

HDF5 File Format Meeting

Location & Date:

- University of Amsterdam, The Netherlands
- September 9-10, 2010

Overview:

- Quincey Koziol from the HDF5 Group visited the LOFAR crew at the UvA on Thursday-Friday (Sept. 9-10th). The agenda is listed below. We gave Quincey an overview of LOFAR along with an intro to the LOFAR data format/structures from the Interface Control Documents (ICDs). All presentations are attached below. Quincey's HDF5 presentations can also be found below.

Participants:

- HDF5 Group Member - Quincey Koziol
- Attendees - Anastasia Alexov, Ken Anderson, John Swinbank, Lars Baehren, Micheal Wise, Adriaan Renting, Ger van Diepen, Tom Bennett (South Africa via EVO)

Agenda

Thursday 10AM-lunch: - LOFAR Overview (15-30 mins) - Swinbank - LOFAR Image cubes (15-30 mins) - Anderson (coffee break @11AM) - LOFAR Beam-formed data (15-30 mins) - Alexov - LOFAR Coordinates (15-30 mins) - Baehren (lunch)

Thursday 2PM-5PM: - HDF5 talk/tutorial (60 min) - Quincey Koziol - Discussion on questions/concerns listed below - All

Friday 10AM-lunch: - Performance questions (15-30 mins) - van Diepen - Open discussion on performance (coffee break @11AM) - HDF5/LOFAR-related questions - All (lunch)

Friday 2PM-5PM: - Open discussion - All

QUESTION/TOPIC for DISCUSSION:

- performance benchmarks - access patterns - intelligent filtering and slicing - efficient data storage / chunking - parallel I/O - distributed storage - tools which exist for HDF5 (other than HDFView, h5py, pytables)

CONCERNS:

- Speed when using smallish hyperslabs
- Robustness. E.g. What happens if a system crashes after writing some hours of data? What are the chances that all data are lost? What impact has robustness on performance?
- The future of the C++ interface.
- Is HDF5 always backward compatible? I.e. can a file created with HDF5 1.8 always be read with

newer versions, even a hypothetical version 2.1 (AFAIK HDF5 1.8 is not backward compatible with 1.6). The same for building the software.

- Is it more efficient to store data in:

1. One table per subband (N x 1-dimensional tables in one Group)
2. One table for all subbands (1 x N-dimensional table in one Group)
3. 1 Array per Subband (N x 1-dimensional array in one Group)
4. 1 Array for all Subbands (1 x N-dimensional array in one Group)

LOFAR ICD (Interface Control Documents):

LOFAR Interface Control Documents (ICDs): [lofar_data_products](#)

HDF5 Presentations

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