**NOTE: This is sent to Barbara to share with JPSS users via email on 11-15-2011**

RFC: Handling slash character(s) in attribute name for h5dump also other tools

# Background

The ‘-a’ option in h5dump is used to display only the attribute information, skipping object details. However, is there is a slash character in the attribute name, ‘-a’ option will fail because the slash character is used to separate the attribute name and the object path in h5dump.

In the example below, h5dump will successfully display the information of the attribute named “attrname1”, which does not have a slash character in its name:

* h5dump -a “/dataset1/attrname1” hdf5file.h5

However, h5dump will fail for the example below since the attribute name contains a slash character.

* Assume attribute name is “high/low” (slash in the attribute name)
* h5dump -a “/dataset1/high/low” hdf5file.h5

# Solutions

To address the issue, we propose two solutions and implement both to meet the different needs.

* Use an escape character, ‘\’, in h5dump’s ‘-a’ option to handle slash character(s) in attribute name.
* Add a new option to separate the object path and the attribute name.

## Solution #1: use an escape character, “\”,

This solution is to use back-slash character as an escape character for h5dump’s ‘-a’ option to handle slash in attribute name. This solution will allow users to continue to use the ‘-a’ options but it will require users to add the escape character in front of any slash character(s) in the attribute name.

For example:  
  Case1: ‘/’ in the attribute name  
     Assume the object path is "g1/g2/dset1",  and the attribute name is "red/yellow/green"  
     $ h5dump  -a  “/g1/g2/dset1/red\/yellow\/green”   hdf5file.h5  
  
  Case2: ‘\’ in the attribute name  
     Assume the object path is "g1/g2/dset1",  and the attribute name is "red\yellow\green"  
     $ h5dump  -a  “/g1/g2/dset1/red\yellow\green”   hdf5file.h5  
  
  Case3: both ‘/’ and ‘\’ in the attribute name  
     Assume object-path is "g1/g2/dset1"  and attribute is "red/yellow\/green"  
     $ h5dump  -a “/g1/g2/dset1/red\/yellow\\/green”   hdf5file.h5

## Solution #2: separate the object path and the attribute name

This solution is to use separate options specify the object path and the attribute name, i.e.

*h5dump -O "<object path>   -a  "<attribute name>"* ,

Where, “-O” is used to specify the object path, and

“-a” is used to specify the attribute name.

This solution does not need any escape character to handle the slash character in the attribute name. However, it requires users to supply the “-O” option.

For example:   
  h5dump  -O  "/dset1"   -a  "high/low"  hdf5file.h5

There two major advantages for using the ‘-O’ option:

* It can be used alone to replace the current “-d”, “-g”, and –“t” options in h5dump. Instead of three options, the single “-O” option is sufficient for h5dump.
* It can be also used in other hdf5 command line tools to specify the object path. Using the same option of the same meaning cross tools will make our tools much easier to use.

Using both “-O” and “-a” will be the standard way to handle attribute in tools, and users will be encouraged to use it for less confusing.