

Note: When lines start with double red/green bars... it means update needed for DC3b link.

DC3 Software Release Project Plan (SRPP)

from Software Release Plans

1 Introduction

Caveat

Data Challenge 3 introduces the formal specification of Baseline Project Plans.

Not every requirement stated in LSST DM Software Development Process has been implemented.

Those procedures not possible or required for DC3 will be noted in the following text.

This document is a member of the DC3 Plans defining

- Software Release Project Management (this document);
- Release Transfer Plan;
- Configuration Management;
- Verification and Validation; and
- Software Quality Assurance.

This document will primarily provide pointers to relevant documents.

1.1 Release overview

1.1.1 Objectives

Data Challenge 3 will focus primarily on the processing at the Archive Center that generates a Data Release. Additionally, data access will be exercised by large scale database queries.

From DM Baseline Presentation we have the following technical objectives for DC3

- refine the DC2 Nightly Processing Pipeline which is now know as the Alert Production;
- extend the DC2 pipelines to support Data Release Production;
- extend the DC2 pipelines to support Calibration Production;
- assess the end-to-end data quality;
- validate infrastructure and middleware reliability;

- validate infrastructure and middleware scalability to 15% of LSST required rates.

Additionally, with the institution of formal Release Project Plans during DC3, the toolset and environment enabling full Software Quality Analysis will be developed.

The Objectives were successively refined in a number of meetings:

- initial wish list collection
- ?DC3 Initial Planning Meeting
- ?DC3b Scoping Meeting I
- ?DC3b Scoping Meeting II
- ?DC3b Scoping Meeting III

1.1.2 Deliverables

Data Challenge 3 has been divided into 2 major milestones: DC3a and DC3b whose major deliverables include

- DC3a
 - ◆ infrastructure performance testing and
 - ◆ Alert Production including enhanced science capability from the DC2 release;
- DC3b
 - ◆ a Data Release Production
 - ◆ a Calibration Production and
 - ◆ a large scale database back-end.

Refer to ?DM Pipelines Overview for a visual tour of the pipelines. For a detailed graphic of the DC3b specific pipelines refer to ?DC3b Processing Flow.

1.1.3 Life Cycle Approach

Refer to LSST Software Development Plan for a description of the iterative lifecycle approach used by all DM Data Challenges.

1.1.4 Major Activities

As specified in the Objectives above, the major DC3 activities will be enhancement of the DC2 Nightly Processing Pipelines; development of the Data Release Pipelines, large scale database benchmarking, and the institution of formal Data Challenge Release Plans.

1.1.5 Milestones

Refer to

- ?Middleware Project Schedule
- ?Applications Project Schedule

1.1.6 Resource Requirements

Refer to: DC3 Hardware Platforms.

[?http://dev.lsstcorp.org/trac/wiki/DC3bHardwareRequirements](http://dev.lsstcorp.org/trac/wiki/DC3bHardwareRequirements) needs to be updated after DC3b Stage1 completes in order to create a better resource estimate for the full DC3b requirements.

1.1.7 Schedule

Refer to [DC3 Schedule](#).

1.2 Release deliverables

The DC3 deliverables include

- DC3 Software Release Project Plan (this document);
- [DC3 Configuration Management Plan](#);
- [DC3 Software Quality Assurance Plan](#);
- [DC3 Verification and Validation Plan](#);
- [DC3 Release Transfer Plan](#);
- [DC3 Release Transfer Authorization form](#);
- DC3 Final Report;
- the verified and validated enhanced-DC3 codeset which becomes the new DC4 baseline;
- and other deliverables defined in the associated DC3 Project Plans.

1.3 Evolution of the SPMP

A new version of the Software Release Project Plan is created for each DM Data Challenge and each major baseline Product Release cycle. Refer to [Release Project Plans](#) for previous Software Development Plans.

1.4 Reference materials

Refer to the [LSST Software Development Plan](#).

1.5 Definitions and acronyms

Refer to the [LSST Software Development Plan](#)

2 Release Project Organization

2.1 Process model

Refer to the [LSST Software Development Plan](#) for a description of the software development process.

2.2 Organizational structure

For the current organization structure refer to [?Data Management Organization Presentation](#).

2.3 Organizational boundaries and interfaces

The DC3 implementation does not reach beyond the domain of Data Management. As such, there are no external Interface Control Documents (ICD) required.

2.4 Project Role Responsibilities

Refer to [LSST Software Development Plan Section 1.2](#) for the roles and responsibilities of those roles.

3 Managerial Process

3.1 Management objectives and priorities

DC3 is an evolutionary step on the path to a well-specified, well-defined, algorithmically-sound, and well-performing implementation of the Data Management software in support of LSST Project goals. As such, each data challenge incorporates performance benchmarks and computational benchmarks.

3.2 Assumptions, dependencies and constraints

The DC3 Plan assumes that FTE availability across the collaborating groups is maintained over the DC3 Project duration.

DC3 is being developed entirely within the confines of the Data Management domain. As such, there are no external limiting dependencies.

Barring budgetary cuts in the DM collaborators' home institutions, there are no administrative constraints to DC3 Project's progress.

3.3 Risk management

Refer to [?DM Risk Register](#) for a detailed risk assessment of Data Management objectives pertaining to the LSST Facility Release.

3.4 Monitoring and controlling mechanisms

Monitoring and controlling mechanisms for managing the work include:

- Progress Reports
 - ◆ Monthly Progress Report [?Summaries](#)
 - ◆ Detailed Group monthly progress reports are available
 - ◇ Applications Group Monthly Reports
"http://dev.lsstcorp.org/trac/wiki/MWInfReport<date>"
 - ◇ Infrastructure Group Monthly Reports
"http://dev.lsstcorp.org/trac/wiki/AppReport<date>"
 - ◆ [?Milestones vs Ticket Completion](#)
- Working Group Meetings (notes for most meetings are posted to lsstdata email exploder)
 - ◆ DM Technical Control Team monthly [meeting](#)
 - ◆ DM System Architecture Team as-needed [meetings](#)

- ◆ Data Challenge weekly meeting
- ◆ Image Detection Working Group weekly meeting [2008](#), [2009](#)
- ◆ Infrastructure Working Group weekly [meeting](#)
- ◆ Data Access Working Group weekly meeting
- Design meetings
 - ◆ Early in the release lifecycle, architectural design meetings
 - ◆ Mid-release lifecycle, detailed design meetings

3.5 Staffing plan

TBD

This section of the plan gives the roles and total number of staff on the project.

4 Technical Process

4.1 Methods, tools and techniques

This section specifies the methods, tools and techniques to be used to produce the deliverables.

Refer to the LSST [Software Development Plan \(SDP\)](#) for a description of relevant development process and modeling tools used.

Refer to LSST SDP [Configuration Management Guidelines](#) for a description of relevant process and tools used for configuration management.

Refer to the LSST SDP [Verification and Validation Guidelines](#) for a description of relevant tools and processes used for verification and validation.

4.2 Software documentation

The following documents will be generated over the lifetime of DC3

- DC3 Project Management Plan (this document)
 - ◆ generated by DM SQA & Test Lead in concert with DM Applications and Middleware PMs
 - ◆ reviewed by DM's SM, Applications Group's PM, and Middleware Groups' PM
- [DC3 Configuration Management Plan](#)
 - ◆ generated by DM SQA & Test Lead
 - ◆ reviewed by DM's SM and SA, and Applications Group's SM and Middleware Groups' SM
- [DC3 Software Quality Assurance Plan](#)
 - ◆ generated by DM SQA & Test Lead
 - ◆ reviewed by DM's SM and SA, Applications Group's SM and Middleware Groups' SM
- [DC3 Verification and Validation Plan](#)
 - ◆ generated by DM SQA & Test Lead in concert with DM Applications and Middleware PMs
 - ◆ reviewed by DM's SM and SA, Applications Group's SM, and Middleware Groups' SM
- [DC3 Release Transfer Plan](#)
 - ◆ generated by
 - ◆ reviewed by
- [DC3 Release Transfer Authorization form](#)

- ◆ generated by
- ◆ reviewed by
- DC3 Final Report
 - ◆ generated by DM Applications and Middleware Lead Scientists
 - ◆ reviewed by DM's SM, SS and SA

4.3 Project support functions

The following documents support the project management functions:

- [DC3 Configuration Management Plan](#)
 - [DC3 Verification And Validation Plan](#)
 - [DC3 Software Quality Assurance Plan](#)
 - [LSST Software Development Plan](#)
 - [LSST Configuration Management Guidelines](#)
 - [LSST Verification And Validation Guidelines](#)
 - [LSST Software Quality Assurance Guidelines](#)
 - [?LSST DM Software Estimating Methodology \(COCOMO\)](#)
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5 Work Packages, Schedule, and Budget

5.1 Work packages

The following is the DM Work Breakdown Structure (WBS) for the Lsst Facility Release

- [?DM Work Breakdown Structure](#)

5.2 Dependencies

This section should define the ordering relations between the work packages.

Refer to [DC3/ProjectManagementPlan](#) for the DC3 Gantt chart(s).

5.3 Resource requirements

For the DC3 hardware specification, refer to [DC3 Platforms](#).

5.4 Budget and resource allocation

TBD or possibly, not TBD.

5.5 Schedule

Refer to [DC3/ProjectManagementPlan](#) for the DC3 Gantt chart(s).
