

RCE Pixel Software Setup

- Ingredients (with default install path)
 - Linux box with SL(C)6 x86_64
 - Atlas RCE SDK (/opt/AtlasSDK/V0.11.1)
 - <https://twiki.cern.ch/twiki/bin/viewauth/Atlas/RCEGen3Development>
 - Pixel Application only supports RCE/GEN1 with HSIO or HSIO2, no Gen3/COB
 - provides gcc5.2 cross compiler toolchain for ArchLinux
 - considering RPM distribution
 - TDAQ6.1/LCG (/sw/atlas/sw/lcg)
 - required for gcc4.9, Boost and ROOT
 - compiler shipping with SLC6 (gcc4.4) does not support c++11
 - Installation with modified yum (ayum), that does not require superuser privileges
 - official TDAQ distribution
 - TDAQ packages (omni, ipc, oh, is) are optional
 - Remote Call Framework (replaces TDAQ IPC), based only on BOOST

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- Ingredients (with default install path)
 - CMAKE (ships yum SLAC6 - sudo yum install cmake)
 - defines cross compilation toolchain
 - creates Makefiles
 - gitlab
 - hosts the RCE projects code
 - <https://gitlab.cern.ch/groups/rce>
 - gitlab group for RCE project (ro public access, CERN credentials for write)
 - need to move from old git.cern.ch
 - project don't need admin approval in gitlab
 - ArchLinux libraries
 - LCG/Boost
 - distributed by add-on ayum repository

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- Legacy GEN1/RTEMS support
 - RTEMS port of TDAQ OMNI, IPC, etc.
 - only works with TDAQ4 because of outdated RTEMS OS version with old gcc toolchain (no C++11 support)
 - RCF cannot be ported to RTEMS (including newer version) due to outdated RTEMS network stack (no IPV6 API)
 - RTEMS and TDAQ obtainable through ayum as well
- Step-by-step instructions for setup coming soon
 - for now only RCF is supported
 - Removed hard-wired paths from CMAKE config (done)
 - Added missing includes for TFAQ6/LCG (done)
 - need to provide BOOST for ArchLinux as RPM (TBD)
 - restore HW setup for testing at SLAC (TBD)
 - Provide TDAQ 6.1 port for ArchLinux as RPM (TDB), optional
 - hope to get ArchLinux support into official TDAQ6 release