HDF Product Designer 1.2.0

⚠ This page contains information about an older version of this software. The latest release is available here.

- Introduction
- What's New
- Download
- User Guide

Introduction

HDF Product Designer (HPD) helps data producers design conventional HDF5 products easily and generate consistently interoperable data products by utilizing best practices and standards if they exist in their data user communities. Conventions are defined using the powerful CLIPS expert system and designs can be re-used across product suites.

Key goals this application strives to fulfill:

- Facilitate creation of interoperable and standards-compliant data products in HDF5 as early as possible in the project development process.
- Support multiple computing platforms without requiring the full software stack of development tools and libraries installed.
- Easy and intuitive editing (create, update, move, copy, delete) of HDF5 objects.
- Collaborative approach to product design (project/team/organization-wide).
- Incorporation of best practices and standards from targeted data user communities.
- Integration of compliance and interoperability tests into the design workflow.
- Content import from existing files.
- Export of designs as HDF5 files, HDF5/JSON, or as source code in several programming languages.

The Hierarchical Data Format (HDF5) provides a flexible container that supports groups and datasets, each of which can have attributes. In many ways, HDF5 is similar to a directory structure in a file and, like directory structures, the same data can be structured and annotated in many ways. This flexibility empowers HDF5 users to arrange data in ways that make sense to them. However, it can make it difficult to share data as users, and tools, must understand the structure and the properties of data in order to use and understand it.

Many communities have successfully addressed this problem by creating conventional structures and annotations for data in HDF5. This approach depends on data files (e.g., products) that carefully follow these conventions. In some cases, designing and writing those files can be challenging or the user creating the product may be driven by local needs that lead to deviations from the conventions. Unfortunately, even small deviations can cause problems for downstream tools and future users.

What is a *HDF5 product* in the context of this software? HDF5 product is the content that should exist in a single HDF5 file. This content is defined by the HDF5 objects (groups, attributes, datasets), their names, the hierarchies they create (links and references), and attribute values. Dataset values are typically not stored in such files (unless they qualify as *metadata*) thus this software cannot be used as a data server. Once completed, a HDF5 product is replicated in many files (commonly on the order of tens of thousands or more) and filled with real data.

What's New

The current version 1.2.0 of the HPD was released on September 30, 2015. Here are a few highlights:

- CDL importer is added.
- HDF5 importer is added. You can import a design directly from HDF5 files.
- Python/MATLAB/IDL code generation is improved.

Download

> ⚠️ **First time users:**
>
> NASA Earthdata Login account is required to use this application. Please register here then check the user guide on how to allow HDF Product Designer to access your Earthdata user information.

Windows platform binaries require Microsoft Visual C++ 2008 Redistributable Package (x86) if your system doesn't have one.

Platform	Binary	SHA256 Checksum
Windows 7/8/10 Setup	HPD_setup.exe	c938586f1369a337ce002d76ec25b5ac90ed538cc401d143a0ad3e323b6531d0
Windows 7/8/10	HPD.exe	4cb25e18c8a9b15cb0f1c66e0895bbbda4e5916d3a967c079824dbc4d0526327
Mac OS X (Mavericks or newer)	HPD.dmg	430f20459c225ddb023484fca54513713f7be3d0e145795a31aa3e9cb3319466
Linux 2.6 (x86_64)	HPD	67b5b843cb2f2b3ec255ce3c74164ed66f6641d6b6a7cb81213239ca431d8494

User Guide

Please download the following PDF document: HDFProductDesigner.pdf.