Open Source and the Future of Ada

Robert B. K. Dewar
dewar@gnat.com

November 2000
Introduction

- I have a copyrighted piece of software
- What can I do with it?
Do I Own the Software?

- No, you own a *copy* of the software, protected by the copyright.
- Hmm, can I make copies?
  - Dubious
- Backup?
  - OK
- Load and run?
  - OK
- Anything else-
  - Check the license!
What Is a Software License?

- **Answer:** It lets you do things that otherwise would be copyright violations.

- **Can I give the software to someone else?**
  - No
  - Check the license!

- **Can I run my copy on multiple machines simultaneously?**
  - No
  - Check the license!
What Is a Software License?

- Can I modify the software
  - Maybe - for your own use only
  - This is the creation of a *derivative work*
  - Check the license!

- What if I create a program that is part mine, part from the copy of the software in question? Will this “contaminate” the result?
  - You bet! This would be a copyright violation.
  - Check the license!
What Is a Software License?

➢ Aargh! So that software I got is like a virus?
   ▪ More like a deadly poison. You cannot create derivative works this way
   ▪ Check the license!

➢ Wait a moment... the program is a compiler. What about run-time code?
   ▪ Same story. Cannot distribute your program!
   ▪ Check the license!
Software Licenses and Free/Open Software

But I thought free/open software was public domain

- No! Usually it is copyrighted with full force of Berne Convention behind it
  - gcc, emacs, linux, gnat, ...
  - also BSD, X, ...

Free/Open Software

But there are lots of differences

- Distribution of mods required?
- Restrictions on derivative works?
- Run-time restrictions?
- Ownership of mods?
- Check the license!
What’s the Difference between Free Software and Open Source?

- **Different emphasis**
  - Free software - about *freedom*
  - Open source - about *cooperative development*

- **Licensing differences**
  - Free software - no restrictions on mods, no requirement to distribute
    - e.g. ACL = Open Source ≠ Free Software

- **So what is the difference?**
  - Free / open source licenses allow a lot more
  - They are supersets of typical proprietary licenses
Common to All Free Software / Open Source Licenses

- Redistribution allowed
- Modification allowed
- Sources always available
Why Is Open Source Software Important for Ada?

- Ada is a fairly small niche
- So we have to be $$$ efficient to survive!
- Niches are fine if the $$$ works out
  - OS/2, PL/I, Pascal, Forth, Spitbol, ...
Take Advantage of Non-Ada Stuff

- By modifying for Ada... creating derivative works
  - Modify gdb to be Ada aware
  - Modify gcc to add Ada front end

- Not easily done with non-open source stuff!
But COTS Has Real Risks

- What if it does not do exactly what you want?
- Support being tied to one vendor?
  - What if vendor disappears?
Open-Source COTS Mitigates These Risks

- Modify as required
- Support not tied to one vendor
- You have the sources