

Review of Mapping HDF5 to DAP2 - Technical Note

The goals of the Standards Process Group (SPG) of NASA's Earth Science Data Systems Working Groups are to:

1. Enable data and service providers to easily join NASA's Earth Science network of data systems through use of standards.
2. Facilitate interoperability between components of NASA's Earth Science network of data systems through use of standards.
3. Facilitate data stewardship and preservation through use of standards and adoption of best practices.
4. Develop and manage effective standards recommendation, adoption, and approval processes to guide the evolution of ESDS standards. Support the evolving strategies and goals of NASA's Earth Science activities through use of standards.

One of the ways we do this is by publishing Technical Notes relevant to Earth Science Data Systems. An SPG Technical Note is a document that contains important and useful information that is relevant to the domain of NASA Earth Science Data Systems, and does not necessarily describe a "standard" which has additional operational requirements. In order to assure a high level of technical quality, we conduct public reviews of Technical Notes that have been submitted to us for consideration.

We are asking you to review the Technical Note referenced below. Your assistance will help us to decide whether each it should be endorsed by the SPG.

- ESDS-RFC-017 - Mapping HDF5 to DAP2

<http://www.esdswg.net/spg/rfc/esds-rfc-017/ESDS-RFC-017v0.1.pdf>

You are invited to review this technical note and provide feedback that might make the document more useful (see review questions below).

1. Please provide your name, organization and contact information including e-mail addressed

2. Are you answering for your entire organization, for a smaller group, or individually?

_____ a) Entire organization

_____ b) Smaller group (please specify) _____

_____x_____ c) Individual response

3. Describe in a sentence or two your overall experience related to HDF5 or DAP:

(e.g., specification developer, specification implementer, systems architecture; tools developer, scientific analysis; etc.)

I use both OPeNDAP and HDF5 for science analysis. I have more experience as a user of OPeNDAP from a client perspective.

4. Do any of your systems currently use (or expect to use) HDF5 or DAP?

We already use OPeNDAP (DAP) and expect to have data products in HDF5 in the very near future.

5. Does the technical note contain internal inconsistencies? If so, please provide details.

No glaring inconsistencies found. I would recommend this section for a name change:

3.2.2 HDF5 data types that can be mapped to DAP2

to

3.2.2 HDF5 data types that can be mapped to DAP2 with adaptation (or modification)

In its current form I confused this section with

3.1 HDF5 data types that exactly map to DAP2

I was asking myself why are there two sections for the same thing? They are not the same thing because those HDF types in 3.2.2 need specialized DAP handling

6. Are any parts of any of the technical note ambiguous or poorly explained? If so, please provide details.

No. Overall well written with useful figures. Section 3.2.2. on object/region references was a little difficult to understand because I am not an expert on HDF5 format contents.

For the swath formats I do have one question the tech note should address. Is it the responsibility of the DAP handler, OPeNDAP server, or user of the OPeNDAP client to transform a coarse (subsampling) swath array to finished product via interpolation?

Also the authors should check all instances of the OPeNDAP case spelling. I found one instance where there was another lower case letter besides the “e” in OPeNDAP.

7. Did you find the technical note useful and would you like to see more such technical notes processed by the SPG?

Definitely.

8. Should the SPG endorse this document as a Technical Note – why or why not?

I believe it should because many remote sensing products from future missions (NPOESS, OCO follow on, other Decadal Survey missions) will use HDF5 and many (all?) data centers use OPeNDAP. Thus to serve HDF5 products via OPeNDAP will be a key requirement for the data providers and this document can serve as a reference and guide of how it all works.

In particular, the tech note will provide guidance to the HDF5 producers on how to construct their data, type, objects etc so to minimize or eliminate conflicts with the DAP2 /OPeNDAP handler.

Note: The SPG has already endorsed DAP2 and HDF 5 as standards. This question pertains strictly to whether this proposed Technical Note should be endorsed.