

Imaging Node

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**PDSMC Face-to-Face Meeting
Westwood, CA - UCLA
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Mission Highlights

Imaging Node Data Holdings & Deliveries: July 2014 status

	Q1 Release	Q2 Release	Q3 Release	Q4 Release	FY14 Volume in TB	Overall Volume in TB (end FY13)	Overall Volume in TB (end FY14)
CAS/ISS	14.8 GB (10/1/13)	13.6 GB (1/2/14)	16.0 GB (4/1/14)	12.5 GB (7/1/14)	0.05	0.5	0.55
CAS/RADAR	.2 GB (10/1/13)	.1 GB (1/2/14)	1.9 GB (4/1/14)	4.3 GB (7/1/14)	0.01	0.1	0.11
CAS/VIMS	8.2 GB (10/1/13)	7.9 GB (1/2/14)	13.7 GB (4/1/14)	9.5 GB (7/1/14)	0.04	0.17	0.21
MO/THEMIS	67.0 GB (10/1/13)	75 GB (1/2/14)	200 GB (4/1/14)	140 GB (7/1/14)	0.5	11.4	11.9
MER/Cameras	48 GB (11/14/13)	88 GB (3/7/14)	87.6 GB (5/23/14)	43 GB (8/23/14)	0.3	6.89	7.19
MRO/HIRISE	2.5 TB (12/2/13)	2.0 TB (3/1/14)	5.5 TB (6/1/14)	5.0 TB (9/1/14)	15	98.1	113.1
MRO/MARCI	35 GB (12/2/13)	50 GB (3/1/14)	57 GB (6/1/14)	70 GB (9/1/14)	0.25	1.94	2.19
MRO/CTX	86 GB (12/2/13)	148 GB (3/1/14)	169 GB (6/1/14)	200 GB (9/1/14)	0.6	6.64	7.24
MSL/Haz/NavCAM	817 GB (12/13/13)	1.0 TB (3/17/14)	n/a	1416 GB (8/1/14)	3.2	1.5	4.7
MSL/MARDI	1.7 GB (12/13/13)	1.9 GB (3/17/14)	n/a	5.0 GB (8/1/14)	0.09	0.1	0.19
MSL/MastCAM	85 GB (12/13/13)	84.6 GB (3/17/14)	n/a	133 GB (8/1/14)	0.3	0.2	0.5
MSL/MAHLI	22 GB (12/13/13)	16.6 GB (3/17/14)	n/a	52 GB (8/1/14)	0.1	0.01	0.11
MESS/MDIS	n/a 24.0 TB (12/15/13)	2.0 TB (3/7/14)	n/a	500 GB (8/15/14)	2.5	1.07	3.57
LRO/LROC		22.0 TB (3/15/14)	19.6 TB (6/15/14)	25.0 TB (9/15/14)	91	381.2	472.2
LRO/LAMP	290 GB (12/15/13)	223 GB (3/15/14)	286 GB (6/15/14)	270 GB (9/15/14)	1.1	4.69	5.79
CH/M3	n/a	n/a	n/a	n/a	0	5.04	5.04
					115.04	519.55	634.59
Red text indicates volume estimates							

Mission Highlights

- **Active Missions (work in addition to nominal releases)**

- Nominal on-time releases for Cassini, LRO, Messenger, MER, MRO, MSL and Odyssey
- **MRO HiRISE:** Created package of sample HiRISE superseded data and documentation for archive at NSSDC. Requested removal of HiRISE superseded data held at SDSC.
- **Odyssey THEMIS:** Preparing for data reprocessing (review of new volume structure & documentation, keyword updates, and preliminary validation of test volume); new data set version required, possible new peer review(s)
- **MER cameras:** OPGS/MIPL is upgrading product labels after adopting MSL's automated pipeline, sample products distributed to users; Appendices to be added to the SIS to explain differences and clarify mosaic file naming conventions
- **Cassini RADAR:** Zebker shape model for Titan expected in 2015
- **MESSENGER MDIS:** Peer reviews underway for high- & low-incidence monochrome global maps, low-phase color map, high-resolution regional mosaics (monochrome & color); DEM data product release delayed to FY15; need resolution of new radius used in products
- **MSL Engineering Cameras:** Mosaic data set volume first released on March 17 and is now in sync with rest of the project; Peer Review of MSL 'Places' dataset planned for November 2014 (pending ITAR/Export Control approval)
- **MSL MAHLI, MARDI, MASTCAM (MMM):** Team re-delivered reprocessed volumes 1-5 for all three instruments (15 volumes total) which were subsequently re-released at IN on August 1 along with regular Release #6

- **Past Missions**

- MGS MOC RDRs posted online in Pre-Peer Review state

Mission Highlights

- **Developing missions**

- **Insight** (PDS4): GEO is lead, Amy Culver is POC
 - The archive development schedule slipped due to changes in the camera design and flight software updates
 - The peer review has been deferred from 8/14 to 4/15
 - The ICD for the cameras has been updated to remove references to the ICC/IDC team, and is back in signature cycle
 - SISes for both the camera data and archive bundle have been drafted and are undergoing internal review by Imaging, MIPL and the InSight camera representative
 - The Imaging dictionary is in good shape to support the camera raw data products. *Need the Geometry dictionary for landed data to be firm by 11/1/14 to adhere to current archive development schedule.*

PDS4 Activities

- **Development**

- InSight-focused activities (previous slide)
- Participated in DDWG Tiger Teams: Spectra, Cartography, Geometry
- Developed a draft Geometry dictionary with input from flight projects and NAIF; significant elements of this were incorporated into the current working model
- Collected feedback on Spectra, Display, Cartography and Imaging dictionaries; new versions of all to be released later in 2014
- Continued development & maintenance of "Generate" tool, added suite of regression tests for local data dictionaries

- **Data Migration**

- Continued updates to previously migrated data products, associated with dictionary development and testing

PDS4 Activities

- **Staff time (WY) supporting DDWG & tiger teams**
 - Isbell (USGS): 0.07 FTE
 - Rye (JPL): 0.07 FTE
- **Staff time (WY) supporting IMG LDDs, InSight development, migration, testing & training**
 - Isbell (USGS): 0.15 FTE
 - Rye (JPL): 0.08 FTE
 - Culver (JPL): 0.15 FTE
- **Staff time (WY) supporting CCB**
 - Hare (USGS): 0.1 FTE

Notes:

- Year to date
- Rye's funding comes from EN & IMG. Above represents all of her IMG time.

Miscellaneous

- **NSSDC deliveries:**

- NSSDC NAS (2x30 TB) back at NSSDC
 - LRO-LROC EDRs (Releases 1-5)
 - Security scans complete at NSSDC
 - Ingestion step pending

- **WAN upgrade at USGS**

- Microwave system with dedicated 100 Mbps line for PDS servers; dish now installed
- System testing indicates ~120 Mbps transfers
- Expected to be operational on or before Oct 1, 2014

2nd Planetary Data Workshop

- **2nd Planetary Data Workshop**

- Gaddis will write an unsolicited proposal in association with PDART (Sept 2014) or LDAP (Oct 2014) proposal
- Planned for Flagstaff, **June or July 2015**; every two years
 - Avoids Senior Reviews, Geologic mappers meetings, etc.
- Partner with PDS nodes, USGS/Cartography, RPIFs
- LPI staff to provide logistical support
 - Especially helpful for local logistics and facilities rental
 - USGS procurement process has improved, but remains an uncertain partnership, so best to side-step it
- 2012 meeting report (USGS Open-File Report) now available:
 - <http://pubs.usgs.gov/of/2014/1056/>

- *<http://astrogeology.usgs.gov/groups/Planetary-Data-Workshop>*

Next 5 Years: 2015-2019

- **Archive growth & data management remain significant**
 - About 110 TB/year – LROC is primary driver
 - Major continual effort required for management of hardware & data
 - PDS3 formats are dominant for active missions
- **Challenges for PDS4**
 - Significant PDS4-related work is added to ongoing work
 - Detailed discipline and mission portions of the PDS4 model need significant work (e.g., cartography/map projection, calibration)
 - Need a plan and schedule for node initiatives and collaboration
 - Difficult to support users of both PDS3 & PDS4 data and services
 - ~25% of IMG data may require manipulation for PDS4 compliance
 - Risk in manipulating the archived data to conform to PDS4 standards
 - Don't want to disrupt ongoing missions (e.g., Cassini) & research
 - Emphasis is on-demand processing & translation capabilities
- **Tools for data providers & nodes**
 - “Generate” tool maintained and modified as needed by IMG
 - Need training in PDS4 for data providers, PDS MI folks, etc.