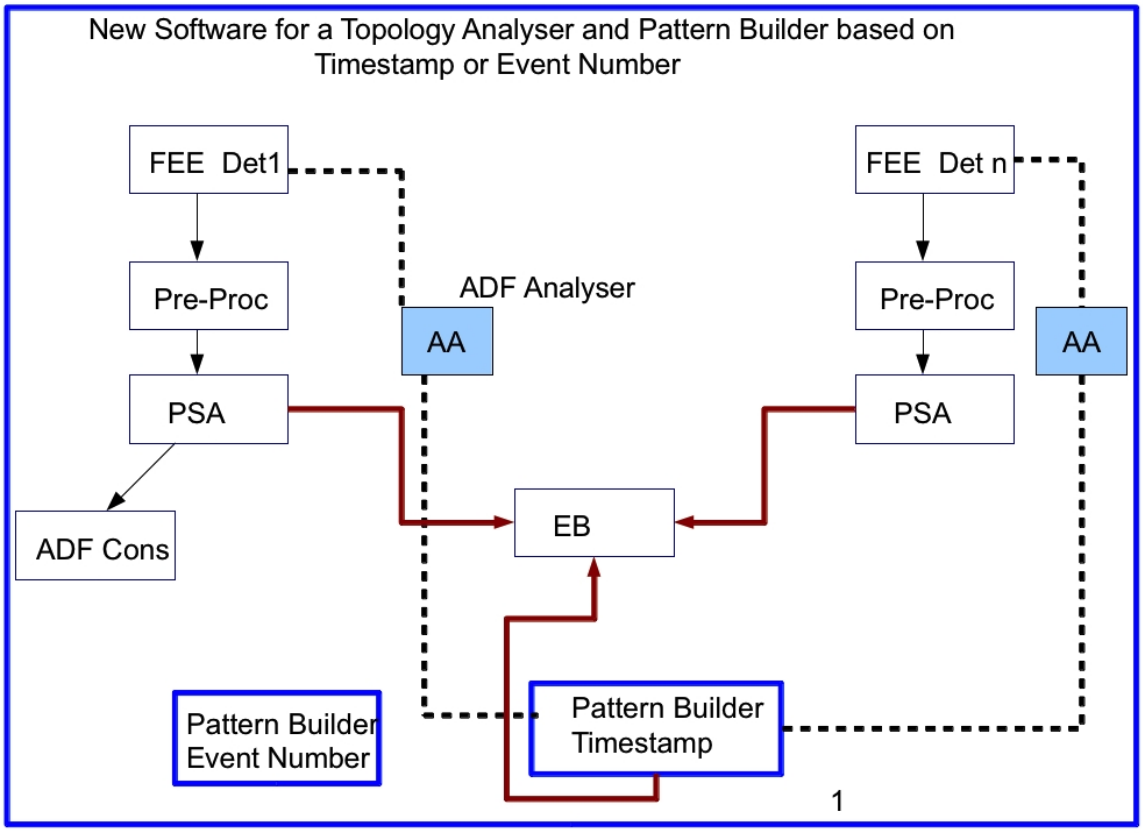
```
data:ranc0 0xFA0201A0 0xFFFFFFFF
data:ranc1 0xFA0201A1 0xFFFFFFFF
data:ranc2 0xFA0201A2 0xFFFFFFFF
#
#meta      0x0A001100 0x0F00FF00
meta:eof   0xFA001100 0x0FFFFFFF

event:data 0xCA000100 0xFF000F00
event:data:crystal 0xCA010101 0xFFFFFFFF
event:data:psa 0xCA010102 0xFFFFFFFF
```

where ranc0 to n correspond to the first and nth receiver and meta:eof designs the end of the frame
Olivier suggests that we probably should modify these definitions for the GSI phase in order to make them in a more general manner.

In the meantime, Xavier is developing a software labeled MBS-stripper for removal of the non useful events …?

A new topology is underway and consists in the development of a pattern builder based on the timestamp and event number for a more simplicity to deal with MBS.
In addition, this tool will solve the problem of data loss we faced at LNL due to the low rate for the DAQ.



N. Dosme is progressing on a standalone working DAQ system on a cloud at Orsay. He implemented Narval Topology on 3 machines for 3 crystals. Each machine can read the data via a consumer and filters have been set in for the pre-processing and PSA.
This work has been embedded on GSI-DAQ machine in order to ease Xavier's tests for the event builder and for the above described developments on site at GSI.