The HDF Group

HDF5 Tools Tutorial

HDF5 Tools

- ## Supported by The HDF Group
  https://www.hdfgroup.org/tools/

- ## GUI-based Browsers
  - HDF Compass (prototype)
  - HDFView

- ## HDF5 command-line tools
  - Distributed with the HDF5 library
    - h5dump, h5ls, h5repack, h5diff, h5jam, h5copy, h5debug
  - Distributed as stand-alone tools
    - h5check, converters between HDF4 and HDF5
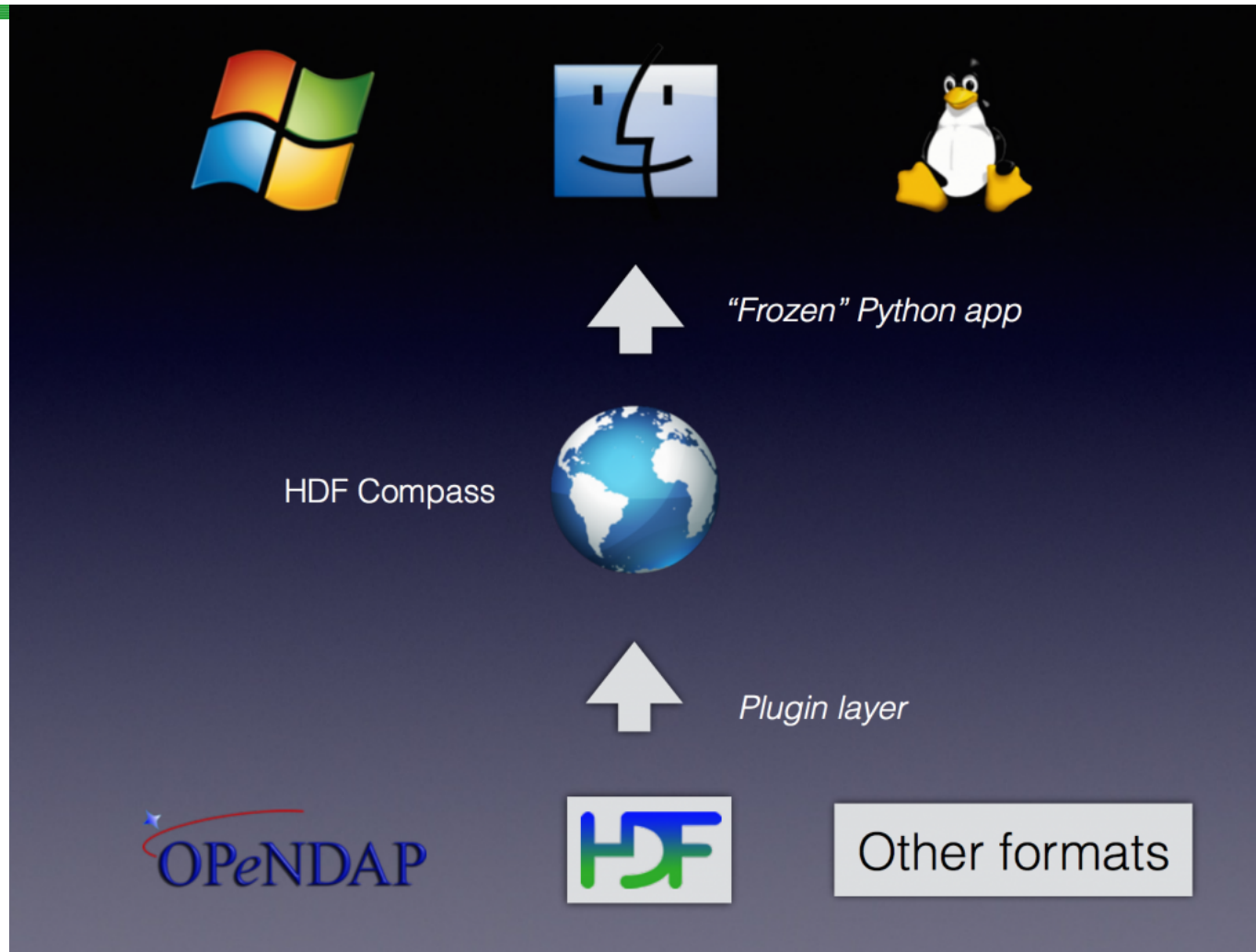 - Supported on variety of platforms

Aside: UNIX commands can be useful!

- ## head
  - View superblock

- ## strings
  - View character data (attributes, datasets)
  - View some HDF5 metadata

- ## hexdump
  - The last resort to troubleshoot issues

HDF Compass

https://github.com/HDFGroup/hdf-compass/
Please try it and let us know what do you think!

HDFView

- Java-based tool to access HDF4 and HDF5
- Used for
  - Viewing and modifying file content
  - Creating data in HDF files
  - Exporting and importing data
    - Getting data to/from Excel
  - Supports features used in the JPSS files
    - User block
    - Supports object and region references

HDF5 command-line tools

HDF5 command-line tools info

See HDF5 Reference Manual

https://www.hdfgroup.org/HDF5/doc/RM/Tools.html

Flag	Used for
-V (--version)	Printing version of the HDF5 library
-h (--help)	Displaying online help
--enable-error-stack	Troubleshooting

h5dump

- Displays HDF5 file according Data Description Language (DDL)
- Human readable and most comprehensive

Flag	Used for
-H (--header)	Suppressing data printing
p (--properties)	Displaying properties of the objects, e.g., compression ratio
-B	Exporting raw data
-M (--packedbits)	Displaying JPSS quality flags
-R (--region)	Displaying data pointed by region reference

h5ls

- Provides some internal information, such as objects offsets in the file to pass to h5debug

Flag(s)	Used for
-v	Verbose output
-g	Displaying information about the group
-r	Listing objects recursively
-d	Printing data for the dataset

h5repack

- Creates new file with different properties

Flag(s)	Used for
No flags	Deleting non-used space in the file
-l	Changing storage layout of the datasets in the file
-f	Applying (or removing) compression

h5diff

- Finds differences in two files
- Not good at comparing file structures

Flag(s)	Used for
-N (--nan)	Disabling NaN detection
---exclude-path	Disabling comparison of specified objects

h5diff

- Finds differences in two files

Flag(s)	Used for
-l	Changing storage layout of the datasets in the file
-f	Applying (or removing) compression

h5copy

- Copies a specified content within an HDF5 file or to a new HDF5 file

- Easy to extract data to the new HDF5 file

- Limitation – cannot copy to "/" root group

Flag(s)	Used for
-f	Controlling "copy" options
-f ref	Coping references and the objects they referenced

h5check

- Uses file specification to checks file format consistency
- Useful with corrupted files to see if any data can be salvaged

Acknowledgement

Thank You!

Questions?