

A horizontal banner image featuring a sequence of celestial bodies: a blue planet (Earth), a brown planet (Mars), and a white planet (Jupiter) against a dark space background with stars. The text "Planetary Data System" is overlaid in white on the right side of the banner.

Planetary Data System

PDS 2010 System Design Report

**MC Face-to-Face
Washington, DC**

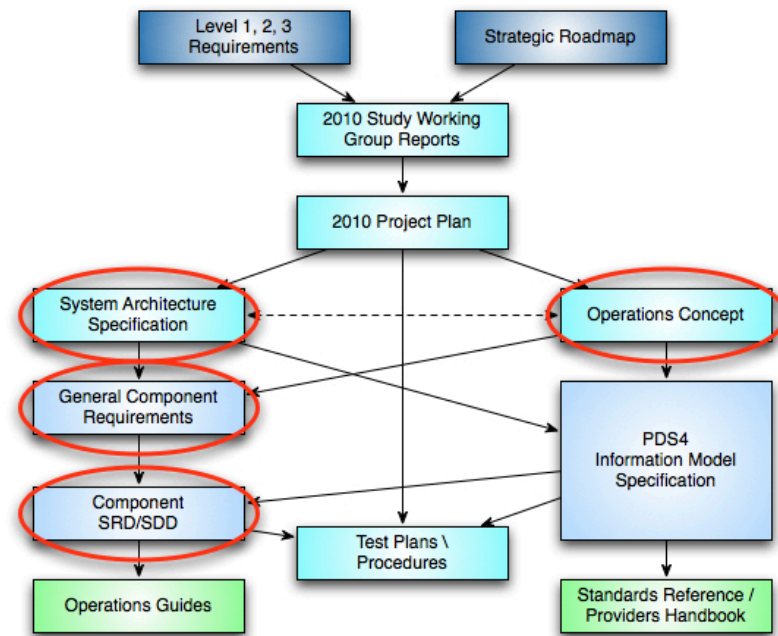
March 25-26, 2010

Topics

- Project Documentation
- Requirements/Design
- Implementation/Integration
- System Review
- Schedule

Project Documentation

- Updated the Sys Arch Spec based on recent design work
- Initial draft of the Ops Concept
- Initiated the Component Reqs
- Working on SRD/SDD for each component effort



Requirements/Design

- Actively working on identifying requirements (level 4 and 5) and preparing designs for the core components of the system.
- Early drafts of the requirements and design documents are reviewed by the System Design Working Group (SDWG).
- Comments and suggestions are captured and incorporated into following versions of the documents.

Requirements/Design

Current Efforts

- Security Service
 - Initial draft reviewed by the SDWG in November 2009.
 - Comments and suggestions incorporated in follow-on drafts.
 - Revisited the data model in March 2010.
- Registry Service
 - Initial draft reviewed by the SDWG in January 2010.
 - Comments incorporated into the recent draft.
- Harvest Tool
 - Initial draft reviewed by the SDWG in February 2010.
 - Comments incorporated into the recent draft.
- Report Service
 - Initial draft reviewed by the SDWG in March 2010.

Requirements/Design Upcoming Efforts

- Iterate through follow-on reviews of the core components focusing on specific topics (e.g., interfaces, data model, etc.).
- Preparation Tools
 - Initiate capture of tool requirements (design, generation, validation and transformation).
 - Expand documentation on using off-the-shelf tools for specific schema design.
- Search Service
 - Although not intended for Phase I deployment, we want to get this important service underway.
 - In line with review board suggestion from yesterday.
 - Have the SDWG review the initial draft of the requirements/design document in April 2010.

Implementation/Integration

- Focusing on prototyping efforts and evaluation of off-the-shelf solutions (Open Source and COTS) where appropriate.
- As the requirements and design firm up for the core components, implementation and integration efforts are initiated.

Implementation/Integration

Current Efforts

- Security Service
 - Working on the deployment and integration of an Open Source solution (OpenSSO from Sun).
 - Actively working on integration of the Security and Registry services.
- Registry Service
 - This effort is using the CCSDS Registry and Repository Reference Model as a guideline.
 - Initiated development of the REST-based interface.

Implementation/Integration

Upcoming Efforts

- Continue efforts on the Security and Registry services.
- Harvest Tool
 - Initiate investigation of existing code bases for utilization in development.
- Report Service
 - Initiate evaluation of Commercial Off-The-Shelf (COTS) software packages.
- Preparation Tools
 - Initiate prototyping for a Validation tool.

System Review

- Preparation for this effort was derived from the previously described activities.
- Areas of focus for the review:
 - System Implementation Plan
 - Detailed the approach and plans for development of the system software.
 - System Architecture
 - Detailed the provisioning of components and their interactions along with architectural decisions.
 - Service Design
 - Focused on the current efforts for the core components.
 - Tool Design
 - Identified the planned tools and their general capabilities.

Schedule

Activity Name	Duration (Work Days)	Start Date	Finish Date	2008		2009			2010				2011				2012		
				3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Concept/Study Phase...	240.00	8/20/07	7/18/08	█															
Project Planning...	133.00	1/7/08	7/9/08	█															
Architecture/System Engineering...	254.00	7/10/08	6/30/09	█	█														
Projects	911.00	11/21/08	5/18/12			█	█	█	█	█	█	█	█	█	█	█	█	█	█
P1. Data Standards Project...	455.00	1/2/09	9/30/10			█	█	█	█	█	█	█	█	█	█	█	█	█	█
P2. Distributed Infrastructure Project	911.00	11/21/08	5/18/12			█	█	█	█	█	█	█	█	█	█	█	█	█	█
<i>Implementation Plan</i>	20.00	1/5/09	1/30/09			█													
<i>Technologies and Standards Identification</i>	140.00	11/21/08	6/4/09			█	█												
<i>Phase I (Security, Report, Registries)...</i>	270.00	2/9/09	2/19/10			█	█	█	█	█	█	█	█	█	█	█	█	█	█
<i>Phase II (Registries, Dictionary, Service)...</i>	215.00	10/26/09	8/20/10					█	█	█	█	█	█	█	█	█	█	█	█
<i>Phase III (Search)...</i>	155.00	6/7/10	1/7/11							█	█	█	█	█	█	█	█	█	█
<i>Phase IV (Storage)...</i>	165.00	10/3/11	5/18/12																█
P3. Tools Project	595.00	11/16/09	2/24/12						█	█	█	█	█	█	█	█	█	█	█
<i>Requirements</i>	100.00	11/16/09	4/2/10						█	█	█	█	█	█	█	█	█	█	█
<i>Validation Tool</i>	120.00	4/5/10	9/17/10							█	█	█	█	█	█	█	█	█	█
<i>Design/Generation Tool</i>	170.00	7/5/10	2/25/11								█	█	█	█	█	█	█	█	█
<i>Transformation Tool</i>	230.00	3/1/11	1/16/12																█
<i>Visualization Tool</i>	170.00	7/4/11	2/24/12																█
P4. Distributed Catalog System Project	688.00	9/30/09	5/18/12						█	█	█	█	█	█	█	█	█	█	█
<i>Implementation Plan</i>	15.00	9/30/09	10/20/09																█
<i>Requirements</i>	53.00	10/21/09	1/1/10								█	█	█	█	█	█	█	█	█
<i>Phase I (Inventory, Document, Harvest)...</i>	325.00	1/4/10	4/1/11								█	█	█	█	█	█	█	█	█
<i>Phase II (Ingest)...</i>	120.00	12/5/11	5/18/12																█
P5. Portals, Search and Distribution Project...	425.00	10/4/10	5/18/12																█
P6. Data Movement and Delivery Project...	171.00	10/1/10	5/27/11																█
Builds...	690.00	11/9/09	6/29/12								█	█	█	█	█	█	█	█	█

Questions / Comments