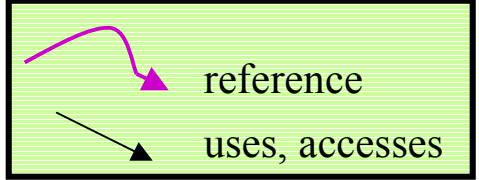
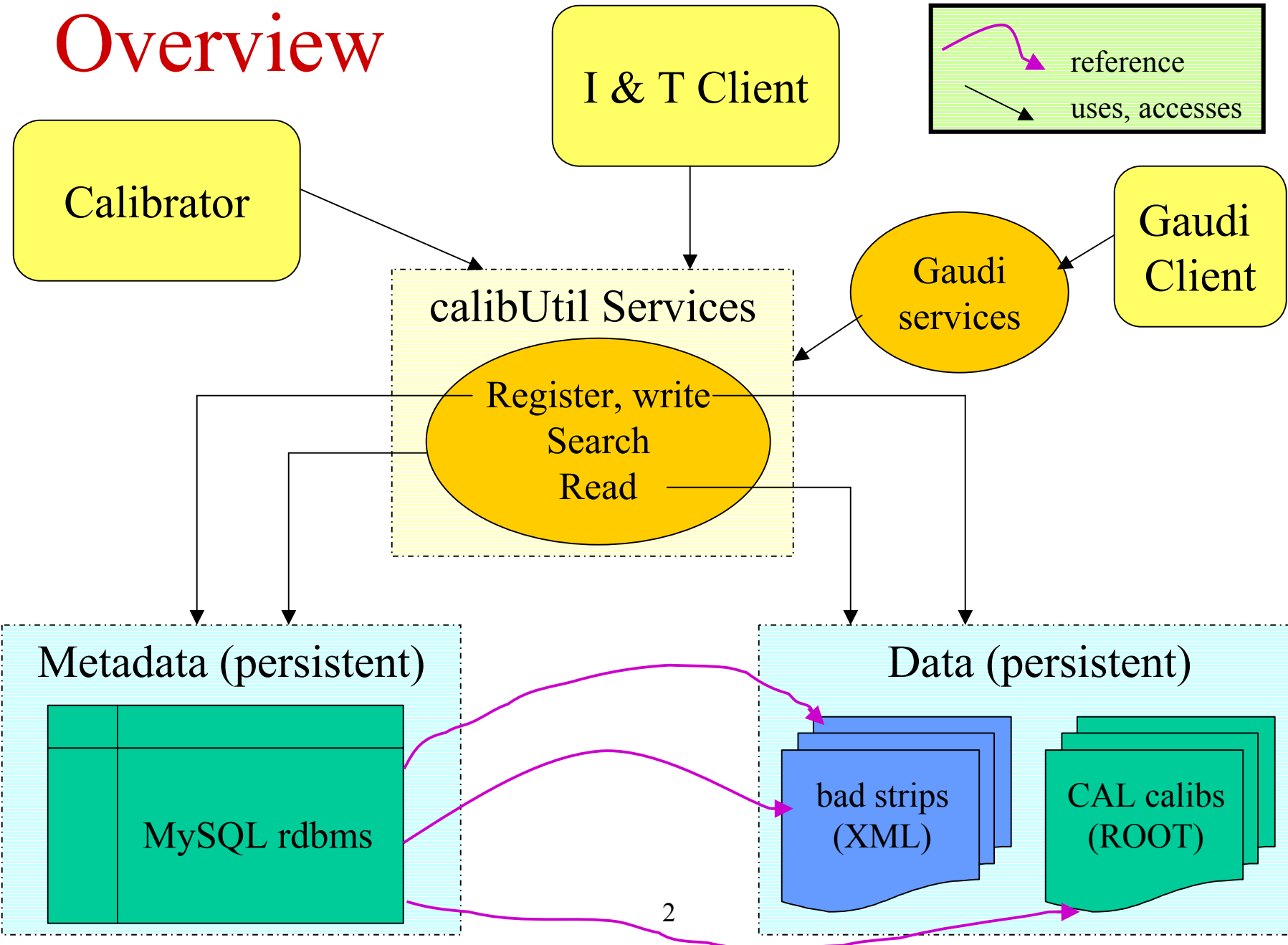


Calibration Infrastructure Design

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Overview



Bad Strips (persistent form)

- Uses XML because it's human-readable; convenient for variable-length data
- Includes a "generic" section which will be part of all calib. data sets (analog for ROOT): conditions, input data description
- Goal is to indicate which strips are bad in unambiguous hardware terms.
- http://www.slac.stanford.edu/exp/glast/ground/software/calibration/test_badStrips_xml.html
(sample file)
- http://www.slac.stanford.edu/exp/glast/ground/software/calibration/badStrips_dtd.html
(specification of xml format)

What's in the Metadata dbs

- <http://www.slac.stanford.edu/exp/glast/ground/software/calibration/CalibSvcSpec.shtml#metadata> describes the per-calibration data set information we expect to keep in the database.
- http://www.slac.stanford.edu/exp/glast/ground/software/calibration/metadata_columns.html is a dump from the actual MySQL database installed on centaurusa.

calibUtil Services

- **Write** a calibration data file
 - Separate services for each calibration data type (e.g. TKR bad strips, CAL absolute energy calibration, ...)
 - Caller is isolated from details of persistent form
- **Register** a calibration
 - Identical for all calibration types
 - Adds new entry to metadata database.

calibUtil Services (cont'd)

- **Search** for a calibration data file
 - Inputs will include calib type, timestamp (during which calib must be valid), ...
 - Return is sufficient info so that appl can find and use data set.
- **Read**
 - Per-calib-type services extract data into per-calib-type classes.
 - Classes must support typical use cases.

Interface to Gaudi

Gaudi algorithms should be able to access calibration data transparently. In particular, the "right" set of constants should be available as each event is processed.

TDS classes (not for the Event TDS, but for the **Transient Detector Store** associated with the Gaudi **Detector Data Service**) will be defined for each calibration type. Some of the metadata associated with the calibration, such as validity interval, would also be stored.

The converters for these classes would use validity interval to determine if the current version of the data was appropriate. If not, calibUtil **search** and **read** services would be invoked.