RFC: Bundling the HDF-EOS Plugin with HDFView

04/11/2013

Peter Cao

The HDF Group

# Introduction

The following memo is from Dan Marinelli about bundling the HDF-EOS plugin with HDFView:

“*The HDF-EOS plug-in was developed by Raytheon via the EEB contract with NASA. It is considered NASA developed software. By integrating the HDF-EOS plug-in with the HDFView software, HDFView can be used to browse any HDF-EOS file in a way that reflects the HDF-EOS data model. This feature benefits many HDF-EOS users. HDFView is owned by The HDF Group and is provided free to the community of users. Users are responsible for building their tools, incorporating both products, and using them as needed.*

*Since there is a lag between HDF-EOS plug-in and HDFView releases, HDF-EOS users may attempt to integrate a version of the HDF-EOS plug-in that is not compatible with their version of HDFView. In such cases, HDFView cannot open HDF-EOS files. The HDF Group has received several complaints in the past regarding this issue.*

*This memo is to provide NASA concurrence with allowing Raytheon to bundle the version of the HDF-EOS plug-in compatible with HDFView and to redistribute the bundled package. The redistribution of the bundled package would be done as soon as a new version of HDF-EOS plug-in is released.”*

This RFC describes the options and work needed for the request Dan mentioned above.

# The current distribution

 HDFView and the HDF-EOF plugin have been developed and released independently. HDFView is developed and released by the HDF-Java team and the HDF-EOS plugin work is done by Raytheon. HDFView is usually released once a year (often in November). The plugin is released a few months after each release of HDFView so that it can pick up the changes and updates from HDFView.

The decision of having separate releases was made a few years ago based on the following reasons:

* The work of the HDF-EOS plugin and HDFView is done by different teams and each team has different release cycles
* The supported platforms of the HDF-EOS plugin and HDFView are different. Usually HDFView has more supported platforms than the plugin
* Majority of general users do not need the plugin. It is better to leave the plugin out of the HDFView distribution
* Maintaining the fixes and keeping up the plugin with HDFView changes is a lot of work if it is done by any single team

As Dan Marinelli mentioned in his memo, the lag of the HDF-EOS plugin causes problems for users, especially NASA users. HDF-EOS users may attempt to integrate a version of the HDF-EOS plug-in that is not compatible with the users’ version of HDFView. In such cases, HDFView cannot open HDF-EOS files. The HDF Group has received several complaints in the past regarding this issue. Also, installing the HDF-EOS plugin can be frustrating sometimes. Users have to manually enter the correct HDFView path and other information. If anything goes wrong, it is hard to make the plugin work in HDFView. This RFC presents four solutions to this problem.

# Solutions

We propose four options on how to bundle the HDF-EOS plugin in HDFView. The proposed solutions are based on the fact that the binary files for the HDF-EOS plugin is available.

## Add the plugin to the HDFView installer with a check-box for the plugin component

The HDFView installation program will include the HDF-EOS plugin and provide a check-box for the plugin component. During the installation, users can choose to install the plugin component by selecting the check-box. The default setting is not to install the plugin.

Pros: a) a single installation package; b) very little change for those who don’t need the plugin

Cons: a) the plugin will add extra 10MB to the current installation program (about 10MB); b) those who don’t know anything about the plugin may be confused about the check box; c) For those who installed HDFView without the plugin may have to install another HDFView if the plugin is needed later.

## Distribute a separate HDFView installer that installs the plugin automatically

A separate HDFView installation program will be distributed. This installation program will automatically install the plugin. The normal HDFView installation program will be the same as it is now, i.e. it will not have the plugin component in the distribution file.

Pros: no change to those who do not want the plugin

Cons: more work to add and maintain the extra distribution.

## Use a "Add plugin" button in HDFView so that users can install the plugin any time

This option will add a button to HDFView so that users can choose to install the plugin anytime after HDFView is installed. When users click “Add HDF-EOS Plugin”, HDFView will download and install the plugin automatically.

Pros: a) no change for the current users; b) users can add the plugin anytime

Cons: a) more work to implement the “Add plugin” button; b) extra work to maintain the predefined plugin location for download and installation; c) easily mismatch HDFView and the plugin releases.

## Distribute a special version of HDFView with the plugin by Raytheon

This option is very similar to option #2 above. The difference is that the HDF-EOS plugin team will distribute and maintain the HDFView release packed with the plugin. There will be no plugin-only release. The plugin will be always packed inside HDFView. The HDF Group will provide a link at the hdf-java page to this release of HDFView.

Pros: a) no change for the current users; b) the HDFView with plugin can be released anytime

Cons: a) extra work for the HDF-EOS plugin team to pack HDFView; b) some users may have redundant versions of HDFView, one from the HDF Group and one from Raytheon.

# Work Estimation

The amount of extra work added to the releases will depend on the solution we choose. The following is a rough estimation by the HDF-Java team. It needs to be adjusted by the HDF-EOS plugin team. The actual work will depend on the changes of HDF-Java and the HDF-EOS plugin, e.g. the plugin may not be compatible to the new changes in HDFView. The following estimation is based on the first release. Maintenance work needs to be added to other releases.

|  |  |  |
| --- | --- | --- |
| Task | HDF-Java team | HDF-EOS team |
| Build the plugin binary release | 0 | 20 |
| Test the plugin in HDFView | 20 | 40 (fix problems) |
| Write installation script to set up the plugin in HDFView | 40 | 5 |
| **Option 1:** Add the plugin in HDFView installer with an option check box | Implement component check button | 20 |   |
| Integrate the plugin package | 20 |   |
| Make a release distribution | 10 |   |
| **Option 2:** Distribute a separate HDFView installer by the HDF-Java team | Integrate the plugin package | 20 |   |
| Make a release distribution | 10 |   |
| Setup download site | 10 |   |
| **Option 3:** Use a "Add plugin" button in HDFView  | Implement "Add plugin" button | 20 |   |
| Integrate the plugin package | 20 |   |
| Make a release distribution | 10 |   |
| **Option 4:** Distribute a separate HDFView installer by the HDF-EOS team | Integrate the plugin package |  20 | 5 |
| Make a release distribution |  10 | 5 |
| Setup download site | 5 | 10 |

# References

## Comments from Ebraahim Moghaddam-Taaheri:

*Hi Peter,*

*I do not prefer options 2 and 4, since some users will need to install both, and that will be much more confusing, especially for default program selection when double clicking on a hdf file to open it. Also option 2 is not attractive because of cons that you mentioned (they are too serious). I prefer option 1 since extra 8MB does not mean anything these days! And users can be educated a little bit (in your download site, or next to the checkmark box) on the usability of HDF-EOS plug-in. You can also add a menu item (or a button) for easy disabling and enabling of plug-in (by renaming hdfeos.jar to something else, resetting options Tools->User Options->Default Module for Treeview, MetaDataView, etc, and registering/unregistering he2 and he5 file formats ). This may need some extra work now for you, but it is one time code addition and it is worthed. Another advantage of this is that user can easily replace the files in lib/ext for plug-in with the new ones that I release later (obviously I will test new files with that version of HDFView for correct working) for plug-in update.*

*So proper disabling and enabling with one click will make everyone happy, and users can easily select and use whichever they desire.*

*I think the time estimation is OK, but you will need somewhat more time for the plug-in enabling/disabling that I suggested.*

*-Abe*

What I was thinking is that you bundle old plug-in (with pre-existing hdf-eos jni and jar files) into main HDFView. So during HDFView Installation one will have a chance to install hdfview or hdfview with plug-in. This means that if user wants to install HDFView and plug-in at the same time then your installation script puts hdf-eos plug-in libraries, jar file, and user guide in appropriate place (that is in lib/ext). During installation Also the script sets up HDFView for accepting he5 and he2 files. If we do it  this way, then user can replace the hdf-eos libraries, and jar file in HDFview with the new ones when I release new version of the plug-in, without reinstallation
If user installs only HDFview, then still user will have a chance to install the old or new plug-in in the installed HDFView as before.

Abe