DataLink and DataAccess issues

They have been discuted together during two informal hackathon sessions on Tuesday september the 3rd and Wednesday september the 4th.
Participants: MD, ML, FB, CR, Stellios, LM, DM, ...
Participants agreed that DataLink is a protocol describing a standardized way to link a known dataset to various resources. The Link is described by a few fields, such as service type, text description, mime type, size, etc ...
   These resources belong to one of 3 categories:
        - fixed links
        - IVOA standard services (the list of parameters is known a priori)
        - free , autodescribed services (for proprietary services)
A Working draft is currently under discussion within the DAL group

3 topics have been discussed:

1) Free parameters description : Laurent Michel has proposed a syntax based on small xml description of the parameters. The paremeter description concatanates the following elements: range, name, semantic, ucd , unit, type. Markus Demleitner proposed a VOTABLE syntax using a set of simple PARAMETER tags included in a group for each service. These VOTABLE description could be included in the main DataLink response. Json, xml or VOTABLE description : this was an open point. Application developpers should be included in the debate. It is questionable if several different formats have to be proposed.

2) AccessData : The AccessData concept has been extensivly discussed within the scope of DataCube priority. AccessData is a method of the Image class of data providing clever access to the Nd-arrays mapped to physical axes of the observations. Cutout facility is the simplest option of this Accessdata method. Others are dimensionality reduction, moment extraction, regridding, etc... The controversy point was about standardisation of cutout facility parameters. Is that necessary to clearly define relationship between data structure and mapping and the operations that can be performed, or can that be done with free parameters? After a while an agreement was reached that a standardisation is needed for AccessData simple functionalities, but that it cannot go too far: model fitting on the measurements is not part of AccessData. Detailed Mapping description for each axis is necessary. Profile of possible operation may depend from the axis considered. Theory datasets Access may lay somewhere inbetween the standardized description and something totally free: the model is Nd array but the mapping is not of the extended WCS type.In any case metadata must be precisly defined.

     STC-S syntax for cutout :
     Here the controversy was let open, and the discussion will go on at the overall IVOA level. Some people like Markus think that min/max constraints parameters for each coordinate are sufficient and avoid ambiguities with STC structures. Others (like me) think that STC-S syntax allow more continuity and harmonisation between query syntax, query responses with footprints and coverages of various kind and Cutout contours syntax. The question of using MOCS in query syntax has been open by Markus