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Data Management

LDM-503-6 ComCam interface verification readiness Test Plan and Report

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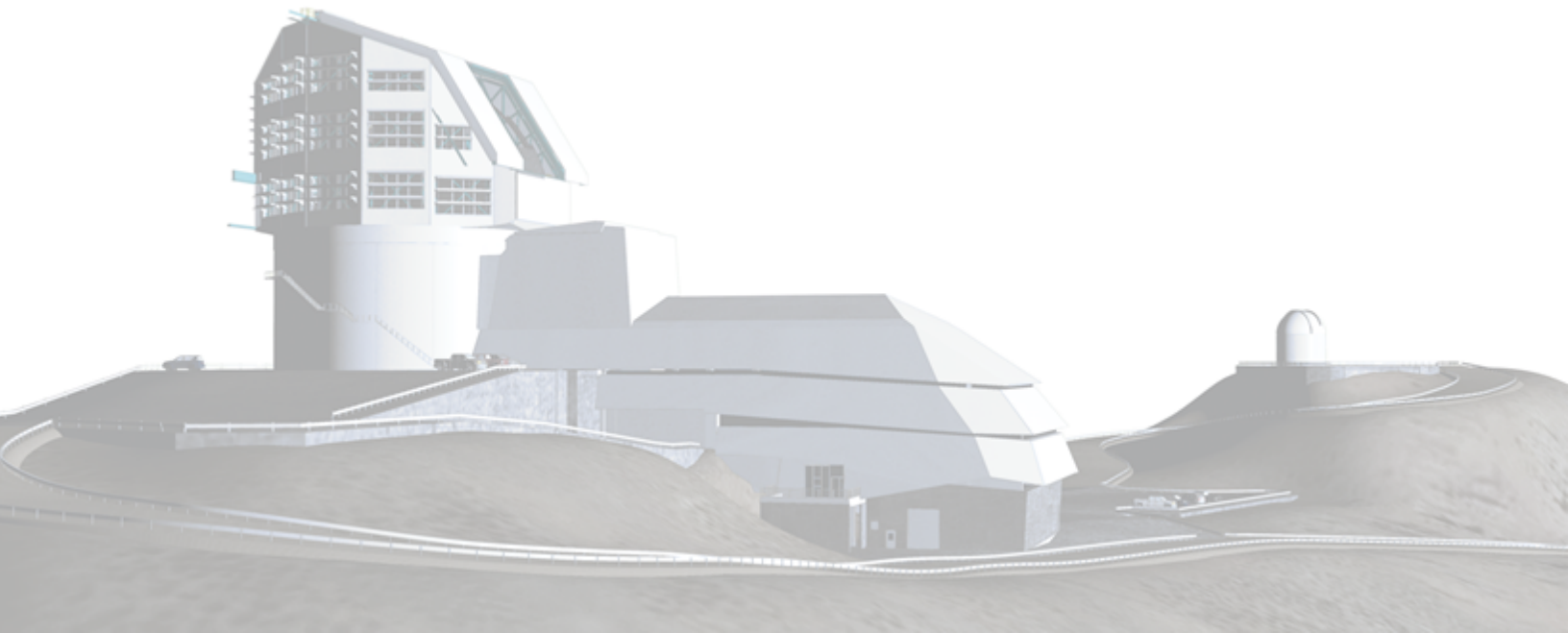
DMTN-171

Latest Revision: 2019-12-03



Abstract

This is the test plan and report for LDM-503-6 (ComCam interface verification readiness), an LSST level 2 milestone pertaining to the Data Management Subsystem.

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Change Record

Version	Date	Description	Owner name
	2019-10-16	Draft	Michelle Butler
1.0	2019-12-03	Test Plan ready for execution. DM-16074	Michelle Butler

Document curator: Michelle Butler

Document source location: `https://github.com/lsst-dm/DMTR-171`

Version from source repository: 0c39e0a

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1 Introduction

1.1 Objectives

This test will verify the readiness of the ComCam DM interface. This milestone records successful transfer of an image equivalent to one raft from the DAQ at the summit to reliable storage in the LSST Data Facility at NCSA, from where it will be made available for scientific evaluation through the LSST Science Platform There are many steps along the way from the DAQ to the L1 handoff machine, transferred to NCSA and ingested into the permanent record of the survey.

1.2 System Overview

The system includes the comcam DAQ at the summit, and the comcam DAQ network connecting the Comcam systems to the support infrastructure at the base. On the comcam DAQ network is the CC-header service system, the CC-forwarder, CC-archiver, and on a base network the L1 handoff with the OODS and DBB services. At NCSA, the DBB ingest environment, the raw image file systems, the ingested image file systems and the LSP notebook environment. This milestone includes many steps. It will ensure that image data can be acquired from the camera, a single YAML header file is generated for all 9 CCDs (or sensors), is ingested into a butler into BDC file systems, served through NFS for the base systems for quick peek capabilities, made available for DBB resources, transferred to NCSA, ingested by a butler into NCSA filesystems and made available for processing/viewing by the LSP.

1.3 Applicable Documents

LDM-294 Data Management Organization and Management
LDM-503 DM Test Plan

LDM-148 Data Management System Design

1.4 Document Overview

This document was generated from Jira, obtaining the relevant information from the LVV-P50 Jira Test Plan and related Test Cycles (LVV-C106).

Section 1 provides an overview of the test campaign, the system under test (Data Management), 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-P50 in Jira is **Approved** .

1.5 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

The verification environment includes the DAQ, cc-archiver, cc-header-service, CC-forwarder, L1-handoff, long haul network, NCSA DBB gateway environments, GPFS file systems at NCSA, and the LSP at NCSA.

2.3 Entry Criteria

Images are being taken from the com-cam environment from the summit with unique names and complete headers.

2.4 Exit Criteria

Images are being ingested and available on the LSP at the LDF for viewing and processing by science staff at NCSA.

3 Personnel

The following personnel are involved in this test activity:

- Test Plan (LVV-P50) owner: Michelle Butler
- Test Cycles:
  - LVV-C106 owner: Michelle Butler
    * Test case LVV-T1549 tester:
- Additional Test Personnel involved:
  - Test case LVV-T1549: Michelle Gower and Michelle Butler and Steve P and Felipe M.

4 Overview of the Test Results

4.1 Summary

Test Cycle **LVV-C106: LDM-503-6 Comcam verification readiness**			
test case	**status**	**comment**	**issues**
LVV-T1549	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-C106

Open test cycle *LDM-503-6 Comcam verification readiness* in Jira.

LDM-503-6 Comcam verification readiness
Status: Not Executed

Verify that the DM services required for ComCam exist and are ready to recieve a image from the comcam DAQ at the summit and transfer the file to NCSA for viewing on the LSP.

5.1.1 Software Version/Baseline

Not provided.

5.1.2 Configuration

There are many pieces here. Comcam DAQ, Header service, comcam archiver/forwarder, AT-handoff, DTN transfers, DM butler/G3, LDF file systems, LDF LSP.

5.1.3 Test Cases in LVV-C106 Test Cycle

5.1.3.1 Test Case LVV-T1549 - LDM-503-6 Comcam verification readiness

Open *LVV-T1549* test case in Jira.

Verify that Comcam has all the services running and verified working for retrieving an image from the comcam DAQ and store it on file systems at the LDF for viewing by LSP.

Preconditions:
Comcam must be at the summit and producing images with proper headers.

Execution status: **Not Executed**

Final comment:

Detailed step results:

Step		Description, Results and Status
1	Description	CC-DAQ produces an image
	Expected Result	in memory file created in DAQ
	Actual Result	
	Status	Not Executed
2	Description	Archiver and Forwarder build image with proper header from header service
	Expected Result	9 image files all with individual headers and then 1 header for all 9 images too.
	Actual Result	
	Status	Not Executed
3	Description	AT-archiver/forwarder transfers the file to the l1-handoff machine.
	Expected Result	image file now found on disk on L1-handoff with hardlinks to 2 different file systems (OODS and DBB) services.
	Actual Result	
	Status	Not Executed

4	Description	OODS service running on L1-handoff machine ingests the image file into Butler/G3 and readies the file systems for the commissioning cluster at the Base to be able to mount and see the new files.
	Expected Result	Image file ingested
	Actual Result	
	Status	Not Executed
5	Description	DBB transfers the file to NCSA thorough the DBB-gateway machines and DTN nodes at the base.
	Expected Result	data file arrives at file systems at NCSA
	Actual Result	
	Status	Not Executed
6	Description	Files are ingested into the butler/G3 at NCSA and moved to file systems that are viewable by the LSP.
	Expected Result	data can be seen and retrieved by LSP.
	Actual Result	
	Status	Not Executed

A Acronyms used in this document

Acronym	Description
BDC	Base Data Center
CC	Change Control
DAQ	Data Acquisition System
DBB	Data Back Bone
DM	Data Management
DMTN	DM Technical Note
DTN	Data Transfer Node
GPFS	General Parallel File System (now IBM Spectrum Scale)
LDF	LSST Data Facility
LDM	LSST Data Management (Document Handle)
LSP	LSST Science Platform
LSST	Large Synoptic Survey Telescope
NCSA	National Center for Supercomputing Applications
NFS	Network File System
OODS	Observatory Operations Data Service
Subsystem	A set of elements comprising a system within the larger LSST system that is responsible for a key technical deliverable of the project
YAML	Yet Another Markup Language