

# **ADVANCED GAMMA TRACKING ARRAY**

# **DAQ-** Data Flow

Status of the AGATA Data Flow

The tools that are running at GANIL

Future developpments

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> A. Korichi 17th AGATA week – Orsay, October 2016

# The Data Flow group today : French

**CSNSM IPNO and GANIL (host lab)** IPN Lyon involved at the interface : Data Analysis CSNSM also involved at the interface of FEE : GEC

#### LNL Legnaro : Future host lab has to be involved asap

Discuss a possible new organisation later

•DAQ Software : Data Flow, Services, GRID Storage
•Infrastructure : NSA (Network, Service and Administration) and infrastructure
•GEC (Global Electronics Control) Software : Information center of the « low level electronic control » (set-up, Display, Reset, ...)

#### FF Electronics, Data Analysis, PSA, Tracking, Ancillaries





FATIMA-PARIS-NEDA-Diamant will be integrated in GANIL DAQ



## Knode01,02,03,04



Analysis 1 Analysis 2 Kogia-nain Kogia-pygmee

Dellyfire

7 New Anodes





Topology Manager Setting AGATA : hardware lists (database) and relations, Activate FEE config : Build electronic configuration files" → generates the FEE configuration files NARVAL Topology generation : selection of the experiment, Global ON/Off ... Available actors : Crystal Producer / Pre-pro Filter / PSA Filter / PostPSA Filter / Consumer

**Run Control** 

Start/stop lists generated by the Topology Manager

## Stop, Init, Start and change of run

GCC: /agatadisks/<usr>/<experiment>/zWorkingDir  $\rightarrow$  Conf/ , gen\_conf.py GEC: the start from the RC soon RCC/NARVAL: INIT (button from run control) = CONFIGURE / LOAD / INIT

**Online Event Builder and Merger** 

GRID

Scripts have been developped and deleivered to GANIL Data is now sent to IN2P3-Bologne GRID routinely Scripts to retreive the data from GRID : done

<u>Back to menu</u>	Clusters activated :	Device Type : GGP Device Name : ggp001
<ul> <li><u>List only active items</u></li> <li><u>List all items</u></li> <li><u>Expand segment</u></li> <li><u>Collapse segment</u></li> <li>Save Items and Relations</li> </ul>	<ul> <li>atc01 - 04A 04B 04C</li> <li>atc04 - 13A 13B 13C</li> <li>atc05 - 03A 03B 03C</li> <li>Modify Active Crystal</li> </ul>	NAME       ID       PORT       GTS_ID       STATUS         ggp001       1       5000       70       OFF         Off       •         New relation       •         Replace ggp001       •
	Cut link a001 to ggp001	

Clusters	Position	Crystals	Color	Digitizer	GGP	Carrier Master	GTS	Carrier Slave	Anode
atc01	4	<u>a008</u>	Α	digitizer011	XXX	carrier-039	<u>gts-016</u>	carrier-020	<u>anode01</u>
		<u>b001</u>	В	digitizer025	XXX	carrier-013	<u>gts-010</u>	carrier-026	<u>anode05</u>
		<u>c003</u>	С	digitizer016	XXX	carrier-019	<u>gts-017</u>	carrier-021	<u>anode06</u>
<u>atc02</u>	10	<u>a003</u>	Α	<u>digitizer005</u>	XXX	<u>carrier-065</u>	<u>gts-026</u>	<u>carrier-064</u>	<u>anode16</u>
		<u>b003</u>	В	digitizer013	XXX	<u>carrier-070</u>	<u>gts-029</u>	<u>carrier-055</u>	<u>anode17</u>
		<u>c005</u>	С	digitizer017	XXX	<u>carrier-014</u>	<u>gts-028</u>	<u>carrier-051</u>	anode14
<u>atc03</u>	12	<u>a002</u>	Α	digitizer012	XXX	<u>carrier-018</u>	<u>gts-006</u>	<u>carrier-066</u>	anode25
		<u>b010</u>	В	digitizer015	XXX	<u>carrier-035</u>	<u>gts-012</u>	<u>carrier-022</u>	anode04
		<u>c001</u>	С	digitizer007	XXX	<u>carrier-010</u>	<u>gts-024</u>	<u>carrier-032</u>	anode03
<u>atc04</u>	13	<u>a007</u>	Α	digitizer003	XXX	carrier-015	<u>gts-014</u>	carrier-034	<u>anode10</u>
		<u>b007</u>	В	<u>digitizer019</u>	XXX	carrier-029	<u>gts-020</u>	carrier-036	<u>anode07</u>
		<u>c007</u>	С	<u>digitizer008</u>	XXX	carrier-005	<u>gts-023</u>	carrier-040	<u>anode12</u>
<u>atc05</u>	3	<u>a005</u>	Α	<u>digitizer020</u>	XXX	carrier-006	<u>gts-035</u>	carrier-011	<u>anode18</u>
		<u>b002</u>	В	<u>digitizer018</u>	XXX	carrier-023	<u>gts-011</u>	carrier-030	<u>anode08</u>
		<u>c009</u>	С	digitizer009	XXX	carrier-041	<u>gts-030</u>	carrier-008	<u>anode09</u>
atc06	0	<u>a001</u>	Α	XXX	<u>ggp001</u>	XXX	XXX	XXX	<u>anode27</u>
		<u>b004</u>	В	digitizer006	XXX	<u>carrier-062</u>	<u>gts-021</u>	<u>carrier-058</u>	<u>anode21</u>
		<u>c010</u>	С	digitizer014	XXX	<u>carrier-071</u>	<u>gts-036</u>	<u>carrier-038</u>	<u>anode20</u>
atc07	11	<u>a006</u>	Α	digitizer024	XXX	<u>carrier-074</u>	<u>gts-009</u>	<u>carrier-060</u>	<u>anode15</u>
		<u>b013</u>	В	digitizer027	XXX	<u>carrier-063</u>	<u>gts-038</u>	<u>carrier-024</u>	<u>anode26</u>
		<u>c006</u>	С	digitizer028	XXX	<u>carrier-054</u>	<u>gts-034</u>	<u>carrier-052</u>	<u>anode13</u>
<u>atc08</u>	2	<u>a009</u>	Α	XXX	XXX	XXX	XXX	XXX	<u>anode50</u>
		<u>b005</u>	В	digitizer023	XXX	carrier-061	<u>gts-008</u>	carrier-068	anode22
		<u>c008</u>	С	digitizer004	XXX	<u>carrier-067</u>	<u>gts-037</u>	<u>carrier-059</u>	anode19

#### **Available Tools**

## GANIL Run Control

Narval Topology Manager GCC ENX 2.8 GEC

## Midas Software (Digitizers) Carriers software







# 

### 6 Gbit/s bandwidth shared over NFS



Improve the speed as the number of crystals is increasing 122 Tbytes (90 units of 1 Tb with the old disk)

# Next :



Data Flow functionnal and no major change after these upgrades

## GEC:

Since previous AGATA Week, in Valencia (22-24 September 2015) :

- Integration of GGP in GEC planned for October 2015... postponed to end of 2016.
- GUI improvement
- GEC based on ENX V3.0 was upgraded to be based on V3.3, 10 months ago
  - need to move to V3.4 (actual stable version) or to V3.5 (next stable version) to follow our DCOD framework version that will be used in AGATA at GANIL

# Next :



Data Flow functionnal and no major change after these upgrades

3- Future developments : trigger test (X. Grave talk)

This is scheduled : end October and december 2016 Almost at the Finish line

Maintenance and System files upgrade and infrastructure for the new Electronics will be our main task

### **Reorganisation of the Data Flow group:**

The current 2 team leaders (X. Grave and E. Legay) are working together on a daily basis No other international contribution : This structure does not make sense.

This structure was worth during the R&D phase.

In this context, the group suggests a nomination of a local coordinator for each campaign.

A meeting took place at GANIL to discuss this proposal.

N. Ménard (DAQ-Infrastructure team leader) is in favor with this structure : it will make the local team more involved and more skilled for interventions when encountering problems during the data taking.

#### The AGATA-DAQ group commit do the job in the AGATA-side as we are doing now