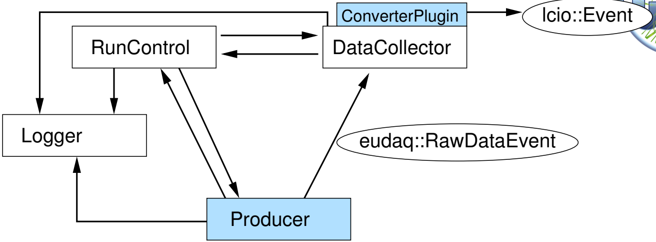
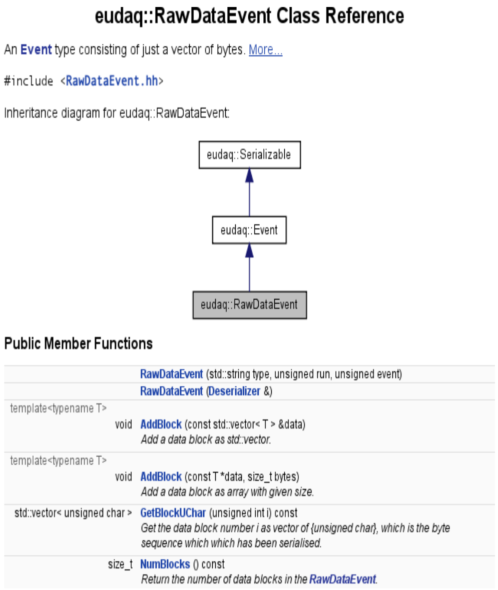
Eudaq Oververview (simplified)



- Run Control
  - StartRun
  - StopRun
  - Configure (either full config or specify data file)
- RawDataEvent as container for block of bytes
- Plugin in data collector interprets raw data
- Communication with TLU (`TLUEvent`)

- Not as powerful and dedicated as local run control
- Only used for common data taking
- Pedestal runs etc. done with local run control
- Currently no monitoring

eudaq::RawDataEvent



eudaq::RawDataEvent Class Reference

An **Event** type consisting of just a vector of bytes. More...

```
#include <RawDataEvent.hh>
```

Inheritance diagram for eudaq::RawDataEvent:

eudaq::Serializable

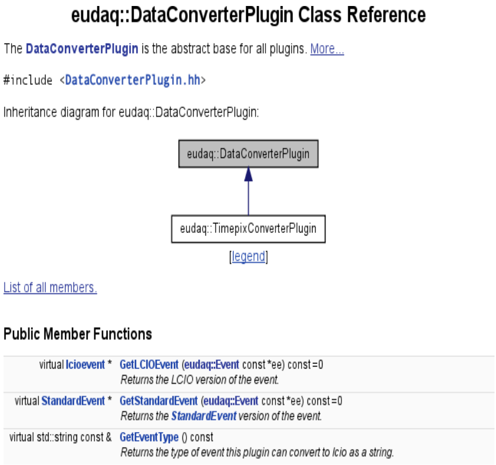
eudaq::Event

eudaq::RawDataEvent

Public Member Functions

	RawDataEvent (std::string type, unsigned run, unsigned event)
	RawDataEvent (Deserializer &)
template<typename T> void	AddBlock (const std::vector< T > &data) *Add a data block as std::vector.*
template<typename T> void	AddBlock (const T *data, size_t bytes) *Add a data block as array with given size.*
std::vector< unsigned char >	GetBlockUChar (unsigned int i) const *Get the data block number i as vector of {unsigned char}, which is the byte sequence which which has been serialised.*
size_t	NumBlocks () const *Return the number of data blocks in the RawDataEvent.*

eudaq::DataConverterPlugin



eudaq::DataConverterPlugin Class Reference

The **DataConverterPlugin** is the abstract base for all plugins. More...

```
#include <DataConverterPlugin.hh>
```

Inheritance diagram for eudaq::DataConverterPlugin:

eudaq::DataConverterPlugin

eudaq::TimepixConverterPlugin

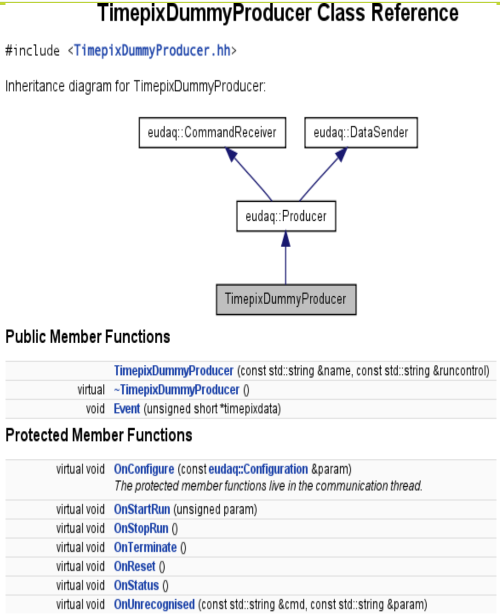
[legend]

List of all members.

Public Member Functions

virtual lcioevent *	GetLCIOEvent (eudaq::Event const *ee) const =0 *Returns the LCIO version of the event.*
virtual StandardEvent *	GetStandardEvent (eudaq::Event const *ee) const =0 *Returns the **StandardEvent** version of the event.*
virtual std::string const &	GetEventType () const *Returns the type of event this plugin can convert to lcio as a string.*

eudaq::Producer (example)



TimepixDummyProducer Class Reference

`#include <TimepixDummyProducer.hh>`

Inheritance diagram for TimepixDummyProducer:

Public Member Functions

	TimepixDummyProducer (const std::string &name, const std::string &runcontrol)
virtual	~TimepixDummyProducer ()
void	Event (unsigned short *timepixdata)

Protected Member Functions

virtual void	OnConfigure (const eudaq::Configuration &param) *The protected member functions live in the communication thread.*
virtual void	OnStartRun (unsigned param)
virtual void	OnStopRun ()
virtual void	OnTerminate ()
virtual void	OnReset ()
virtual void	OnStatus ()
virtual void	OnUnrecognised (const std::string &cmd, const std::string &param)

AltroProducer

- Class which is instanciated in the READOUT executable
- READOUT sends events via AltroProducer::SendEvent()
- Implements same communication protocol as READOUT↔ILCSERVER

ICLServer	**AltroProducer**
*CLI	eudaq internally, constructor
*UPD	*not implemented*
*STATUS	eudaq logging
*SOR	StartRun()
*EOR	StopRun()
SIGUSR2	OnData()
SIGUSR1	OnStatus()
*POW *PCA	OnConfigure() / destructor
*PAUSE	*not implemented*
*CONT	*not implemented*

Next steps

1. Revision controlled software repository
2. Implement AltroProducer
3. Integrate and test with FileWriterRaw (no DataConverter)
4. Implement AltroDataConverter

- eudaq::FileWriterLCIO and the DataConverterPlugin mechanism are newly implemeted and **still alpha!** Have to mature and imrove!

`http://projects.hepforge.org/eudaq/`