

14th CHRIS MEETING
Shanghai, China, 15-17 August 2002

ICA COMMISSION ON SPATIAL DATA STANDARDS
Brno, Czech Republic, 8-12 July 2002

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The Commission on Spatial Data Standards of the International Cartographic Association (ICA) has been tasked to conduct studies on scientific and cartographic aspects of spatial data standardization. Over the past eight years, topics addressed by the Commission have successively been 1) Transfer Standards for spatial data (Task completed in 1996 - Results published in a book¹); 2) Metadata Standards (Near completion – See below); and 3) Spatial Data Infrastructures (In progress – See below). The Commission had its 2002 Meeting in Brno, Czech Republic, on 8-12 July 2002. The meeting was hosted by the University of Brno and it was chaired by Prof. Harold Moellering, State University of Ohio, USA. Attendees were from Czech Rep., Denmark, Netherlands, Russian Federation, South Africa, USA and the IHB (Michel Huet). The main points discussed are summarised below.

Metadata Standards. The global study of existing metadata standards, conducted by the Commission, is now near completion. The results are being published in an ICA Metadata Book², structured as follows:

- Part I - Introduction to World Spatial Metadata Standards;
- Part II - Regional Metadata Summaries (Europe, N. America, Latin America, Asia & Pacific, Africa & Middle East, and ISO/TC211);
- Part III - Scientific and Technical Metadata Characteristics;
- Part IV - Assessments and Full Descriptions of Metadata Standards (Australia & New Zealand, Canada, China, Czech Rep., Denmark, Finland, Hungary, Israel, Japan, Rep. of Korea, Netherlands, Russia, South Africa, Spain, Sweden, USA, CEN/TC287 and ISO/TC211); and
- Part V – Crosstable (between Metadata Standards and a selection of the major characteristics).

Spatial Data Infrastructure (SDI). Besides its work on metadata standards, the Commission was requested:

To plan a new task on the Spatial Data Infrastructure (SDI), working in the areas of science, technology and standards, at the Global, Regional and National levels, and to participate at the scientific level in several organisations active in that area.

The term SDI designates the set of means which allows for an optimal use of the spatial data. This includes the production, the management and the dissemination of spatial data sets. When considered at the national level, it is called National SDI (NSDI). An SDI can also be thematic, e.g. a Marine SDI (MSDI).

There exists already an organization named Global Spatial Data Infrastructure (GSDI³), which aims at fostering the development of SDI worldwide. The ICA Commission decided to do

¹ “World Spatial Data Transfer Standards: Scientific and Technical Characteristics, and Full Descriptions with Crosstable” – Elsevier Publisher, 1996. Contact information: Harold Moellering <geohal+@osu.edu>

² “World Spatial Metadata Standards: Scientific and Technical Characteristics, and Full Descriptions with Crosstable” – Elsevier Publisher, 2002. Contact information: Harold Moellering <geohal+@osu.edu>

³ <http://www.gsdi.org>

something distinctive, scientific, and that is not duplicated elsewhere. A liaison would therefore have to be established with GSDI.

In support of the Commission work, a presentation was given on “UML⁴ Model of SDI Concepts” (Antony Cooper, South Africa & Anders Nielsen, Denmark). They suggested that developing a conceptual model of SDI using UML could be a useful task for the Commission to undertake. For example, an SDI could be conceptualised as in Fig. 1 below.

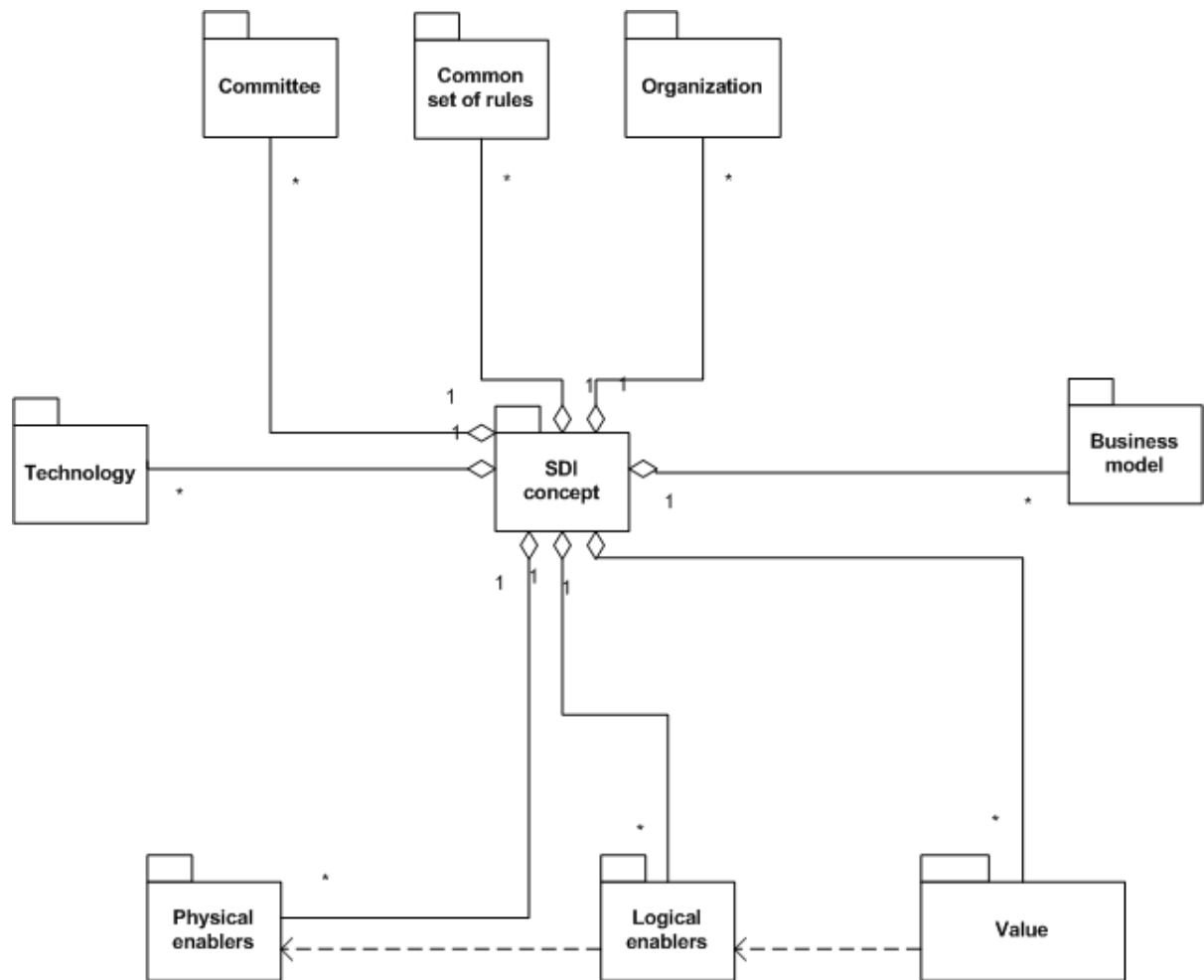


Fig. 1 – SDI Concept in using UML (draft)

The upper part of this diagram (Committee, Common set of rules and Organization) shows an ‘Organizational Model’ for an SDI, the middle part (Technology and Business model) an ‘Operational Model’, and the lower part (Physical enablers, Logical enablers and Value) an ‘Information Model’. These three parts show different perspectives in considering SDIs. Together they make up an SDI concept. Each individual box could be further expanded using UML. An example is at Fig. 2, for ‘Technology’.

⁴ Unified Modelling Language

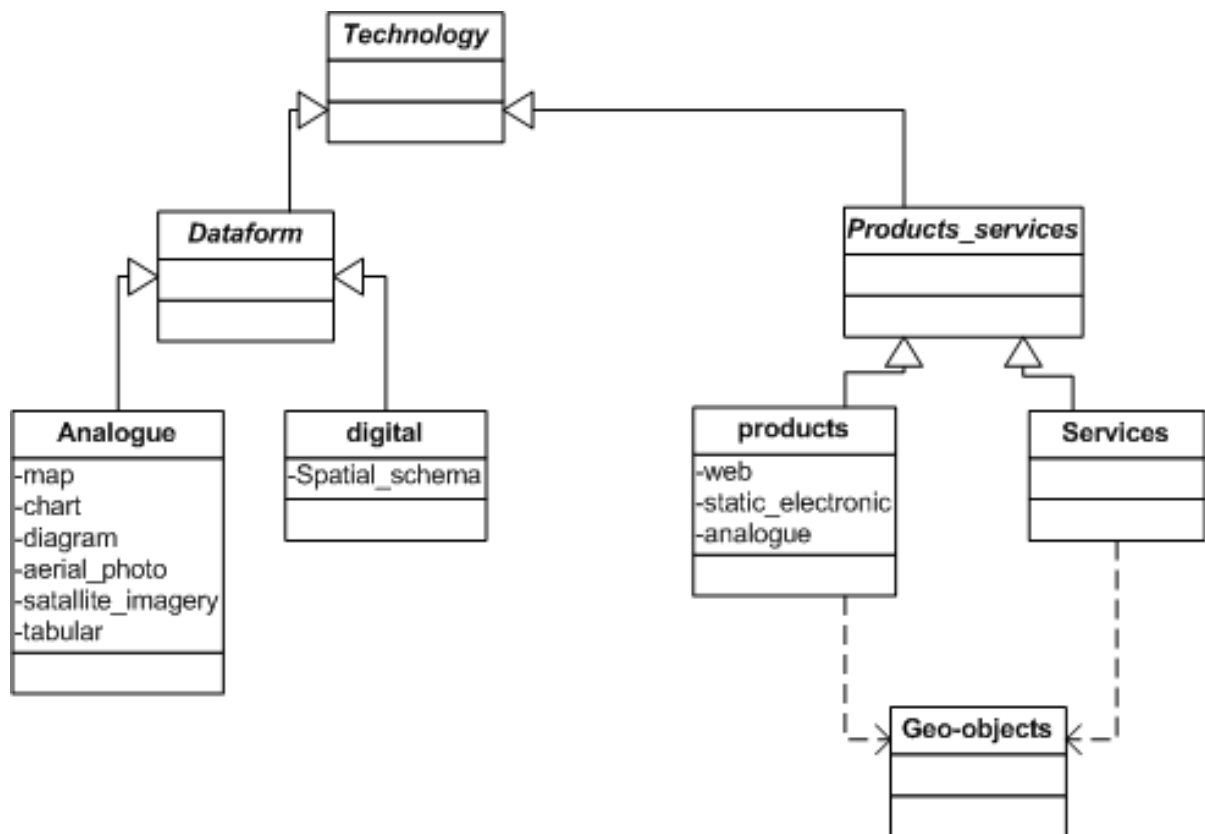


Fig.2 – Technology model in using UML (draft)

After discussion, it appeared that there was good support for this proposal and the Meeting agreed that the Commission would focus on the following tasks:

- Establish a consolidated list of the technical characteristics of SDI, e.g. truth in labelling or fitness for use in applications.
- Refine further the conceptual model of SDI using UML, taking particular care to include the above technical characteristics.
- Define the characteristics and concepts of appropriate data sets for SDI.

The next meeting of the Commission has been planned on 4-8 August 2003 in Durban, South Africa, in conjunction with the 2003 ICA Conference.