



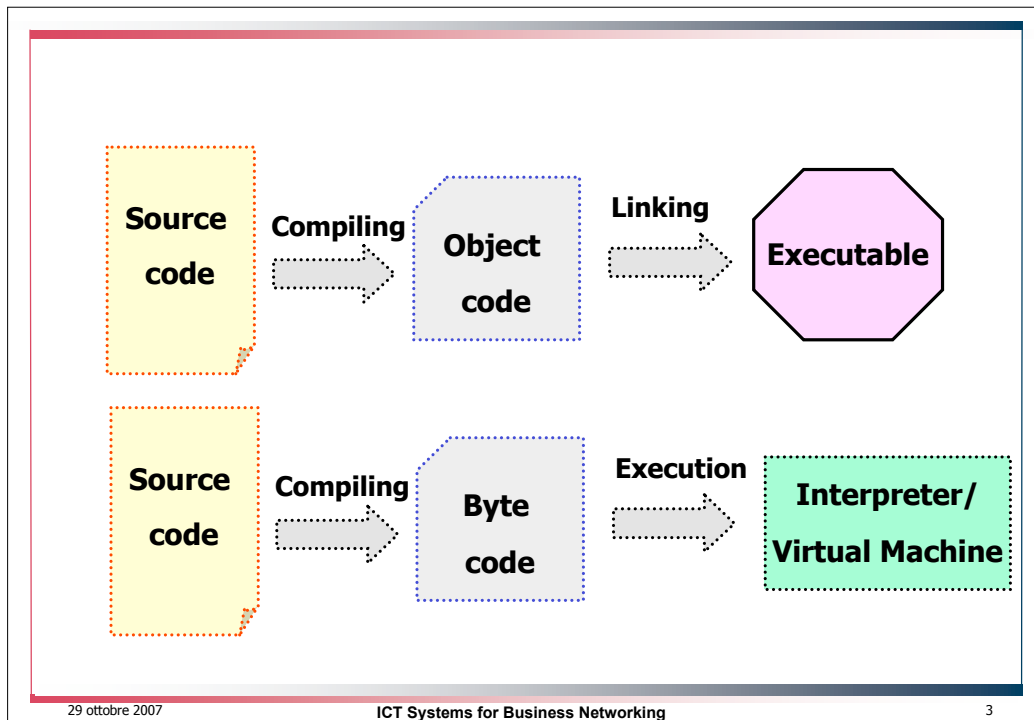
## Sistemi ICT per il Business Networking

### Open Source Software (OSS)

Docente: **Massimo Cossentino**  
Slide adattate dagli originali di: **V. Morreale**

## Fundamentals about software

- Software developers create computer programs by writing text, called "**source code**," in a specialized language
- The source code is often mechanically **translated** into a **format that the computer can run**



## Source code

- Programming languages:
  - Java, C#, Prolog
  - C, C++, Delphi, Visual Basic, Pascal
- Source code:
  - instructions about what the program has to do

29 ottobre 2007 ICT Systems for Business Networking 4

## Fundamentals about software

- **As long as the program doesn't need to be changed** (say, to support new requirements or be used on a newer computer), users don't necessarily need the source code
- **Changing what the program** does usually requires **possession and permission to change the source code**
- Whoever legally **controls** the source code controls what the program can and cannot do
- Users **without source code** often cannot have the program changed to do what they want or have it ported to a different kind of computer

## Open Source Software

- The **basic idea** behind open source is very simple: when programmers can read, redistribute, and modify the source code for a piece of software, the software evolves
  - People **improve** it, people **adapt** it, people **fix** bugs
  - This can happen at a **speed** that, if one is used to the slow pace of conventional software development, seems astonishing
- This **rapid evolutionary process** produces **better software** than the traditional closed model, in which only a very few programmers can see the source and everybody else must blindly use an opaque block of bits
- **Open Source Initiative** exists to make this case to the commercial world [[www.opensource.org](http://www.opensource.org)]

## OSS/FS

- The two main definitions used are the “**free software definition**” (for **free software**) and the “**open source definition**” (for **open source software**)
- Software meeting one definition usually meets the other as well
- The term “free software” came first

## Open Source Software

- Briefly, OSS/FS programs are programs whose licenses give users the **freedom** to run the program for any purpose, to study and modify the program, and to redistribute copies of either the original or modified program (without having to pay royalties to previous developers)
- **Not all OSS/FS is better** than all proprietary software
- Many people believe that it is **ethical and moral**
- It is proven that at least in certain situations, some OSS/FS software is **at least as good or better than** its proprietary competition
- There are **official definitions** for the terms “Free Software” and “open source software”

## FOSS

- The explosive increase in the number of deployed free and open-source software (FOSS) systems has **changed the world of information technology**
- **When the first FOSS systems were developed**, many of the users of these early systems were themselves technologists

## Free software






- The **Free Software Definition** is published by **Richard Stallman's Free Software Foundation**
  - "Free software" is a matter of **liberty, not price**. [...] Free software is a matter of the **users' freedom to run, copy, distribute, study, change and improve** the software. More precisely, it refers to four kinds of freedom, for the users of the software:
    - The freedom to **run** the program, for any purpose
    - The freedom to **study** how the program works, and **adapt** it to your needs. **Access** to the source code is a precondition for this.
    - The freedom to **redistribute** copies so you can help your neighborhood
    - The freedom to **improve** the program, and **release** your improvements to the public, so that the whole community benefits. **Access** to the source code is a precondition for this






## Free software

- The **Free Software Definition** is published by [Richard Stallman's Free Software Foundation](#)
  - (cont.) A program is free software if users have **all of these freedoms**. [...] Being free to do these things means (among other things) that **you do not have to ask or pay for permission**. You should also have the freedom to make modifications and use them privately in your own work or play, without even mentioning that they exist. **If you do publish your changes**, you should not be required to notify anyone in particular, or in any particular way. [...]"
- **Free software does not mean non-commercial**
  - A free program must be available for commercial use, commercial development, and commercial distribution

## Open Source Software

- Open source software is an idea whose time has finally come
  - For twenty years it has been building momentum in the technical cultures that built the Internet and the World Wide Web
- Open source doesn't just mean access to the source code
- The distribution terms of open-source software must comply with the following criteria

-  Free Redistribution
-  Source Code
-  Derived Works
-  Integrity of The Author's Source Code
-  No Discrimination Against Persons or Groups

-  No Discrimination Against Fields of Endeavor
-  Distribution of License
-  License Must Not Be Specific to a Product
-  License Must Not Restrict Other Software
-  License Must Be Technology-Neutral

## 1. Free Redistribution

- The license shall not restrict any party from **selling or giving** away the software as a component of an aggregate software distribution containing programs from several different sources
- The license shall not require a **royalty** or other **fee** for such sale

## 2. Source Code

- The program must **include source code**, and must allow **distribution in source code as well as compiled form**
- Where some form of a product is not distributed with source code, there must be a **well-publicized means of obtaining the source code** for no more than a reasonable reproduction cost preferably, **downloading via the Internet without charge**
- The **source code** must be the **preferred form** in which a programmer would **modify** the program
  - **Deliberately obfuscated source code** is **not allowed**
  - **Intermediate forms** such as the output of a preprocessor or translator are **not allowed**

### 3. Derived Works

- The license must allow **modifications** and **derived works**, and must allow them to be **distributed under the same terms as the license of the original software**

### 4. Integrity of The Author's Source Code

- The license may **restrict source-code from being distributed in modified form** only if the license allows the distribution of "**patch files**" with the source code for the purpose of **modifying the program at build time**
- The license must explicitly permit **distribution of software built from modified source code**
- The license may require **derived works to carry a different name or version number** from the original software



## 5. No Discrimination Against Persons or Groups

- The license must not **discriminate** against any **person** or **group** of persons

## 6. No Discrimination Against Fields of Endeavor

- The license must not restrict anyone from **making use of the program in a specific field of endeavor**
  - in a business
  - for genetic research

## 7. Distribution of License

- The **rights** attached to the program must **apply to all to whom the program is redistributed** without the need for execution of an additional license by those parties

## 8. License Must Not Be Specific to a Product

- The **rights** attached to the program must not depend on the program's **being part of a particular software distribution**
  - **If the program is extracted from that distribution** and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution

## 9. License Must Not Restrict Other Software

- The license must not place **restrictions on other software** that is distributed along with the licensed software
  - E.g. the license must not insist that all other programs distributed on the same medium must be open-source software

## 10. License Must Be Technology-Neutral

- No provision of the license may be predicated on any **individual technology or style of interface**

## Open Source Licenses

- Academic Free License
- Adaptive Public License
- Apache Software License
- Apache License, 2.0
- Apple Public Source License
- Artistic license
- Attribution Assurance Licenses
- New BSD license
- Computer Associates Trusted Open Source License 1.1
- Common Development and Distribution License
- Common Public License 1.0
- CUA Office Public License Version 1.0
- EU DataGrid Software License
- Eclipse Public License
- Educational Community License
- Eiffel Forum License
- Eiffel Forum License V2.0
- Entessa Public License
- Fair License
- Frameworkx License
- GNU General Public License (GPL)
- GNU Library or "Lesser" General Public License (LGPL)
- Historical Permission Notice and Disclaimer

29 ottobre 2007

ICT Systems for Business Networking

23

## Open Source Licenses

- IBM Public License
- Intel Open Source License
- Jabber Open Source License
- Lucent Public License (Plan9)
- Lucent Public License Version 1.02
- MIT license
- MITRE Collaborative Virtual Workspace License (CVW License)
- Motosoto License
- Mozilla Public License 1.0 (MPL)
- Mozilla Public License 1.1 (MPL)
- NASA Open Source Agreement 1.3
- Naumen Public License
- Nethack General Public License
- Nokia Open Source License
- OCLC Research Public License 2.0
- Open Group Test Suite License
- Open Software License

29 ottobre 2007

ICT Systems for Business Networking

24

## Open Source Licenses

- PHP License
- Python license (CNRI Python License)
- Python Software Foundation License
- Qt Public License (QPL)
- RealNetworks Public Source License V1.0
- Reciprocal Public License
- Ricoh Source Code Public License
- Sleepycat License
- Sun Industry Standards Source License (SISSL)
- Sun Public License
- Sybase Open Watcom Public License 1.0
- University of Illinois/NCSA Open Source License
- Vovida Software License v. 1.0
- W3C License
- wxWindows Library License
- X.Net License
- Zope Public License
- zlib/libpng license

29 ottobre 2007

ICT Systems for Business Networking

25

## Materiale didattico

- The Open Source Definition
- Open Source Software & Free Software

29 ottobre 2007

ICT Systems for Business Networking

26

## Altri riferimenti

- **Open Source Initiative** [[www.opensource.org](http://www.opensource.org)]