Open Source Software: Los Alamos National Laboratory

Kathleen Herrera McDonald
Software Licensing Team Leader, TT-DO
Tuesday, May 3, 2011
Los Alamos National Laboratory (LANL) Technology Strengths:

- Modeling and simulation (CFD codes, nuclear weapons legacy, materials modeling, etc.)
- Advanced computation – Roadrunner high performance computer
- Technologies complimenting Roadrunner implementation (visualization, programming models, etc.)
- Software used in all aspects of technology development (engineering applications, biotech, image analysis, decision analytics, radiation detection, etc.)
Los Alamos National Laboratory (LANL) Open Source Software (OSS) Goals:

- Promote full disclosure of LANL-authored software (regardless of distribution preference)
- Meet obligations for DOE copyright assertion for OSS
- Avoid liabilities of OSS hereditary licenses
- Educate developers on OSS license types, risks, advantages, etc.
- Case-by-case determination and recommendation
OSS practice at LANL...

- No formalized policy on OSS distribution (outside of DOE copyright assertion requirement)

- Informal policy: Only open source when appropriate
  - Standards adoption
  - Program requirement
  - GPL or other hereditary license demands redistribution under same license

- Dual versioning when necessary (BSD and/or GPL and proprietary)
  - Necessary for industry collaborations

- License type preference (GPL 2.1 and BSD)

- License compatibility analysis (where multiple licenses dictate/restrict distribution of derivative works)
Education for Developers

- Quarterly IP management classes with software tutorial
- Briefings to all manager meetings
- Briefings to divisions and groups as requested (general information on software, licenses, OSS, etc.)
- Case-by-case consultation on OSS requests submitted for disclosure and release
- Data point: number of LANL codes in the OSS: 333 (2002 to present)
- Total number of LANL copyright records: 1831 (beginning in 1992 with 4 disclosures)
- BlackDuck webinars for Tech Transfer staff
- Implications for patent portfolio
Management Support

- **Patent Advisory Board with software SMEs**
  - Expose line managers to scope of software development and impact on programs for failure to address open source issues
  - Emphasize need for formalized open source policy

- **Invitations to speak with divisions and groups for customized tutorials based on the technical scope of the code they write**
Pitfalls with Open Source

- It’s free as in freedom, not as in beer (But who pays for maintenance?)
- You get what you pay for?
- Open source projects can be successful but version control, source tree management, and sustained funding are critical