A Legal Foundation for the HEP Software Foundation

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Why a legal foundation?

We believe that making the HEP software foundation a real legal entity will solve a problem that the field doesn't realize it has. Intellectual property generated in experimental HEP collaborations in the form of domain software, developed by the community for the community, does not have clear ownership. Many of the tools have been generated by multiple individuals at multiple institutions being employed under a multitude of contracts, and do not belong to any single experiment. Without clear ownership, it is not possible to agree on an appropriate license. Having a clear license is important for any collaboration outside of the field or with industry. Also, once there is a clear license the license needs to be defended in case of infringement and this cannot be done effectively when there is no clear ownership.

An important example project is ROOT. The situation there is murky and should be cleared up. Currently the copy right holders are Réne Brun and Fons Rademakers, however significant contributions to ROOT were also made by people from FNAL and CERN and by many others with many other affiliations.

The field needs a neutral third party that the various owners can sign their IP over to. In a manner similar to the Apache Server which formed the kernel around which the Apache Foundation was formed, ROOT could be the kernel around which a HEP Software Foundation could be formed.

The ROOT copyright situation

When Rene and Fons started ROOT, Rene was a CERN employee but as CERN at that time explicitly did not want have anything to do with ROOT, Rene was allowed to put the copyright on his code in his own name. Fons was an independent consultant at the time and therefore he owned the copyright of his code. As soon as ROOT got traction and people started to contribute code, Rene and Fons decided to require that all contributors assigned their copyrights to them. This allowed them to be able to control the licensing of their young product in then fairly tumultuous times. The same practice is required of people contributing to FSF software, like gcc (http://www.gnu.org/licenses/why-assign.html). When Philippe Canal from FNAL started to contribute the FNAL copyright was also signed over.

Later when CERN fully embraced ROOT and assigned significant person power to it, the original copyright requirements remained in effect. And since copyrights and licensing are generally quite boring issues, no big efforts to change them were undertaken.

ROOT currently is being made available under the LGPLv2 license, which is quite more liberal than the original ROOT license, which has been changed twice in the lifetime of the project. Having had to contact several hundred's of copyright holders this would have been a quite daunting task.

A legal foundation would finally allow the regularization of the ROOT situation by having Rene and Fons donate their copyright to the foundation. As the board of the foundation will be staffed by members of the different HEP organizations, all would indirectly retain part of the ownership.

The benefits of a legal foundation

The technical program of the HSF, already described in many different documents, does not have to be changed by making the HSF a legal foundation. However, having a legal foundation for the HSF would give it a number of additional benefits.

IP management

The HSF will be able to defend in court any license infringement on any product of which it owns the IP. Also it can provide protection against patent violation claims.

Finding sponsors

The HSF could try to find sponsorship for its projects from private companies. Having a legal framework will also make it easy for these companies to donate as there is a legal partner they can do business with.

Evangelizing

The HSF could go out and evangelize the different products and projects it manages. This evangelizing will allow the spreading of the HEP software to a much wider community, well beyond the typical HEP users. The more users, the more potential contributors, the better the products typically will become. Also when the products are better known and more popular the more chance there is for sponsors to be interested.

The disadvantages of a legal foundation

The initial disadvantage of going for a legal foundation would be the overhead of setting up the legal framework and creating the foundation. Also the involvement of the management hierarchy up to the organizations directors might be required to sign the foundation's founding papers.

Foundation blueprint

There is no need to re-invent the rules and regulations for creating and operating an open software foundation. We can just borrow most of these from the very successful Apache Software Foundation which has done a perfect job of pioneering a very successful software foundation. In fact, in an email to Peter Elmer, Tony Hey suggested that we could adopt the legal work done for the Outercurve Foundation to set it up as a legal Foundation. A substantial amount of money was invested in order to gain 501(c)6 tax status as a not for profit 'trade association'. The Outercurve Foundation has been deliberately agnostic as to which open source license is used, which given the long history of HEP projects, is something we would probably need as well.

Next steps

The investigations on the technicalities of creating a foundation can go on fully in parallel with the current efforts on HSF community building and defining of the technical environment. We have had initial contacts with the FNAL legal team and the CERN Knowledge Transfer group. Also not all HEP institutes in the world have to be founding members, just a critical mass is needed and other's can join later. A possible roadmap could be:

- Discuss with CERN and FNAL legal teams on different options
- Try to find buy in from CERN and FNAL management
- Consult with Brian Behlendorf for his experience in setting up the Apache Software Foundation
- Follow up with Tony Hey to explore his suggestion on Outercurve
- Try to find additional founding partners
- Agreement on initial financial commitments from founding partners
- Have copyright of initial products assigned to the new foundation