

Naming Options for HDF5 Command-line Tools

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This document describes a recent issue regarding how to name the command-line options in HDF5 tools. A few choices have been proposed in this RFC for you to review. We would like to discuss the issue with the group and need your feedback and inputs. The goal of the discussion is to come up with some guidelines for naming tools options.

1 Introduction

We have always provided both short options and long options for the names of HDF5 command-line tools in the past. Recently, we have started to use long options only for some new features, e.g. “*--use-system-epsilon*” in *h5diff*. As we are developing new tools, e.g. *h5watch* and *h5edit*, and adding new options to the current tools to support HDF5 1.8 features, we need some guidelines on how to name the options.

2 Reasons of using long options

We started to use only long options for some new features added to tools recently. The main reasons of using long options only are listed below:

- We run out of “good single character” short options for new features in some of the tools, especially in *h5dump*.
- Different tools use different short options for the same feature, which is confusing. For example, to follow external links, *h5ls* uses “-E” or “—external” and *h5copy* uses “-f ext”.
- Long options are more specific and less confusing.

3 Recommendations

We recommend the following guidelines for naming tools options as we move forward for our tools development.

3.1 Syntax for long options

The long options will follow the syntax of “—action—thing”. The “action” is a verb, which indicates what action to take. The “thing” is a noun, which is what the action is up on. For example, “—follow-symlinks”, “—exclude-path”, etc. Short options can be also provided to make the tools easy to use. For example, either “-e” or “—exclude-path” can be used in *h5diff*.

3.2 Choices for naming tools options

We list four choices for naming tools options and their pros and cons below for discussion.

3.2.1 Use only long options for everything

All current features and new features will use long options only. Short options will not be provided for new features. For compatibility, the current short options will still work but they will be removed from the online documentation and the help manual as we are going to promote the long options only.

Pros: consistent cross tools and less confusing.

Cons: inconvenient and hard to remember the long options

3.2.2 Use short options as needed

All current options stay the same as they are. There will be no changes to the current options. For new features, long options will always be provided. Short options will be provided only if appropriate single characters are available. Otherwise, there will be no short options. For example, if we would like to add “*--follow-symlinks*” to h5dump, both “*-f*” and “*-s*” short options have been already used for other features. Only will the long options be used in this case.

Pros: compatible with the current features and less confusing for the long options.

Cons: inconvenient to type and hard to remember the long options

3.2.3 Use only long options for new features

All current options stay the same as they are. There will be no changes to the current options. For new features, only long options will always be provided. There will be no short options for any new features.

Pros: compatible with the current features and less confusing for the long options.

Cons: inconsistent between the current options and new options

3.2.4 Always use both long options and short options

Both long options and short options will always be provided for all features.

Pros: consistent naming scheme and easy to use and remember the short options.

Cons: problematic if good short names are used out.

Revision History

October 6, 2010: Version 1 circulated for comment within The HDF Group.