

PDS4 RESPONSES TO THE USER SURVEY

Report Recommendation/Comment	PDS3	PDS4 Plans	Comments
I. Data Formats			
<p><u>Recommendation:</u> Provide more uniform data formats across missions to third-party tools</p>	<p>In PDS3, the data was ingested, archived and distributed in the archive format. A few instances existed where data was transformed during distribution.</p>	<p>In PDS4, the system explicitly separates the ingestion, archive and distribution functions of the system. PDS will have the ability, over time, to improve support to distribute data in popular formats.</p>	<p>Much of this is dependent on having sufficient budget to provide enhanced user support. The redesign of PDS for PDS4 allows this to be a extensible capability based on available funding.</p>
<p><u>Issue:</u> Data formatting: scientists need to get data out of the PDS, but many times the PDS data standards don't match their own so they must figure out how to translate archived data into workable formats</p>	<p>In PDS3, the data was ingested, archived and distributed in the archive format. A few instances existed where data was transformed during distribution.</p>	<p>In PDS4, the system explicitly separates the ingestion, archive and distribution phases of the system. PDS will have the ability, over time, to improve support to distribute data in popular formats.</p>	
<p><u>Issue:</u> Similar things happens when a science team is ready to put data into the PDS – they must convert data into PDS standard formats</p> <p><u>Issue:</u> Everyone agrees that standard formats are a good thing, it's that the</p>	<p>In PDS3, progress has been made in addressing this concern by working with the missions early. This philosophy has been transferred to PDS4.</p>	<p>While PDS is doing everything it can to adopt best practices (e.g., labels developed in XML), sufficient progress has been made in addressing this concern by pushing tools (e.g., design, generation, validation) along with a robust model to the missions. This is all planned to</p>	<p>It is important to point out that proposal teams did propose to do this AND were selected on that basis. If they did not cost it adequately that is not a problem of the PDS. We can start early and help them if they will let us.</p>

conversion processes are lengthy and sometimes difficult		be available as part of PDS4.	
II. User Services and Support	PDS3	PDS4	Comments
<u>Recommendation:</u> Support the user's mental model	User's mental models supported through Discipline Node services and support.	In PDS4, the "services" aspect of the system design should allow more user services at the DNs to be added over time as funding allows. There is still an important aspect of ensuring that advanced/higher order data products are delivered.	At a very minimum, the very nature of the PDS organization is to address this problem. The Discipline Nodes have advisory groups that provide guidance in prioritizing user services. While they are limited, however, if advanced products are not delivered to the PDS, users will be left on their own.
<u>Recommendation:</u> 100% consensus among participants that the main audience for PDS is the senior scientist and the scientific community at large		Target of PDS4 should be early career scientists (academics, postdocs, graduate students) who work with senior scientists and are familiar with modern search tools and analysis software.	Where we target the system is important. If users are used to online tools, then that provides good support to PDS to develop a quality online presence using modern web technologies that early career scientists can take advantage of.
<u>Issue:</u> While scientists appreciate and find it useful to have a node that matches their field of study, they are most interested in going directly to the activity they came to the PDS to do		A major objective of PDS4 is to improve the integration of PDS allowing for a good balance between centralized and discipline specific functions. The integration of the system is intended to better leverage and	This could be in conflict with embracing the user's mental model where discipline specialization is required. PDS has each Discipline Node provide very specific support to their communities that

		integrate the excellent functions across the PDS. This is the purpose of a “service-oriented” architecture.	works well. The challenge is in cross-node integration that is being better addressed in PDS4.
III. Search	PDS3	PDS4	Comments
<p><i>Issue:</i> We learned for some PDS data there are either no existing search facilities, or the facilities that exist have limited functionality</p> <p><i>Issue:</i> To overcome these limitations, many users download all the data and create their own search systems and databases</p> <p><i>Issue:</i> While this is a credit to the PDS that there is sufficient information to do this, users are not doing this as an end goal and would prefer not to</p>	<p>PDS was transformed from an offline era to an online era during PDS3. That successful transition was important for the PDS, however, to become a fully integrated system overtime, PDS needs PDS4 that addresses registration, tracking, consistent metadata, transformation and other end user services design for and integrated into an online system to provide an extensible approach to adding user services overtime.</p>	<p>The PDS4 architecture provides is extensible allowing for improvements in user services including search, access and transformation. It is planned that every product available online will be registered and can be made available to PDS search service(s).</p>	
<p><i>Recommendation:</i> Users often specified they preferred centralized searching even if it meant the results might not be customized for their science discipline – they would be willing to be guided to a more specialized tool once they had the big picture</p>		<p>Rather than moving the direction of centralized or distributed searching, the PDS4 plan is to improve <u>integrated</u> search. This means ensuring that the system as a whole is well integrated so users can be directed to the best user services to help them find,</p>	<p><u>Integrated Search</u> really seems like the appropriate term. Given the diverse needs of the community and the data, a one size fits all search isn’t possible. Likewise, having a number of disparate search engines reduces the overall user</p>

		access and transform data of interest for analysis.	experience. The goal is to ensure PDS search functions are integrated to get PDS to data as quickly and intuitively as possible.
<p><i>Issue:</i> Users are successful in finding data with the current approach, but they often felt they might have missed data in their search and wish there was a way to “know for sure” they have found all the relevant data</p>		It is the objective of PDS4 to ensure that every data product is registered and tracked which will allow it to be searched and accessed. The upgrade of registering and tracking the data products as a system is critical to being able to ensure that every product can be searched for.	PDS will never be able to fully address the question of “did I miss something”. However, the PDS4 model will help in that data and associated products (e.g., documents) can be completely referenced in search results and websites.
IV. Level of Integration	PDS3	PDS4	Comments
<p><i>Recommendation:</i> Successful tools such as the Rings’ Opus tool, Ames’ Volume Validator, Geosciences’ Mars Orbital Data Explorer are only available on a single Node web site, and users feel these need to be better publicized across the Nodes</p>		It is the objective of PDS4 to continue to ensure that PDS is as well integrated as possible including sharing of tools, services, and data across nodes. All tools are planned to be registered.	