



LARGE SYNOPTIC SURVEY TELESCOPE

Large Synoptic Survey Telescope (LSST)
Data Management

LDM-503-8b (Small Scale CCOB Data Access) Test Plan and Report

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DMTR-102

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Abstract

This is the test plan and report for LDM-503-8b (Small Scale CCOB Data Access), an LSST level 2 milestone pertaining to the Data Management Subsystem.

Change Record

Version	Date	Description	Owner name
	2018-10-31	Test plan update	Butler, Comoretto
	2018-10-10	Initial version.	Butler, Comoretto

Document curator: Michelle Butler

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1 Introduction

1.1 Objectives

This test activity will demonstrate the successful execution of the major components required to transfer raw image files from the DAQ to the DBB and subsequently visualize them via the LSST Science Platform(LSP). This is a small scale proof-of-concept test designed to demonstrate that the key components can interoperate successfully.

It will specifically demonstrate that:

- Data can be transferred into the lsst data facility (LDF)
- The raw data images can be ingested by the DBB along with a subset of image and provenance metadata
- The data files can then be retrieved/viewed by the LSP

1.2 Scope

The overall test plan for the LSST Data Management system is described in LDM-503. This document specifically refers to the milestone LDM-503-8b, which tests the raw image archiving for a CCOB device

1.3 System Overview

The raw image archiving system that is part of the LSST Data Management system is responsible for the data being stored into the archive environment at the LDF from various sources. It will depend on what DAQ system (spectragraph, comcam, lsstcam, CCOB... others) as to where the data is located originally, and then how it will be sent to NCSA (LDF). The tests begin with data somewhere that needs to be stored at the archive environment at LDF and ingested into the DBB. The LDM-503-4 milestone is limited to the raw image archive from a CCOB device, specifically the DAQ, not all types of devices are included and is limited in scope.

1.4 Applicable Documents

LDM-294 Data Management Organization and Management

LDM-503 DM Test Plan

LDM-148 Data Management System Design

1.5 Document Overview

This document was generated from Jira, obtaining the relevant information from the LVV-P10 Jira Test Plan and related Test Cycles (LVV-C8).

Section 1 provides an overview of the test campaign, the system under test (Archiving), the applicable documentation, and explains how this document is organized. Section 2 describes the configuration used for this test. Section 3 describes the necessary roles and lists the individuals assigned to them.

Section 4 provides a summary of the test results, including an overview in Table 1, an overall assessment statement and suggestions for possible improvements. Section 5 provides detailed results for each step in each test case.

The current status of test plan LVV-P10 in Jira is Approved.

1.6 References

- [1] **[LDM-148]**, Lim, K.T., Bosch, J., Dubois-Felsmann, G., et al., 2018, *Data Management System Design*, LDM-148, URL <https://ls.st/LDM-148>
- [2] **[LDM-294]**, O'Mullane, W., Swinbank, J., Jurić, M., DMLT, 2018, *Data Management Organization and Management*, LDM-294, URL <https://ls.st/LDM-294>
- [3] **[LDM-503]**, O'Mullane, W., Swinbank, J., Jurić, M., Economou, F., 2018, *Data Management Test Plan*, LDM-503, URL <https://ls.st/LDM-503>

2 Test Configuration

2.1 Data Collection

Observing is not required for this test campaign.

2.2 Verification Environment

LDF center at NCSA. The archive service or data back bone.

2.3 Entry Criteria

Data that needs to be stored from a CCOB or DAQ

2.4 Exit Criteria

Data are correctly transferred to the LDF and ingested into the DBB, and can be subsequently viewed on the LSP.

3 Personnel

The following personnel are involved in this test activity:

- Test Plan (LVV-P10) owner: Michelle Butler
- Test Cycles:
 - LVV-C8 owner: Undefined
 - * Test case LVV-T284 tester: Michelle Butler
- Additional Test Personnel involved: None



4 Overview of the Test Results

4.1 Summary

Test Cycle **LVV-C8: 503-8b raw image archiving for CCOB cycle**

test case	status	comment	issues
LVV-T284	Not Executed		

Table 1: Test Results Summary

4.2 Overall Assessment

Not yet available.

4.3 Recommended Improvements

Not yet available.

5 Detailed Test Results

5.1 Test Cycle LVV-C8

Open test cycle *503-8b raw image archiving for CCOB cycle* in Jira.

503-8b raw image archiving for CCOB cycle

Status: Not Executed

Test cycle for the raw image archiving of data from a CCOB device. This data needs to be stored at the LDF and ingested so that it can be looked at by scientists. The data needs to be transferred to the LDF and then ingested into the archive service so that it can be retrieved through a butler to be displayed for further use. This should be tested with a human involved at first for moving the data and making sure all the pieces work. It should also be tested for when things are working more as a service, and without a human involved for an automatic data archive process.

5.1.1 Software Version/Baseline

The DBB version used in this campaign is 1.0, and can be found in the github repository when it has been fully developed. The current DBB is a script for scraping data from the header file and getting the file name and the metadata required along with provenence. At the time of this writing, the DBB use cases and requirements are just being written. The database component is Oracle and the ingest file systems and output file systems for DBB are in GPFS at the LDF.

5.1.2 Configuration

The configuration for this test is the data is located in a file system somewhere. It is transferred to LSST GPFS file system at LDF. Files that are needed in the DBB are moved to the DBB ingest file system. The data backbone gathers the necessary information from the headers and file name. It inserts rows into the DBB consolidated DB environment and moves the file to the DBB file systems that are used by the LSP to once again find the raw image file to be inspected for further analysis.

All files from the CCOB are to be transferred to NCSA. A directory of where the CCOB files are stored is required so that the directory can be monitored for when new files are written, they can be transferred. At the first iteration, a human will point out where the files are, and begin the execution of the “rsync” process to bring all the files to the LDF. This is so that the files can be inspected by scientists to ensure that all the files and data have been transferred. This test will be run with humans involved, and then will be run as a integrated test of the whole infrastructure.

5.1.3 Test Cases in LVV-C8 Test Cycle

5.1.3.1 Test Case LVV-T284

Open *LVV-T284* test case in Jira.

This test will check:

- The successful integration of the DAQ archiver components with the CCOB
- That the file can then be ingested into the DBB and be retrieved for further analysis

Preconditions:

None.

Execution status: **Not Executed**

Final comment:

Detailed step results:

Step	Description, Results and Status
1	Description CCOB device directs a human to where a raw file is wanted to be stored in the DBB
	Expected Result A file with a unique file name is in a file system somewhere, and the data is then transferred to NCSA.
	Actual Result

	Status	Not Executed
2	Description	Move the data from the transferred directory into the DBB foreign file ingest file system.
	Expected Result	A command is executed by a human with a file name and path to the file wanted to be stored in the DBB. The file is transferred to NCSA's DBB ingest area.
	Actual Result	
	Status	Not Executed
3	Description	The DBB is notified of a new file being in the ingest area, and the DBB ingest is run manually to ingest the CCOB file.
	Expected Result	The DBB puts the resulting file into the DBB file systems depending on what type of file it is. The DB is updated with metadata and providence of the file to be kept. The resulting file system is queryable by the LSP to find the CCOB raw image.
	Actual Result	
	Status	Not Executed
4	Description	The LSP can review and use the CCOB raw data file that was stored originally somewhere else such as slac
	Expected Result	LSP has the ability to find the file and view/use it.
	Actual Result	
	Status	Not Executed
5	Description	Have data inspected by scientist for managing that all data was transferred.
	Expected Result	a specific Okay to move forward; or something is broke.



Actual

Result

Status

Not Executed