Pixel RCMS and XDAQ Update

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RCMS – Pixel Function Manager

Sequence of Events in the Past Week

- CVS checked out Pixel Function Manager using Eclipse instead of CVS update and lost some recent work! Tried restoring from my memory. It compiled and was deployed into Apache Tomcat, however, Tomcat started dying randomly on hosting my new program!

- Went to Alex Oh and Andrea Petrucci after several hours of struggling. Was made to reinstall Version 3_0_2 of RCMS (previously 3_0_0). Problem remained.

- Recreated PixelRS3 database on cmssrv0.cern.ch. This time filled in with Resource Manager, not DUCK or DUCK-CAD. Problem remained.

- Problem finally traced to use of Eclipse interfering with Tomcat! **Problem fixed**.

- Debugging Runtime problems with Pixel Function Manager done through a RCMS Socket Hub which can be connected to Java Chainsaw. (Quite painful.)

- After some debugging, successfully deployed Pixel Function Manager in RCMS hosted on http://cmsfpix2.cern.ch:37000/

- Learning to fill in details of XDAQ processes and applications into RS3 using Resource Manager – getting help from Andrea.

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Comments and Open Questions

- Andrea says Pixel Function Manager controls the loading and killing of all XDAQ processes using Job Control (which itself is a XDAQ application running on a XDAQ process that runs from startup on a central machine).

- Andrea says if Pixel Function Manager is "destroyed", it must kill all underlying Function Managers and XDAQ processes (and all its applications)! It is "required". But, if we get killed in a weird state, we won't be able to access the Low Level GUIs to probe what the problem was. He says we should start our own local XDAQ process on a separate port if we want to investigate, but as soon as we go through the "Configure" state (before which the Low Level GUIs will not be accessible), we've lost the weird state we wanted to investigate!

- Andrea recommends using XDAQ Sentinels for Error Handling.

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Things to Do

- Learn to use Job Control to start XDAQ processes. (Andrea wants me to do this first since he can't help me before Thursday again.)

- Use xdaq2rc object inside PixelSupervisor to relay its state information to PixelFunctionManager. (Partially done.)

- Make an event handler inside PixelFunctionManager to catch these notifications.

- See if I can populate the RS3 database myself with the PixelSupervisor's details.

~ 1 week

XDAQ – Pixel Supervisors

PixelFECSupervisor Low Level GUI

- •Sports new way of entering Mask and Trim bits independently,

- •Immediately updates the DAC, Mask and Trim objects as one slides the sliders or inserts a new Mask,

- •Has three buttons on the lower right to "File DAC Settings", "File Mask Settings", "File Trim Settings". Files are spat out into the PixelRun area to be moved manually into appropriate folder of PixelConfigDataExamples.

  {Having some problems with Mask Settings.. will be cleared very soon and committed! ~ 30 min}

To Do

- PixelSupervisor internally changed to use the Mode of a Calib object (like FEDAddressLevel or FEDBaselineCalibration) to decide what to do in Running State. Previously used the Alias. But we can have multiple Aliases (corresponding to multiple Global Keys) for one Calib Mode. ~ 1 day

- Setup xdaq2rc objects inside PixelSupervisor to report state to PixelFunctionManager. ~ 1 week

- Add ResetROCs and ResetTBM buttons in Panel Low Level menu as requested by Mauro. ~ 1 hour.