

Demystifying Free, Libre and Open Source Software



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What I'm going to talk about

- Definition of FLOS and general criteria
 - Social, economic and cultural factors in the Caribbean – IT and FLOS
 - Myth: no support for FLOS software
 - Myth: FLOS is less secure because the source code is available
 - Myth: Being Pro FLOS means you are anti-proprietary software
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What I'm going to talk about

- Myth: You need to be technical user to use FLOS
 - Myth: Large organisations do not use FLOS
 - Myth: Using FLOS opens you to patent and copyright lawsuits
 - Myth: FLOS comes at no cost
 - Myth: FLOS more restrictive than other licenses
 - Myth: No FLOS value proposition for developing countries
 - Myth: We cannot benefit from FLOS in the Caribbean
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Definition of Free, Libre and Open Source (FLOS)

- **Free:** The software doesn't cost anything to obtain – although there are costs involved in configuring and maintaining it, just like with other software



Definition of Free, Libre and Open Source (FLOS)

- **Open:** Because the software code is open and readable by anyone, it also means that the software can be modified by anyone with programming skills ... allowing for the translation of software into local languages or the addition of features needed by a particular group



Definition of Free, Libre and Open Source (FLOS)

- **Collaborative:** Open source software draws its strength from the fact that people who improve, modify or customise programs must give it back to the open source community so others can benefit from their work.



Definition of Free, Libre and Open Source (FLOS): General criteria

- The author or holder of the license of the source code cannot collect royalties on the distribution of the program
 - The distributed program must make the source code accessible to the user
 - The author must allow modifications and derivations of the work under the program's original name
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Definition of Free, Libre and Open Source (FLOS): General criteria

- No person, group or field of endeavor can be denied access to the program
 - The rights attached to the program must not depend on the program's being part of a particular software distribution
 - The licensed software cannot place restrictions on other software that is distributed with it.
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FLOS methods and applications not limited to Linux alone

- OpenOffice.org - cross-platform productivity suite
 - Apache webserver – most popular webserver on the Internet
 - Mozilla.org and subprojects (Mozilla suite, Firefox browser, Thunderbird)
 - Google.com
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Similar, but not quite “FLOS” (methods)

- Wikipedia (global peer-reviewed encyclopedia edited via wiki)
- Creative Commons (creative media endeavours – music, video, audio)
- Groklaw (legal aspects of cases impacting OSS)



Social, economic and cultural factors in the Caribbean – IT and FLOS

- Technological innovation not really encouraged
 - Strong risk-averse business culture,
 - Unwillingness to make long-term investment in R&D (by businesses),
 - Strong preference for purchasing technology from abroad instead of developing locally
 - Inertia with respect to adoption of IT among the older population.
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Social, economic and cultural factors in the Caribbean – IT and FLOS

- Culture of casual copying – significant “copyright infringement” outside of official sector – proprietary software effectively at minimal cost



Myth: There is no support for FLOS software

- Many large software companies provide support for their FLOS products (IBM, Red Hat, Novell, MySQL, Apache)
 - Many Open Source projects also have user and developer communities to help support them.
 - The Open nature means that there can be multiple sources of information for a product (this can be good and bad)
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The credibility issue

- Businesses and people accustomed to and dependent on proprietary technology
 - Businesses concerned about technical support for Open Source (no one point person providing direct support) - is there a pool of qualified OSS people to maintain installations to the standard of commercial software?
 - Some of the FLOS concerns: FUD campaign by proprietary software companies and their advocates and lobbyists
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Myth: FLOS is less secure because the source code is available

- Availability of source code means flaws are visible to everyone
 - Fixes do not necessarily have to come from the vendor
 - “Security by obscurity” is not optimal strategy
 - Open and securely written software less susceptible to security-bugs (OpenBSD)
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Myth: Being Pro FLOS means you are anti-proprietary software

- FLOS is ultimately about choice and is simply another option for an organisation
 - The ideas behind FLOS are vendor-neutral
 - Even flagship proprietary software companies have on occasion released software under FLOS-like licenses
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Myth: You need to be a technical user to use FLOS

- Even though you may not understand the source code, you can always get someone who can.
 - Many FLOS products are just as polished as non FLOS (OpenOffice.org, Firefox)
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 - Many products made using FLOS software present a simple interface to end-users (Google search, Yahoo!, TIVO, Internet servers)
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Myth: Large organisations do not use FLOS

- FLOS not just for hobbyists and hackers
 - Many companies use FLOS and don't even know it (What web server does your site run on ? What's on your backend?)
 - FLOS software can present simple interfaces to end-users
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Demystifying FLOS: Who uses FLOS?

- Several reputable companies are using the technology, locally and internationally
 - Globally: IBM, Google Inc, Amazon.com, United Nations, Peru, Venezuela, South Korea, China, Department of Defense (USA)
 - Locally: CMMB, Petrotrin, rave-TT.net, Greendot, Magna-Card (every Oracle installation runs on top of Linux as the recommended platform).
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Myth: Using FLOS opens you to patent and copyright lawsuits

SCO case (SCO vs IBM, Red Hat, Novell, et al)
Open and transparent code, plus revision tracking and use of versioning systems means that potential infringement can be dealt with quickly. Linux kernel does not infringe on any other code. SCO unable to bring any evidence, and in fact may not own code that it claims was infringed

- Patent issues may be future source of concern. Possibility that patent portfolio of some software companies may be used as competitive weapon
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Myth: FLOS comes at no cost

- Obtaining the software may be free but there are still costs to consider (hardware, training, support)
- Cost savings usually come from more value per dollar



FLOS benefits: Cost Analysis

- All TCO calculations are unique, depending on the measures used, and who does the study
- Reduced cost of technology – cheaper than proprietary technology



Cost : Commerical vs. Open Source Solutions

Commercial Choice	Cost	Open Source Choice	Cost
Microsoft Windows 2000 Server	\$850	Mandrake & RedHat Linux	\$0
Commercial Web Server	\$0	Apache HTTP Server & ZServer	\$0
Relational Database	\$1,350	MySQL	\$0
Scripting Language	\$0	PHP, Python, & Zope	\$0
Commercial Portal Product	\$4,000	Zope + CMF + Plone	\$0
Office Productivity Applications	\$560	OpenOffice.org & Abiword	\$0
Database Integration Engine	\$1,200	PHP, Python, & Zope	\$0
Programming IDE	\$570	jEdit	\$0
Still Graphics Application	\$600	Pixia	\$0
Portal Client Access License	\$72	Client Access License	\$0
SQL Client Access License	\$72	SQL Client Access License	\$0
Single Server Config	\$7,650	Single Server Config	\$0
Cost per developer seat	\$1,730	Cost per developer seat	\$0
20,000 Client Licenses	\$2,880,000	10,000 Client Licenses	\$0

Analysis (costs for a CMS portal) done by Todd Ogasawara: State of Hawaii, O'Reilly OSCON 2002

Myth: FLOS more restrictive

Some features found in the GPL:

- freedom to copy, modify and redistribute the software
 - precludes one party from preventing another from having these same freedoms
 - provides coverage for rights of users to copy, modify and redistribute the software
 - no warranty as there is no fee
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Myth: FLOS more restrictive

Some features found in the GPL:

- can be sold if the user so decides and services for such software can be charged for
 - any patents must be licensed for everyone's use or not licensed at all
 - modified software must carry no licence fees
 - source code must be provided
 - if there is a change in license, the general terms of the existing one will be maintained.
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Myth: FLOS more restrictive

Some features about software covered by proprietary user license agreements (ULAs)

- copying was prohibited
 - could be used only on one computer with a maximum of 2 processors
 - cannot be used as a webserver or fileserver
 - required registration after 30 days
 - could stop working if hardware changes were made
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Myth: FLOS more restrictive

Some features about software covered by proprietary user license agreements (ULAs)

- updates could change the ULA if the company so wished
 - could be transferred to another user only once
 - the new user must agree to the licence terms (no specification how this could be achieved)
 - imposes limitations on reverse engineering
 - gives the company rights to collect information about the system and its use
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Myth: FLOS more restrictive

Some features about software covered by proprietary user license agreements (ULAs)

- gives the company the right to supply this information to other organisations
 - gives the company the right to make changes to the computer without having to ask.
 - warranty only for the first 90 days
 - fixes, updates or patches carry no warranty
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Myth: No FLOS value proposition for developing countries

- Building over a platform

As with proprietary software, free software platforms can be used as a (modifiable!) base on which new services or software are built: 100% of the added value is local



Myth: No FLOS value proposition for developing countries

- Sales commissions

Rarely possible with free software, but also represents little value. However, the entire “sale price” can be retained locally, as no proprietor has to be paid a royalty or licence.



Myth: No FLOS value proposition for developing countries

- Support, integration, customisation...

Local value addition extensive, as “deep” access is available. 100% of such services can be provided locally, retaining 100% of the value locally.



Myth: We cannot benefit from FLOS in the Caribbean: Strengths and Advantages

- Extends life of hardware – lengthens return on investment made in computer systems
 - Foreign Exchange savings – reduced spending on imported technology, improvement in the country's BOP, even if only used domestically
 - Encourages innovation and builds capacity – Open Source Technology encourages creation of new products/services and new businesses
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Myth: We cannot benefit from FLOS in the Caribbean: Strengths and Advantages

- Develops the human resource base – not only skills to use OSS applications, but skills learned from participating in the OSS community, including:
 - programming
 - copyright law and licenses
 - teamwork and team management
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Myth: We cannot benefit from FLOS in the Caribbean: Strengths and Advantages

- Focuses on problem solving and collaboration (critical skills for any workforce)
 - Development of scalable skills – Linux OSS users can easily learn to work in Unix and other Unix-like systems (OS X and the BSDs)
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Myth: We cannot benefit from FLOS in the Caribbean: Strengths and Advantages

- National security concerns – better control over the technology underpinning a country's defence and financial systems. Access to the source makes “secret” backdoors less likely

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Myth: We cannot benefit from FLOS in the Caribbean: Strengths and Advantages

- Use in disaster relief – OSS can get you up and running rapidly in the worst physical conditions, given openness of protocols and file formats (December 2004 tsunami and Hurricane Katrina)
 - CDERA ran successfully on OSS for two years with no loss in productivity

What other countries are doing...

" If he is to make good on his promise to improve life for the tens of millions of Brazilians who live in dire poverty, President Luiz Inacio Lula da Silva knows that one key challenge is to bridge a massive technology gap. And if that means shunning Microsoft software in South America's largest country, then so be it."

<http://www.wired.com/news/infostructure/0,1377,61257,00.html>

What other countries are doing...

"The Indian government seems to be taking a leaf out of China's operating system, and is planning a countrywide drive to promote the open source operating system, Linux, as the 'platform of choice' instead of 'proprietary' solutions."

"The Department of Information Technology has already devised a strategy to introduce Linux and open source software as a de-facto standard in academic institutions, especially in engineering colleges through course work that encourages use of such systems."

http://www.aaronbrewster.com/index.php?id=327&first_item=90

