Minutes of the GET sofware meeting at GANIL
6th may 2009

Presents :   S. Anvar, F. Chateau, L. Nalpas (IRFU)
               B. Raine, F. Saillant, G. Wittwer (GANIL)

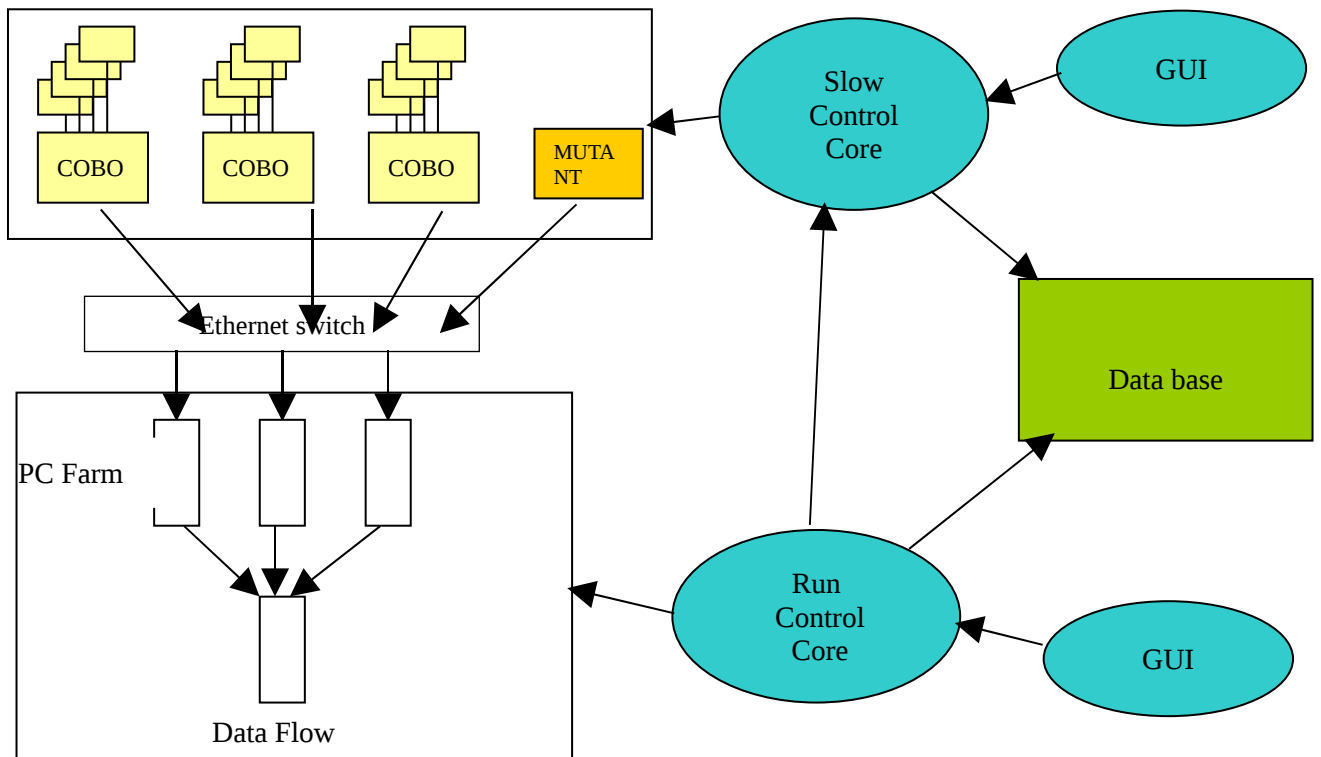The general schematic of the system has been approved by all the participants.

Figure 1 : General architecture

Choice of standards

–   Embedded operating system
    Taking in account the experience of the different development teams on different
    operating systems, it has been agreed that different operating systems could be used in
    different boards (COBO, MUTANT, BEM), depending on the laboratory in charge of the
    development. This will enable a better support from the local software team. The
    embedded software will be developed independently of the OS, except for the drivers
    layers.

    Vxworks will be used for COBO

    Linux will be used for MUTANT and BEM

–   Communications protocols

Communication between Slow Control Core and embedded application will be done by using Ice-E (Ice Embedded) framework (freeware from ZeroC company)

Communication between Slow Control and Run Control will use Web services based on SOAP protocol

Work packages

− Slow Control (in charge of IRFU)

Slow control includes embedded software in Cobo, Mutant and BEM, Slow Control Core (SCC) and GUI.

F. Chateau will define a C++ package based on templates to implement registers access, including bit fields, through devices.

The save of configuration will be done by using the CCFG framework. It offers the possibility to save configuration in files and data base to keep history. Is a data base convenient? There is a problem of access to information for physicists from any laboratory after the experiment.

− Run Control (in charge of GANIL)

Run control includes Run Control Core (RCC) and GUI

F. Saillant is in charge to define commands to be implemented between Run Control and Slow Control and to provide WSDL file.

− Data readout from electronics boards (in charge of GANIL/IRFU)

− Data flow, Event Builder (in charge of GANIL)

Some monitoring informations like temperatures could be provided by a dedicated embedded software and pushed in the data flow, to improve quality of data dependent on hardware status. This monitoring information has to be readout even when the system is not running in acquisition mode. State machine of the system has to be thought to enable this.

In a general way, services messages have to be planned in the data flow.

− Calibration (in charge of ?)

A part of calibration software could be embedded when the internal generator is used. This supposes special calibration frames which contain data and information on generator orders.