Additional features in EUDAQ2

Sohail AMJAD

UCL

Apr 04, 2017

TO DOs - EUDAQ2

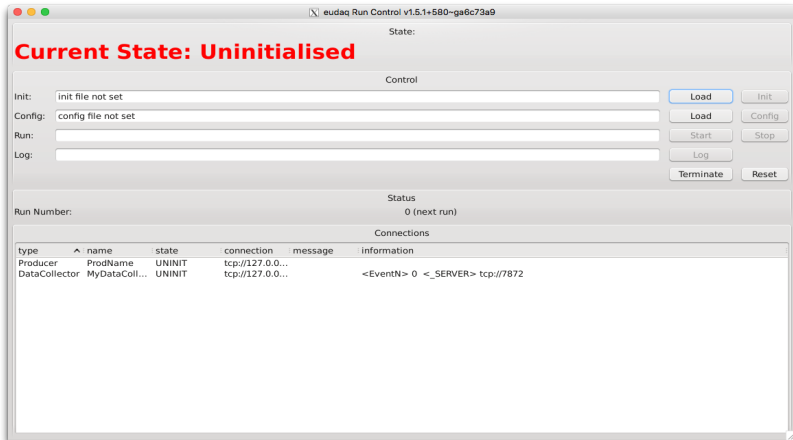From Matthew Wing's Slide at Barcelona:

- Need to define a list of features which are "essential", "desirable" and "nice to have". Yi's list:

  - Producer can run standalone without Run Control / data collector and write data file to disk directly.

  - Send event data from data collector to another data collector

  - Port the GUI improvement of EUDAQ1.7 to EUDAQ2 ($\checkmark$)   Essential

  - Support Root TTree format

  - The EUDAQ configuration file which as nested blocks to describe the complex configuration case. XML file is preferred. (In progress)

The GUI Improvements

- Number of states has been increased.
- A new state called Initialisation state has been added before the Configuration.
- The GUI displays updated state for example Initilaised, Configured etc.
- The conflict of information from multiple Data Collectors resolved.
- GUI completely decoupled from the Run Control so independent improvement possible.

GUI Improved

A look at the new(er) GUI:

The most fresh version displays the correct EUDAQ version in the header.

Configuration file in XML format

- xml format allows for more organised structure of the configuration file as compared to previous.
- Pugixml, the external library to parse the xml configuration file.
- Light, fast and efficient library, uses the DOM method to read the xml tree.
- Read the xml file, pass to the configuration class, store parameters.
- Desire to be independent of external libraries.

Work so far

- Read the parameters with name of parameter as it appears in the xml file.
- Without the name but depending on the structure of the file.
- Independent of the structure of the file.
- No conversion of the parameter types. That is done by the Producer.
- Arrange the parameters in an organised way to be readily available to the RC.

Once this is completed:

- Need to define a list of features which are "essential", "desirable" and "nice to have". Yi's list:
  - Producer can run standalone without Run Control / data collector and write data file to disk directly.(!)
  - Send event data from data collector to another data collector
  - Port the GUI improvement of EUDAQ1.7 to EUDAQ2 (√) **Essential(?)**
  - Support Root TTree format
  - The EUDAQ configuration file which as nested blocks to describe the complex configuration case. XML file is preferred.(In progress)

Special Thanks to Yi Liu for his help during this work.

$$\mathcal{THANKS}$$