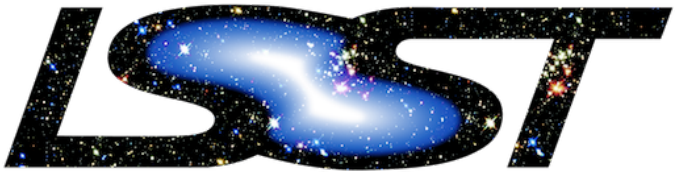

LARGE SYNOPTIC SURVEY TELESCOPE

Large Synoptic Survey Telescope (LSST)

Butler working group charge

William O'Mullane, Tim Jenness

LDM-563

Latest Revision: 2017-08-02

Abstract

This is the charge for the Butler Working Group to be convened in August 2017.

Change Record

Version	Date	Description	Owner name
1.0	2017-08-02	Initial version.	W. O'Mullane

Document source location: `https://github.com/lsst/LDM-563`

Contents

Butler working group charge

1 Scope

This Working Group is to look into the Butler layer of the Data Management System [LDM-148, LDM-463, LDM-152]. It should start immediately (2017 August 4) and finish its remit by 2017 September 29.

2 Responsibilities

The Working Group (WG) has the following responsibilities:

- Take input from a broad range of interested parties on the butler abstraction layer, and produce a document of Use Cases.
- Pin down the requirements in a written document [LDM-556].
- Rank butler requirements in terms of priority.
- The WG Chair shall convene meetings on a regular basis.
- The WG will make a recommendation as to whether a new Butler should be written, or whether the existing Butler code can be extended to meet the new requirements.
- Propose a plan for DM to achieve implementation of the Butler.
- The WG will draft a document proposing a conceptual design and implementation overview.

3 Specific tasks

3.1 Draft requirements document(s)

LDM-556 defines all the middleware requirements, and is generated from the MagicDraw SysML model. A section exists in LDM-556 that will be populated with Butler requirements. These requirements should carry priorities as used in LSE-61.

3.2 Plan to go forward

The path forward should be identified before the Working Group finishes. This should include advice to the PM, based on consulation with the relevant T/CAMs, on the distribution of work among institutes (if any) and indication of individuals responsible for different components.

3.3 Specific topics to be considered

1. **Operational considerations** The group must consider how to take care of operational constraints at NCSA.
2. **Data access** One major goal of Butler is to provide abstraction to data access – that could be with multiple implementations. How do developers access local data while allowing Condor jobs to access data on GPFS?
3. **Data format abstraction** How do we hide from the pipelines user whether data are stored in HDF5 or FITS, or whether associated metadata is coming from a database or from a file, or whether composite datasets are coming from multiple locations?
4. **Data discovery** This includes calibration logic and mappers – the distinction between simple data access (see 2) and associating data items with each other should be made clear.
5. **Expansion of partial data IDs** This must be well explained and pinned down for operations.
6. **Third-party instrument support** How can we make it easier for others to use the stack and for LSST to process precursor datasets.
7. **Subset data staging** How do we extract a subset of a dataset collection?

4 Membership

Membership on the order of seven people is optimal. The proposed membership is:

- Tim Jenness **(Chair)**,
- John Swinbank (observer),

- Colin Slater (UW),
- Jim Bosch (Princeton),
- Pim Schellart (Princeton),
- Michelle Gower (NCSA),
- Brian van Klaveren (SLAC),
- Simon Krughoff (Tucson),
- Dominique Boutigny (LAPP; external observer)

In addition K-T Lim is available as adviser. SUIT will be represented by Gregory Dubois-Felsmann on an ad hoc basis.

5 Reporting

The WG Chair shall report directly to the DM Project manager weekly.

6 References

[1] **[LDM-463]**, Becla, J., Pease, N., 2017, *Data Access Design*, LDM-463, URL https://ls.st/LDM-463

[2] **[LSE-61]**, Dubois-Felsmann, G., 2016, *LSST Data Management Subsystem Requirements*, LSE-61, URL https://ls.st/LSE-61

[3] **[LDM-556]**, Dubois-Felsmann, G., 2017, *Data Management Middleware Requirements*, LDM-556, URL https://ls.st/LDM-556

[4] **[LDM-148]**, Lim, K.T., Bosch, J., Dubois-Felsmann, G., et al., 2017, *Data Management System Design*, LDM-148, URL https://ls.st/LDM-148

[5] **[LDM-152]**, Lim, K.T., Dubois-Felsmann, G., Johnson, M., Jurić, M., Petravick, D., 2017, *Data Management Middleware Design*, LDM-152, URL https://ls.st/LDM-152