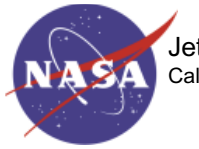

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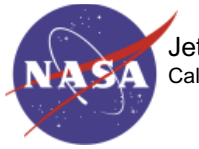
PDS Build 12.0 Test Readiness Review

Gary Chen/Richard Chen/John Engelke

Jordan Padams/Thomas Loubrieu/Emily Law/Vivian Tang

9/30/2021



Agenda

- Review Board
- Work Product Status
- System Package Delivery Status
- Test Objectives
- Test Environment
- Security Scan Results
- Known Security Risks
- Summary of Test Cases
- Key Test Cases
- Test Personnel
- Test Effort
- Testing Constraints and Risks
- Action Item Status
- Deviations
  - Waivers
  - Liens
  - ECRs
  - Other

Review Board

Board

Chair	Scott Markham
Chief Engineer	Costin Radulescu
Assurance Engineer	Eva Bokor
Security Systems Engineer	Mike Pajevski
Task Manager	Jordan Padams
Test Engineer	Gary Chen/Richard Chen/John Engelke

Customers

N/A

Work Product Status

Work Product	DMS Doc and Revision ID	DMS Document Status
Test Plan	*https://pds-engineering.jpl.nasa.gov/file/release_build_12_test_plan.v1.docx*	Version 1.0
PDS General System Software Requirements Document (SRD) version 1.1	https://pds-engineering.jpl.nasa.gov/file/pds4-system-reqs.pdf-0 https://pds-engineering.jpl.nasa.gov/file/ds4-harvest-design.pdf-0 https://pds-engineering.jpl.nasa.gov/file/pds4-preparation-design.pdf-0 https://pds-engineering.jpl.nasa.gov/file/pds4-registry-design.pdf-0 https://pds-engineering.jpl.nasa.gov/file/pds4-report-design.pdf-0 https://pds-engineering.jpl.nasa.gov/file/pds4-search-design.pdf-0 https://pds-engineering.jpl.nasa.gov/file/pds4-security-design.pdf-0, as found on https://pds-engineering.jpl.nasa.gov/content/key-documents https://github.com/NASA-PDS-Incubator/pds-deep-archive/blob/master/docs/pds4_nssdca_delivery_design_20191219.docx and https://docs.google.com/spreadsheets/d/18oqtg3DEo2KrgvBOWLSOuqF2uZtq2XmByJwUknYSZUQ/edit#gid=1170315169	Released
Test Procedures	*To be developed after TRR*	N/A
Test Anomaly & Issues (GitHub Issues)	Issues are tracked under each individual component repository, e. g. https://github.com/NASA-PDS See Release Description for links to specific repositories.	Anomalies found during system test cycles. Task tracking.
Test Support Tools	N/A	N/A
Test Report	*To be developed after testing is completed*	N/A
System Deployment Guide	See individual tool Installation Guides.	N/A
Release Description	https://nasa-pds.github.io/releases/12.0/rdd.html	N/A

System Package Delivery Status

- Software delivered for I&T as described in Release Description Document:
  - https://nasa-pds.github.io/releases/12.0/rdd.html

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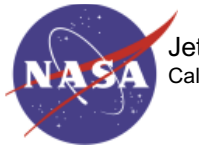
Test Objectives

- Ensure modified tools are
  - Functioning correctly
  - Meeting user needs
  - Meeting requirements



Test Environment

- The software tested can be run on any machine with sufficient resources. At EN:
  - macbook running macOS 10.14.6, 32GB memory
  - pds-int.jpl.nasa.gov, Linux 3.10.0, 8GB memory
  - Windows 10 Pro.

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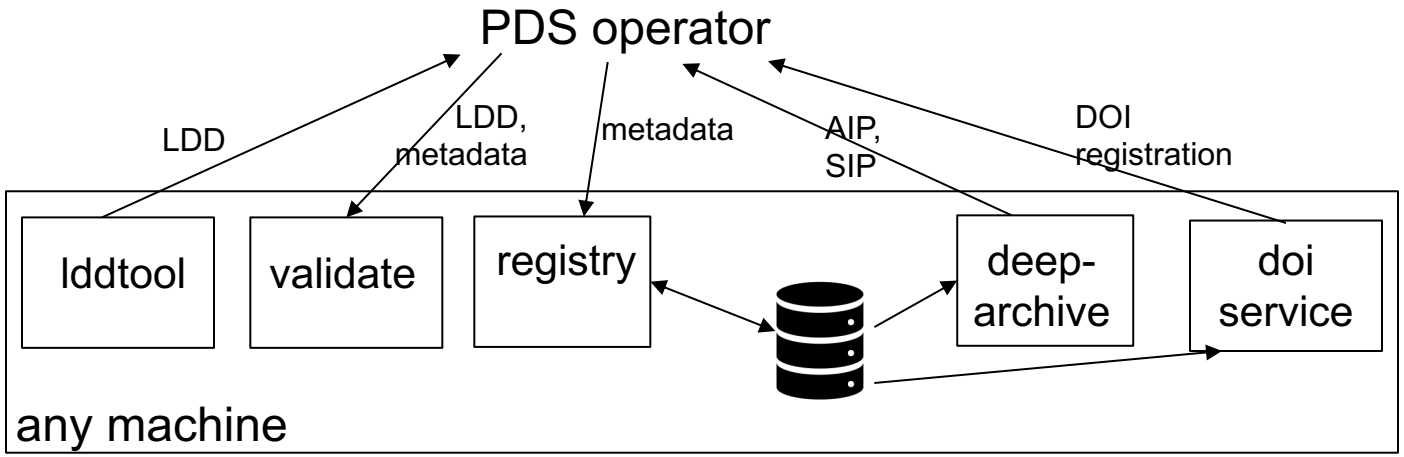
Modified Components



Component	Description	Modifications
information-model (lddtool)	creates a local data dictionary (LDD) for a specialized domain such as a mission like Mars2020 or a discipline like Imaging, PDS's base dictionary manifests the PDS Information Model. A dictionary takes the form of a schema and schematron rules.	7 improvements, 17 fixes
validate	verifies the syntactic correctness of product labels against the base dictionary and optional local data dictionaries.	14 improvements, 25 fixes, 5 requirements
registry application	receives and serves metadata about PDS products	24 improvements, 6 fixes, 10 requirements
deep-archive	creates Archive and Submission Information Packages (AIP, SIP) to be sent to NSSDC to archive data.	2 improvements, 3 fixes, 1 requirements
doi service	manages DOIs, which have been requested for products such as PDS4 bundles and PDS3 data sets	24 improvements, 11 fixes, 1 requirements

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Summary of Test Cases

Each item in the Test Plan, referenced earlier, maps 1-to-1 with an improvement, a fix, or an altered requirement that is testable in the RDD.

Key Test Cases

- PDS API + Registry Services
  - All PDS API requirements / enhancements - all of these requirements are must-have/should-have and critical basis for other components of system
    - pds-api#24 [registry] Handle PDS Supplemental Metadata
    - pds-api#76 [pds-api] Improve API Performance
    - pds-api#75 [pds-api] B12.0 API Response Improvements
    - pds-api#77 [pds-api] PDS4 Product Relationships
    - pds-api#81 [pds-api] B12.0 Improve API query handling
    - pds-api#84 [pds-api] Initial Google-like Search
- LDDTool
  - pds4-information-model#240 Improve argument handling using argument parsing library

Key Test Cases (Cont.)

- DOI Service + UI
  - pds-doi-service#187 As a SA, I want the operational deployment of the service to be secure
  - pds-doi-service#103 As the PDS, I want to mint DOIs through DataCite
  - pds-doi-ui#25 As a user, I want to search for a DOI and associated metadata by LID/LIDVID
  - pds-doi-ui#41 As a user, I want to acquire a DOI for a PDS4 product prior to it's public release of the data

Key Test Cases (Cont.)

- Validate
  - validate#367 As a user, I want to validate all files referenced by a Product_Document
  - validate#308 As a user, I want to check that all Internal References are valid references to other PDS4 products within the current validating bundle
  - validate#164 As a user, I want to validate PDF files are PDF/A
  - validate#361 validate does not check Header of a File_Area_Ancillary nor does not provide a meaningful error message for an incorrect Table_Character offset

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Test Personnel

Person	Role(s)	Assignment(s)	FTE / Days
Gary Chen	Lead EN I&T Tester	Lead PDS I&T	0.5/40
Richard Chen	EN I&T Tester	Support PDS I&T	0.25/40
John Engelke	EN I&T Tester	Support PDS I&T	0.25/40
Total			***40 days***

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Test Effort

#	Test ID	Mission	Tester	Days to Perform Test
1	information-model (lddtool)	PDS	Rchen	5
2	validate	PDS	JEngelke	5
3	registry / harvest	PDS	GChen	5
4	api/api-client	PDS	GChen	5
5	doi service	PDS	GChen	5
6	pds4-jparser	PDS	GChen	5
7	deep-archive	PDS	GChen	5
8	Archive Analysis	PDS	GChen	5
				Total days 40

Testing Constraints & Risks

- IF installation and configuration of external software packages goes poorly THEN testing of the registry will halt until solved WITH LIKELIHOOD OF 50%.
- IF DataCite's interface works poorly THEN many components of doi service will halt WITH LIKELIHOOD of 10%.
- IF software changes and fixes come in THEN those tests will need to be rerun WITH LIKELIHOOD of 90% and CONSEQUENCE OF resetting the number of days needed for testing.

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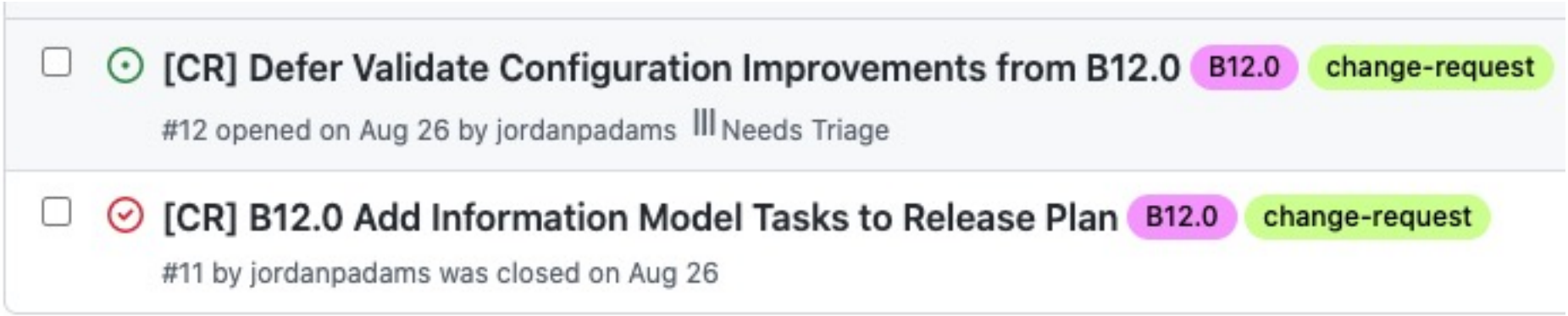
Action Item Status

- None

Deviations

"CCB" process defined with PDS Software Working Group



See details and rational on https://github.com/NASA-PDS/pds-swg/issues?q=label%3AB12.0+label%3Achange-request

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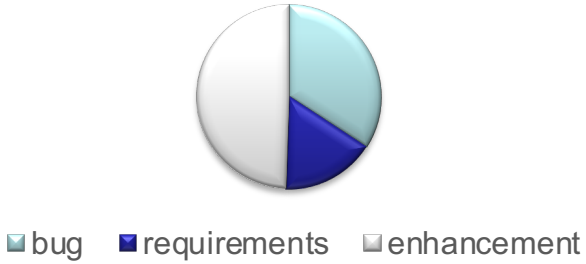
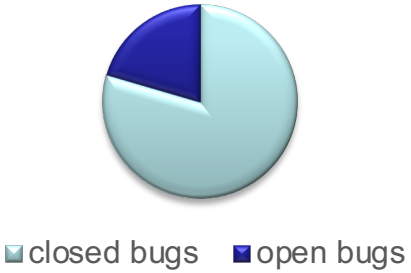
Bug metrics

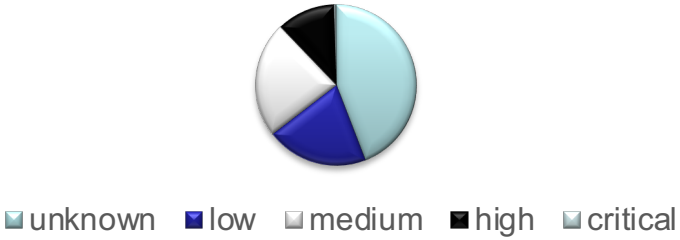
Closed tickets for build 12.0



Bug opened during B12.0 period: status



Bug opened during B12.0 period: severities



- **Not Open high or critical bug left**

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Improvements

Component	EPICS Planned	EPICS Planned realized	EPICS realized	Comment
cloud-initiative	1	1	1	
devops	1	1	4	Critical component to handle the growth of the dev team and keep our sanity
pds-api	7	7	12	A few additional requirements for example raised by the deep-archive now being a client of the API and the deployment on AWS
pds-registry-app	2	2	5	New requirements because of deployment on AWS
Deep archive	1	1	2	
DOI service	3	3	4	
UX/Web Design	6	4	4	
Information model	4	3	5	
PLAID	0	0	2	Activity managed outside the scope of the PDS Engineering Node development team
validate	3	2	2	

Backup