Data flow management in the GANIL campaign

Jérémie Dudouet

Data flow management in the GANIL campaign

AGATA Analysis workshop 2019: 21-24 January, Orsay

Data flow management: NARVAL

NARVAL system: Data acquisition system used to manage the data flow using chains of actors.

NARVAL actor: Process define by the user and used by NARVAL to operate on the data flow.

Data format:
- AGATA world: **ADF**: **A**gata **D**ata **F**low
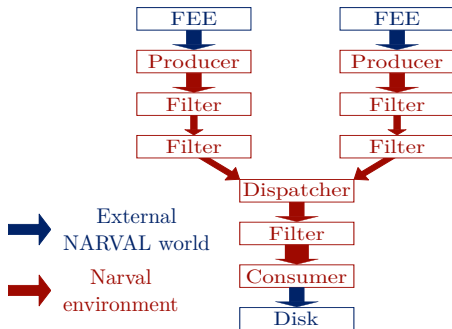- GANIL world (ancillaries) **MFM**: **M**ulti **F**rame **M**etaformat

NARVAL actors types

Producer : Gets data from an external NARVAL world and send it to the data flow
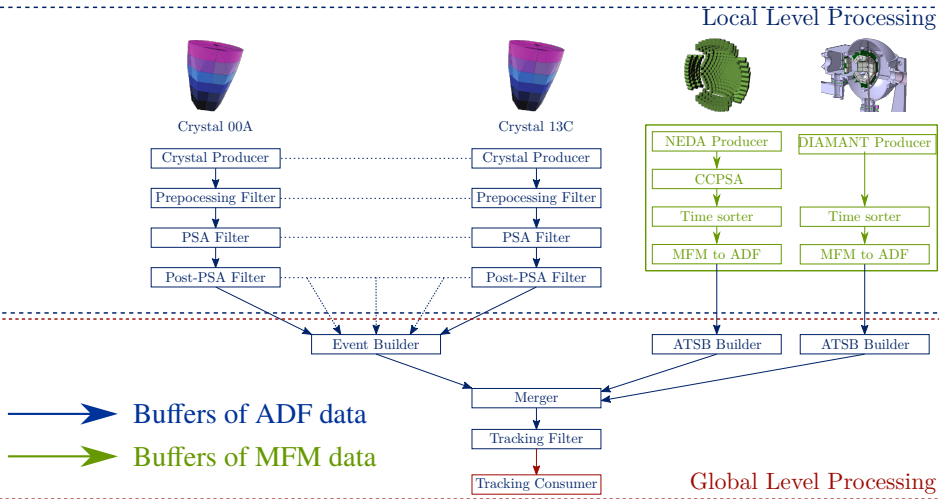
Filter : Reads data from the data flow, process it and send it to the data flow

Dispatcher: Multi input filter

Consumer : Reads data from the data flow and write it on disk but not pass it back to the data flow.

FEE → Producer → Filter → Filter → Dispatcher

FEE → Producer → Filter → Filter → Dispatcher

→ External NARVAL world

→ Narval environment

Dispatcher → Filter → Consumer → Disk

AGATA topology

The AGATA Data Format (ADF)

ADF Frame:

The key contains:
- Data lenght
- Data type
- Timestamp
- Event number

The Data contains either:
- data (energies, hits...)
- adf frames

The Agata data format

The AGATA Data Format (ADF)

ADF Compsite frame:

As any frame, the composite frame contains:
- its key (data lenght, frame type, timstamp...)
- its data, composed of 3 standard adf subframes

The Agata data format