RCMS XDAQ Integration in Pixel Online Software

Souvik Das

(Cornell University)

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RCMS Needs New Databases

- Just installed DAQKit 3-10. Current FEC & FED interfaces tested and works with this. However replaced its RCMS 2.2 with RCMS 3.0 manually.

- New database: Resource Service 3 (RS3). MySQL database. Stores information on the control hierarchy of RCMS Function Managers and XDAQ Supervisors.

  Alex said we should use same RS3 as rest of CMS

  - Server: cmssrv0.cern.ch

  - Port: 3306

  - Database Name: PixelRS3

  - Username: souvik

  - Password: some_pass

More New Databases, Usernames and Passwords

- New database: RunInfo database. Oracle 10g database.
    - Server: oracms
    - Port: 10121
    - Oracle SID name: ODMS
    - User name: cms_runinfo
    - Password: mickey2mouse
- Apache Tomcat for Pixels assigned port 37000
- RCMS users require authentication
    - User name: pixelRCMS
    - Password: pixelRCMS
- RCMS Logger assigned port 37011

Pixel Function Manager

- Writing Pixel Function Manager. First hurdle:

  - XDAQ Supervisors' state machines could be sent FSM Input from Supervisors lying below it. (For example, to fire the transition Configuring to Configured in PixelSupervisorGUI, PixelSupervisor would send the FSM Input "ConfiguringDone" to PixelSupervisorGUI.)

  This conflicts with design philosophy of Function Mangers. No Function Manager may receive FSM Input from a lower Function Manager or XDAQ Application! Instead, the Function Manager may be notified of a change of state in its slave. It will see new state of slave, make sure it is expected and self-trigger its own state change. Else it will go to ERROR state.

Pixel Function Manager State Machine – Not Quite

"Command" comes from RCMS
"Command" goes to Pixel Supervisor
"Command" comes from Pixel Supervisor

Initial

"Initialize"

Initializing

"Initialize"   *"Configure"*

Configuring

"InitialisingDone"

"Configure"   *"ConfiguringDone"*

Halted

Configured

"HaltingDone"   *"Halt"*

Halting

"Halt"

Starting

"Start"

"Start"   *"StartingDone"*

Running

"StoppingDone"   *"Stop"*

Stopping

"Stop"

Pausing

"Pause"

"Pause"   *"PausingDone"*

Paused

"ResumingDone"   *"Resume"*

Resuming

"Resume"