CALICE DAQ TF meeting

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Topics

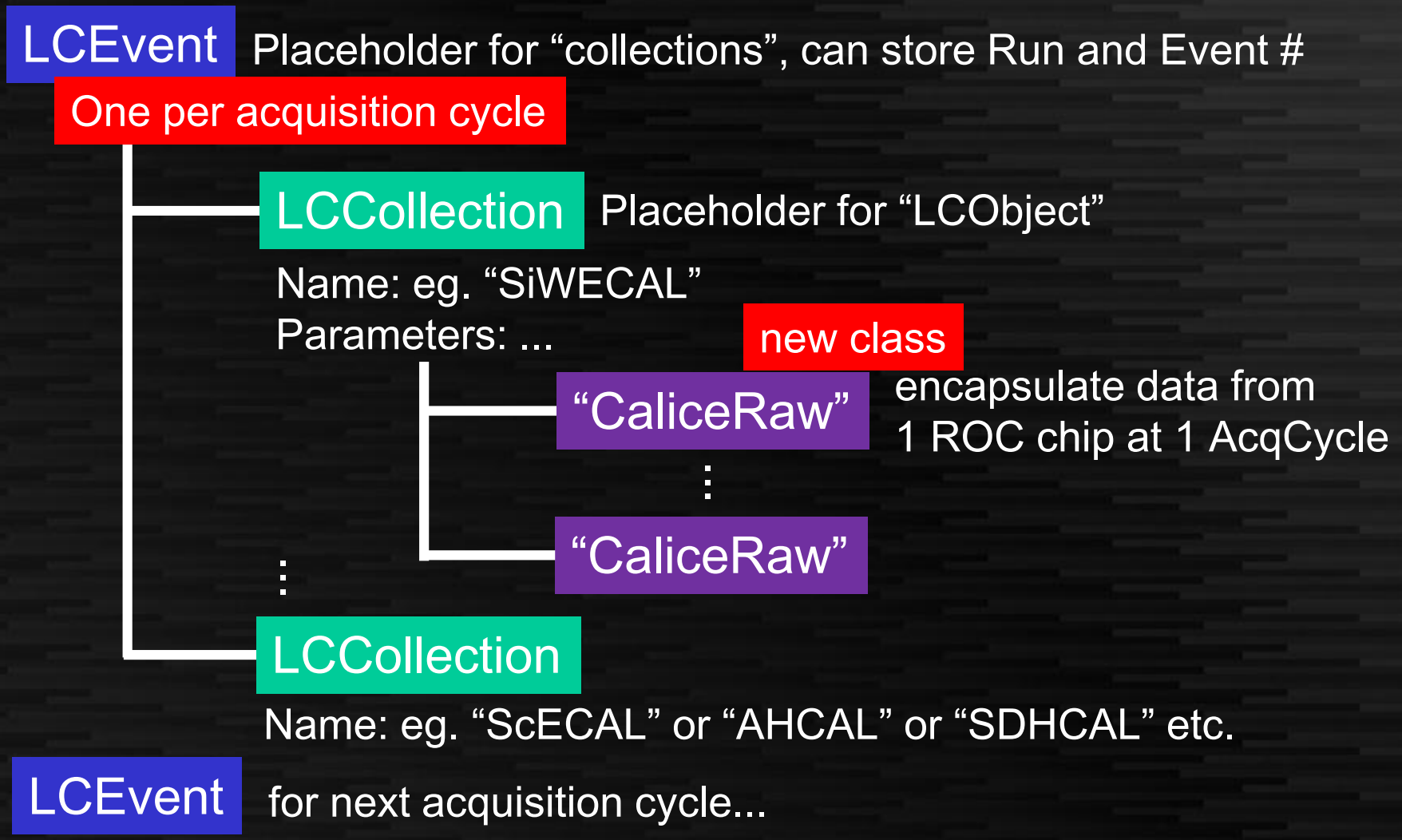
1. News from each technology
2. EUDAQ for monitoring
   (T. Coates, F. Salvatore)
3. Test beam plans 2016
4. LCIO structure
5. EUDAQ discussion
6. AOB

Combined test plans 2016

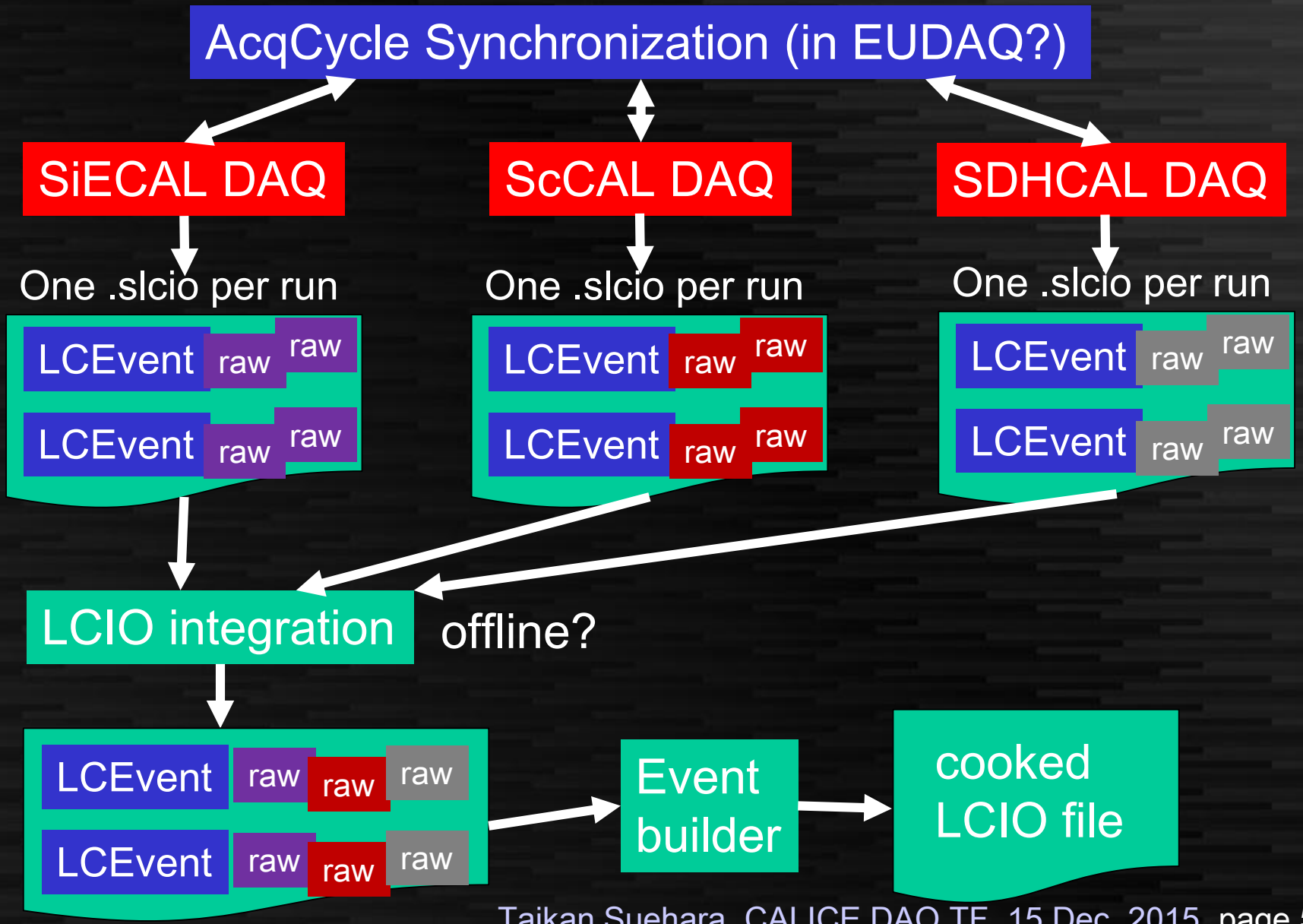
- ~Summer: Common setup for
  - Cosmic (where?)
  - DESY electron beam?
  - CERN PS?
- Autumn: SDHCAL test beam @ CERN SPS
  - Maybe a good place to test combined setup (some discussion with Imad)

LCIO (1) structure for “raw” LCIO

For LCIO reference: http://lcio.desy.de/v02-04-03/doc/



LCIO (2) .slcio file and structure



LCIO (3) “CaliceRaw” class

CaliceRaw Original class inherited from LCObject

- One per ASIC per AcqCycle
- LoadData() accepts a data stream from SKIROC stored as a simple array
  → in result, all memory cells stored in one object
- Chip ID can be added (if ASIC data not enough)
- Multiple “CaliceRaw” object can be stored in a collection
  → Data from N ASIC: N CaliceRaw stored in a collection

“Parameters” in LCCollection

- One per ASIC per AcqCycle, common in all Chips
- Arbitrary name-data pairs can be stored
- Timestamp should be included

Common producer in EUDAQ

- To be inherited by producer of each system
- Common features
  - Receive RunControl commands
  - TCP/IP (or other) connection to get packets
  - Converting packets to “CaliceRaw” objects
  - Send to DataCollector (or store to LCIO directly)
- Individual features (to be overrided)
  - RunControl treatment
  - Packet handshaking (if necessary)
  - Packet header interpretation

EUDAQ discussions

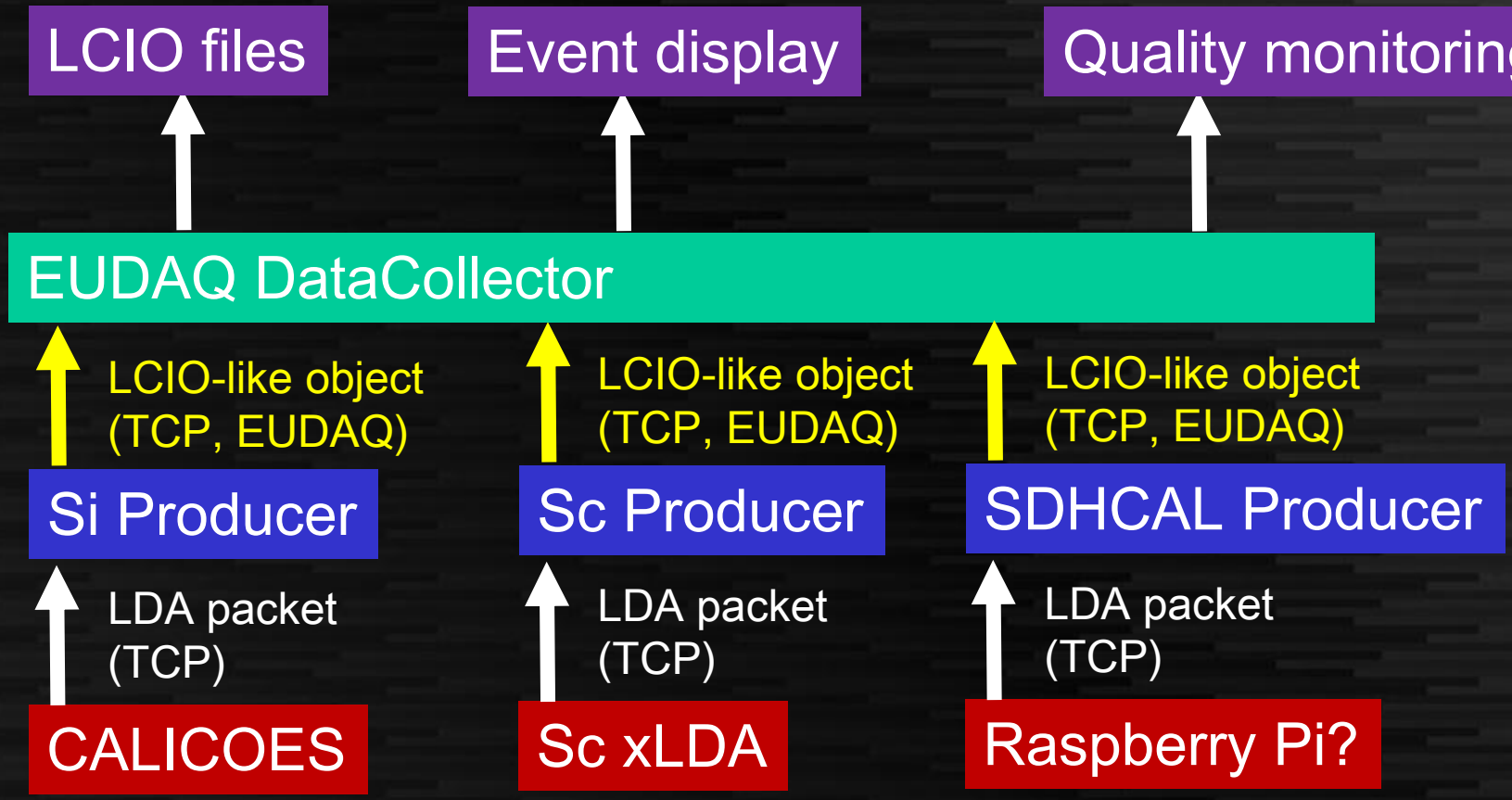
- Failure reporting
  - More state in EUDAQ?
- AcqCycle synchronization/confirmation
  - Using DataCollector? or other features?
- Configuration
  - Done in each DAQ?
    or pass some info from EUDAQ?
- Data monitoring

AOB

What to do

- Hardware
  - Master CCC
    - Hardware
    - Firmware
  - Stopped BX identification
- Software
  - LCIO class
  - EUDAQ common producer
  - Individual producer
- Integration and testbeam

EUDAQ – event building



Common feature of the producer:
Convert LDA packet to LCIO and send to DataCollector
→ Common producer?