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Patrick J. Moran

Software Release Authority, NASA Ames Research Center,
Moffett Field, CA

NASA conducts research and development in software and software technology as an essential response to the needs of NASA missions. Under NASA software release policy, a number of release options are available. These options now include Open Source software release. Patrick Moran, Software Release Authority at NASA Ames, discusses the benefits of releasing NASA software Open Source.

NASA Tech Briefs: What is Open Source software?

Patrick J. Moran: It's software that is distributed with source code and a usage agreement that grants the recipient certain rights; in particular, the rights to modify and to redistribute the software.

NTB: How did an Open Source release option come about within NASA?

Moran: In May of 2002, the Information Technology directorate at Ames put together a working group to create an Open Source option for NASA software release. We saw a growing trend at other government agencies, such as the Department of Energy, where projects were increasingly being released as Open Source. We saw this trend in industry and academia as well. We felt that NASA should be going in the same direction. The Ames working group included the Chief of the Information Technology directorate, the Deputy Chief, the Chief Patent Counsel, the Software Release Authority, and several folks from the technical staff. Our group produced a report that marshaled arguments in favor of an Open Source option and laid the foundation for the first releases.

In parallel to that effort, NASA legal put together a team consisting of counsel from several NASA centers. That team created what is called the NOSA – the NASA Open Source Agreement. This is an agreement that can be used by all the centers. Not only did they come up with an agreement that satisfied NASA requirements, they also got the agreement endorsed by the Open Source Initiative (OSI). The OSI, among other things, maintains a list of usage agreements that are deemed to be consistent with Open Source.

NTB: What is NASA's motivation for releasing software Open Source?

Moran: There are several. In a research environment, releasing software serves many of the same roles and has many of the same motivations behind it as traditional publishing. Like the authors of articles, software authors are looking for peer review, community recognition, and to develop collaborations. Also, NASA's charter directs us to disseminate information as widely as practicable; Open Source is a natural response to that directive.

NTB: How will the software be distributed?

Moran: The software will be distributed via the Web. We released the first NASA Open Source pilot projects in January of 2004, and our Open Source Web site went online that spring. NASA Goddard also has a Web site that features Open Source releases; of course those releases are from Goddard rather than Ames.

NTB: What is the benefit to the user?

Moran: There are different scenarios and it depends on the type of software that is being distributed. For example, NASA develops software specifically for students in response to its educational mission. Those users are typically very cost-sensitive; therefore, they like that the software can be acquired at no cost. We are hoping that eventually, since the software is Open Source, we may actually foster interaction with school kids so they can get excited about the software, see how it works, and actually contribute things back to NASA that can be redistributed to other schools. In a research-oriented environment, we are very interested in collaborations with industry and academia. Open Source enables us to lower the barriers to building these collaborations.

NTB: What software will be made available on the Web site?

Moran: First, not all NASA software will be available Open Source. In particular, software that has export restrictions or software with particular proprietary components is not destined to be Open Source. The software that is currently available Open Source on the Web site includes, for example, World Wind – developed by Learning Technologies here at Ames – which is software that is designed specifically for students. There also is software for grid computing and viewing very large images on tiled displays. It's a variety; there is not really one specific niche that we're addressing.

NTB: What is the goal of the Web site?

Moran: Our goal is to further the missions of NASA, especially in the information technology realm, where much of the research involves software. We expect that by being able to release things Open Source and making them available in an easy-to-find way – the Web site – we will enhance the research going on at the center and ultimately support the missions that the center is focused on.

Visit NASA's Open Source software Web site at <http://opensource.arc.nasa.gov>.