3nd IPDA Steering Committee Meeting
11-12 July 2008, Montreal

Minutes of Meeting
IPDA-MOM-003

Participants: (SC members underlined)

Name	Affiliation
Reta Beebe (RB)	PDS (Atmospheres, PDS Project Scientist), USA
Dan Crichton (DC)	PDS (Engineering JPL), USA
David Heather (DH)	PSA (ESA/ESTEC)
Steven Hughes (SH)	PDS (JPL), USA
Kasaba, Yasumasa (YK)	Tohoku Univ., Japan
Jesus Salgado (JS)	ESA (ESA/ESAC)
Gerhard Schwehm (GS)	ESA (ESA/ESAC)
Iku Shinohara (IS)	ISAS/JAXA, Japan
Gopala Krishna (GK)	ISRO/SAC, India
Maria Teresa Capria (MTC)	IASF/INAF, Italy
Thomas Roatsch (TR)	DLR, Germany
Peter Allan (PA)	RAL, U K
Ed Guinness (EG)	PDS/Geoscience, USA
Masanao Abe (MA)	ISAS/JAXA, Japan
Yukio Yamamoto (YY)	ISAS/JAXA, Japan
Alain Sarkissian (AS)	CNRS, France
Pedro Osuna (PO)	PSA (ESA/ESAC)
Mike A'Hearn (MAH)	PDS (Small Bodies), USA
Richard Moreno (RM)	France

List of Action Items (end of SC meeting):
AI-1: (MTC) prepare and submit a paper on IPDA concept and scopes.
AI-2: (DC) prepare and submit a paper on IPDA system architectures.
AI-3: (JS, DC, SH, IS, YY) as team leaders of new approved projects fill the project template and send it to the Steering Committee.
AI-4: (MTC) prepare and submit to the Steering Committee a proposal about the updating and management of the IPDA web site.
AI-5: (MTC) find dates for the next SC meeting (June/ July 2009)
AI-6: (PO) circulate a text with description and scopes of the IPDA Technical Group and ask for membership

Friday 11th July 2008

Introduction and IPDA status report

Welcome and Introduction (M.T. Capria)
[SC3_agenda]

MTC welcomes all participants. The proposed agenda is accepted as it is. A social dinner has been organized in the evening at a restaurant in "Vieux Montreal".

Status of IPDA (M.T. Capria)
[SC3_P1_Introduction]

MTC presents the last year news about the SC: Canadian Space Agency has joined the SC, but still needs to nominate its representatives. Francesco Carraro (ASI representative, Italy) has been substituted by Paolo Giommi. Arnaut Lucas(France) has joined the SC. MTC presents the list of IPDA official presentations at national and international meetings. After that, the chairwoman briefly illustrates the key points to be discussed during the meeting:

- *the old and new projects*
- *the interaction with a wider scientific community*
- *the interaction with the international institutions*

MTC ask to discuss immediately on two minor points: the necessity to publish about IPDA on refereed journals, and the necessity to improve and better use the web site. MTC has some difficulty in doing it alone, and is asking for help.
On the first point, it is agreed that MTC will write a paper on concept and scopes of IPDA (AI-1), while DC will take care of a paper on IPDA system architecture. On the second point, everybody agrees. PO suggests the creation of a technical support group, to take care of this and similar problems. This particular proposal will be discussed the day after.

Agencies/institutions reports

A series of reports from the SC members follows:

Report from Reta Beebe (representing NASA/PDS)
[SC3_P2_NASAReport]

RB reports about the PDS structure and functioning. Plans for a new version of PDS (PDS2010) have been presented at the recently held Management Council. These plans include an update to PDS Archive Data Standards that will be useful for IPDA. PDS nodes are supporting a number of non-NASA (Kaguya, Rosetta, Chandrayaan-1, Venus Express) and NASA missions (LRO, Cassini, Dawn, Juno, New Horizons…).

AS asks if there are plans for a node devoted to extrasolar planets. The answer is no plans.
MTC asks about the plans for the completion of the new version of PDS. RB answers that to the moment only the work scheduled until the end of 2008 has been approved.

Report from Dave Heather (representing ESA/PSA)
[SC3_P3_ESAReport]

DH presents an update of the situation of the Planetary Space Archive, the ESA initiative to preserve, manage and distribute all the data from ESA's spacecrafts to planetary bodies. After a presentation of the services offered, DH reports on the available and incoming datasets. DH then explains the successful collaboration between ESA and NASA, focusing on the problems and PDS/PSA standard divergences and lessons learned. Besides small PDS/PSA standard divergences, DH underlines another problem: the incomplete delivery to the scientific community by some experimenter teams on the on-going planetary missions as calibrated data deliveries are not available in time. This is often due to an inadequate funding of the teams.

Report from Gopala Krishna (representing ISRO)
[SC3_P4_ISROReport]

GC reports on the Indian Space Science Data Center, devoted to the preservation of space data from Indian missions. The first datasets to be archived, following the PDS standard, will be those from the lunar mission Chandrayaan-1. GK illustrates the archive plan. The ESA-PSA archiving team will give support and advice on any archiving matters. The long term archive including the review process is the responsibility of the ISDA (ISRO Science Data Archive) team for all instruments, including those provided by other agencies. GK underlines some important issues:

- *Implementation of IPDA guidelines and standards*
- *Definition, and availability, of 'sample data sets' fully compliant with IPDA standards and their availability: this could be very useful for people working on the preparation of archive data sets.*
  - *Incorporation of some new mission modes for imaging payloads; related information and guidelines*
  - *Definition of 'sample data tools' fully compliant with IPDA standards*
- *Availability to the IPDA members of tools developed under projects*

After some discussion, it is generally agreed that the technical group that PO is going to formally propose could take care of the above listed issues.

Report from Thomas Roatsch (representing DLR)
[SC3_P5_DLRReport]

TR reports on the archiving activities at DLR. They have already delivered to PSA high level PDS datasets from Mars Express, Venus Express and Cassini. They are also involved with Europlanet, a European community funded program for the coordination of planetary sciences in Europe.

Report from Maria Teresa Capria (representing ASI)
[SC3_P6_ASIReport]

MTC reports on the ASI Science Data Center (ASDC), a facility located at the ESA establishment of ESRIN in Frascati, close to Rome. The ASDC main task is to support all space missions in which ASI is involved dedicated to the Observation of the Universe in the management and in the long-term preservation of scientific data. Regarding the data coming from planetary missions (Cassini, Rosetta, Venus Express, Mars Express and so on) ASDC will distribute the data only to instrument coinvestigators.

A brief discussion on the risks of parallel activities follows. In these cases, the data distribution should be password protected.

Report from Alain Sarkissian (representing CNRS)
[SC3_P7_CNRSReport]

AS reports on the various activities related to archiving and exploitation of planetary data in France, some of them related to the Virtual Observatory initiative. There are various institutes involved: CESR, OBSPM, LESIA…, and numerous useful databases are being made available to the public.

Report from Peter Allan (representing BNSC)
[SC3_P8_BNSCReport]

PA reports on the structure of BNSC and on the planetary missions in which it is involved. BNSC keeps extensive archives of astronomical, atmospheric and Earth observation data and uses ESA or NASA for planetary archives.

[Report from Yukio Yamamoto](#) (representing JAXA)
[SC3_P9_JAXAReport]

YY gives an overview of the organization and structure of JAXA, and of its current and future involvement with planetary missions. YY reports also on the JAXA involvement in IPDA projects and activities.

Reports on IPDA projects approved on July 2007

A sequence of IPDA project reports follows:

[IPDA Top Level Requirements project](#) (Dan Crichton)
[SC3_P10_ReqProjectReport]

The project is successfully finished*. DC presents the requirements (level 1 and 2) and asks for suggestions about how to go on: an architecture project or a technical group for discussion on system-engineering related projects and topics?*

[Banner/LogoIPDA project](#) (Thomas Roatsch)
[SC3_P11_BannerProjectReport]

The project is successfully finished*, and all the planned deliverables are available on the IPDA website.*

GK says that these deliverables are difficult to find. MTC answers that the document section should be improved.

Due to various reasons, no or little progress has been made on the projects Small Bodies Interoperability demonstrator, Interoperability: query model, PDAP assessment of draft protocol. They will be proposed again for the next year.

[Small Bodies Interoperability demonstrator project](#) (Iku Shinohara/Masanao Abe)
[SC3_P12_SBInteropDemProjectReport]
[SC3_P13_Hayabusa Archives]

After a short report by IS on the reasons why the project is not yet finished, MA presents the status of Hayabusa PDS archives, necessary for the fulfillment of the project.

[Interoperability: query model project](#) (Iku Shinohara/Yukio Yamamoto)
[SC3_P14_Interop_QueryModelProjectReport]
[SC3_P15_Kaguya_testbed]

IS reports on the reasons why the project is not yet finished and on the future plans. As an interoperability demonstrator, YY shows the testbed developed by the Kaguya team.

[PDAP, assessment of draft protocol project](#) (Yukio Yamamoto)
[SC3_P16_PDAPAssessProjectReport]

Some progress has been made on this project. YY presents its schedule: use-case analysis will start from the end of July 2008, while assessment contents and documents will be prepared by the end of December 2008.

[Data Dictionary modeling project](#) (Steve Hughes)
[SC3_P17_DataDictProjectReport]

The project is successfully finished. *SH presents its main conclusions. The ISO/IEC 11179 Metadata Registry standard was designed to provide a common data model. An ISO/IEC 11179 Data Model has been developed. A ISO/IEC 11179 compliant database has been configured. The content of the Planetary Science Data Dictionary is being test loaded.*

Venus Express Interoperability project 1 *(Reta Beebe)*
[SC3_P18_VEXInteropProjectReport_1]

The team leader, Nancy Chanover, is not present so the presentation is given by RB. Aims of the project were: 1) provide access through the PDS Atmospheres Node to the Venus Express data, which will be archived in ESA's Planetary Science Archive (PSA); 2) develop standard interoperability protocol that can be applied to other mission data sets. ***The project is not finished****: VEX data are still undergoing peer review (lien resolution), so data are not yet publicly available online through the PSA interface. Demonstration of interoperability protocol is being performed with Huygens data, which is available online both through the PSA and through the PDS Atmospheres Node. Two efforts are being pursued in parallel: at PDS/ATM, retrieve VOTable files from PSA and provide direct links to data products; at PSA, develop interoperability interface.* ***The project should be completed by December 2008.***

Venus Express Interoperability project 2 *(Jesus Salgado)*
[SC3_P19_VEXInteropProjectReport_2]

JS illustrates the work being done at PSA and explains the PDAP (Planetary Data Access Protocol) approach for the VEX project. A beta version of the PSA Archive InterOperability (PAIOv2.0b1) Subsystem has been released, including Data Set files VOTable representation for all the public datasets at PSA.

Saturday 12th July 2008

Presentation of Cospar resolution

Proposed resolution on international access to planetary and lunary data *(R. Beebe)*
[SC3_P20_COSPARResolution]

RB illustrates the resolution that will be presented for approval at the Cospar Commissions B business meeting. The core of the resolution is a series of recommendations about the role of IPDA and funding agencies.

Presentation of a MOU on data sharing *(Mike A'Hearn)*
[SC3_P21_MOU]

MAH presents a draft of a MOU that should apply to NASA/ESA missions and endorse the principles that would apply to archiving for all multi-agency missions.

After a brief discussion the MOU is accepted. RB says that this MOU will be of help when SPICE is needed outside the USA.

New IPDA projects, presentation and discussion

This part of the meeting is devoted to the presentation and discussion of the projects on which the teams will be working in the next months.

Documentation requirements projects *(Maria Teresa Capria)*

[SC3_P22_DocumentationNewProj]

MTC presents 3 projects dealing with documentation requirements problems. The first project is about archiving text files written without using alphabetical characters, such as chinese characters. The second one is about the archival of algorithms instead of source codes: to this end, a formal way to describe an algorithm should be defined. The third project is about the use of proprietary data formats: these formats should be discussed, and recommendations issued to minimize the possible loss of archived information.

After a discussion, it is decided that the second project (formalization of algorithms description) is rejected, because it is considered too difficult and probably useless. The first and third projects could be useful, but it is felt that they can be deferred until more fundamental parts of the IPDA reference system architecture. It is suggested that the two projects will be presented again at the next SC meeting as a project on documentation requirements, in a slightly different form.

Inter-operable PDAP implementations (Pedro Osuna)
[SC3_P23_InteropPDAPNewProj]

PO proposes an inter-agency project with the aim of implementing access to different missions' data by using the PDAP protocol. The proposed leader is JS.

After a short discussion the project is approved.

Small bodies interoperability (Iku Shinohara)

After a short discussion the project is approved.

PDAP assessment (Yukio Yamamoto)

After a short discussion the project is approved.

IPDA Architecture and Standards Definition (Dan Crichton)

DC proposes a project aimed at the definition of the critical architecture and related standards necessary to support construction of IPDA-compliant archive systems derived from the level 1/2 requirements. In addition, a technical paper will be produced that can be also submitted to a journal and/or conference (AI-2).

 After a short discussion the project is approved.

IPDA Information Model and Data Dictionary (Steve Hughes)

SH proposes a project that is a continuation of the IPDA Archive Data Standards Requirements Identification Project. The team leader is SH.

The project is quickly approved.
A project template will be sent by MTC to the new appointed projects leaders. They will fill it and send it back to MTC (AI-3).

Interrelations with other activities and institutions (Europlanet, IVOA, Small Bodies/Mars/Moon Exploration Working Groups)

This part of the meeting is devoted to the unavoidable interrelations of IPDA with other international activities and institutions in the field of planetary data. **MTC expresses her opinion that IPDA should be represented whenever and wherever planetary data archival and distributions are concerned.**

Europlanet (Maria Teresa Capria)

Europlanet is an international proposal that participated successfully at a call issued by the "Support to Research Infrastructures" action of the 6th Framework Programme. It is a four-years project that started operating on 1 January 2005 and will finish on December 2008, but its continuation, proposed under the 7th Framework Programme, has been approved. The new proposal is now entering the negotiation phase. Europlanet is a coordination action to support the planetology studies in Europe. One of its main activities is the Integrated and Distributed Information Service (IDIS), aimed at the creation of a Planetary Virtual Observatory. It is written in the proposal that in all the matters related to the archival of data IPDA recommendations will be followed.

In the following discussion, the future plans for IDIS are discussed. MTC explains the changes made necessary in the original version of the proposal by a 40% cut in the budget, requested by the reviewers.

The discussion moves to the interrelations between IPDA and the International Virtual Observatories Alliance (IVOA). MTC refers that she has been invited to participate to the IVOA General Assembly held in Trieste on May 2008, where a presentation of IPDA has been given. The interaction with a wider scientific community poses the question of interlingua and in general of the interrelations first with the VO concept, and then with IVOA in itself. It is necessary to decide about an "official position" of IPDA with respect to IVOA and similar alliances. To help the discussion, an introduction to IVOA has been asked to PO.

Introduction to IVOA (Pedro Osuna)
[SC3_P24_IntrIVOA]
PO explains the structure and role of ESAC, the new ESA branch established in Spain, and then illustrates aims, structure and functioning of IVOA.

A discussion follows. The conclusion is that IPDA should try to be as much interoperable with other alliances as possible and get benefit from their experience. It is decided that a IVOA representative will be invited to the next SC meeting.

Interactions with international institutions (Maria Teresa Capria)
[SC3_P25_Interactions]

MTC refers that in January she has been invited to attend the International Primitive Bodies Exploration Working Group (IPEWG). A draft of the IPEWG charter has been approved in which the IPDA role is mentioned related to publicly archived data.

MTC ask for an official IPDA point of view with respect to IPEWG and similar organization with which we could interact in a near future. MTC expresses her opinion that IPDA should be represented whenever and wherever planetary data archival and distributions are concerned, and that IPDA should ask for same archival policy (standards!) for exploration missions as for science missions. In order to be properly represented during any kind of meetings, the IPDA chair must be informed. The agreement on all the points is general.

IPDA internal activities, next meeting, AOB, action items, summary of the meeting

MTC feels that it is not necessary to restrict this last part of the meeting to the SC members, because there are no real internal matters to discuss. Everybody agrees. A list of points to be discussed is presented:

1. **IPDA website**
2. **Next SC meeting**
3. **Technical group proposed by PO**
4. **Publications**
5. **How to get feedback**
6. **newsletter**

1. MTC says that she is not satisfied about how she is doing with the website. The website is very well designed, but is sometimes difficult to manage and requires a lot of work. A help could come from the proposed technical group. MTC will prepare and submit to the SC members a list of suggested modifications to the IPDA website (AI-4).
2. The next SC meeting will be organized in Rome in the period June-July 2009. MTC will find the dates and organize it (AI-5).
3. PO illustrates aims and functioning of the technical group, that should be formed by representatives from all the institutions represented at IPDA. It will be useful to ensure the continuity of the work between the projects. The group is approved. PO will be the leader, and will ask for members to all the agencies and institutions represented in the IPDA (AI-6).
4. MTC feels that IPDA should be known by a wider community. In order to do that, devoted papers on scientific publications would be very useful. It is decided to prepare two publications, a general one on the concept and scope of IPDA and a technical one explaining the IPDA system reference architecture. MTC will take care of the general publication (AI-1), while DC will take care of the technical publication (AI-2).
5. MTC says that a feedback from the wide community of planetary data users is needed. To this end, the website could be used. It would be desirable something similar to a wiki, but it takes a lot of work. She will propose something in the list of suggested modifications to the IPDA website (see point 1) (AI-4)
6. Related to the preceding point is the improvement of the quarterly newsletter, that should be diffused into a wider community. MTC will make an effort to this end.

Summary of Meeting and Closure
The action items are summarized at the end of the meeting.
The next IPDA SC meeting will take place in Rome, in the period June-July 2009. The chairwoman thanks everybody for attending the meeting. The 3nd Steering Committee meeting of the IPDA was finished at 16:00 on 12 July 2008.