



The OSSG Quarterly Newsletter

- The newsletter of the Open Source Specialist Group of the British Computer Society

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From the editor

Welcome to the inaugural edition of the OSSG quarterly newsletter. Our aim is to make the OSSG newsletter insightful and informative around Open Source and Open Standards software and related topics. We hope you find it of interest and welcome contributions from all.

Sarah Davey – Editor

Microsoft Monopoly fact, fiction, and Open Source opportunity

Contributed by Mark Elkins, Chair, OSSG

A monopoly essentially means that there is no other choice available. For example where there is only one supplier of coal. With computer software there are many choices available. The main types are Bespoke, Commercial-Off-The-Shelf (COTS), and Open Source. Microsoft is, with very minor exceptions, one of several COTS suppliers.

Therefore how is it that many claims are made that Microsoft have a monopolistic hold on the software market? It is true that sales of Microsoft products account for a large share of the software market in the UK. However because there are other choices available this might suggest that this situation has developed through customer choice rather than supplier design.

What is surprising about this so called monopolistic situation is that in both the Public and Private sectors there are complaints about it, but many of those complaining continue to buy Microsoft products and have had a tendency to ignore other choices. Arguments about Total Cost of Ownership and lack of non-Microsoft skills are frequently quoted to justify this practice.

Compounding the skills argument is the claim that the Education sector must provide the skills the market demands. Thus if many employers mainly buy Microsoft products then they will correspondingly mainly want IT and other staff trained in those products. As a result it is common for employers to insist that IT staff should have Microsoft qualifications and that other staff should be trained in the use of Microsoft products. Indeed there has been a lot of media discussion on the importance of the State Education sector supplying IT training linked to the attainment of software vendor qualifications. Also UK universities are often criticised that the training given to IT undergraduates is too broad and should be more industry focused.

Every cloud has a silver lining and in the case of software the above arguments can be used in favour of Open Source by bringing them out in the open. It therefore follows that one of the main aims of the Open Source Specialist Group (OSSG) is simply to promote an alternative choice. Ironically informing UK organisations of this choice also has a benefit for Microsoft in that its existence offers proof that they do not have a monopoly.

Although the [article](#) was written in 2005, six years on, is the Microsoft monopoly fact or fiction and what is the opportunity for Open Source?

What has changed since?

Open Source Software in the Defence Industry

Contributed by Anthony Harrison, Thales

There are an increasing number of defence programmes incorporating Open Source software (OSS) as the defence industry moves from proprietary closed systems towards open systems. It is also perceived as offering 'value for money', which in these challenging times of diminishing budgets is clearly seen as a distinct advantage. Whilst there are currently few Open Source applications specifically developed for the defence market, there are an increasing number of applications and systems being developed with, or based on, Open Source components; this philosophy fits in with the customer's objectives to remove the potential of vendor lock-in and the significant cost benefits that this entails. The US Defence market is increasingly taking advantage of OSS, actively promoted through various groups within industry and government, including Mil-OSS and Open Source for America - the next opportunity is for the UK market to be similarly liberated.

You can read the complete article here - <http://www.linuxit.com/assets/files/media/memberships/OSS%20in%20the%20Defence%20Industry.pdf>

Would indemnifying OSS work, and would it increase adoption?

Contributed by LinuxIT

All over the world Governments and organisations in the private sector have Open Source policies in place, however even in the light of this positive discrimination there is still little evidence that Open Source is being widely adopted - whilst the spend on proprietary, closed source, software continues unabated.

The major barrier professed by most organisations that wish to adopt Open Source, is that once you move past the ideological and cost benefits, that up to now there has been no guarantee that the software is fit for purpose, and that all of the risk of adoption and use is borne by the adopter.

The benefits of Open Source derived from its project development paradigm, as often the software is created by teams of unpaid people dedicating free time, can also create the biggest risk.

Of course in a proprietary software model if your software doesn't work as it should then you can go back to the publisher and hold them accountable to get it fixed. With the Open Source option you can of course submit your bugs but there is no 'commercial imperative' to act upon them and that the community project will fix them, and certainly not in a specific time frame, or against any service level agreement.

So what about an Open Source software Indemnification Program?

It would be possible to team up with an indemnity insurance provider; to underwrite a selection of community based Open Source software. And then based upon a Service Level Agreement it could provide complete peace of mind for those wishing to embrace the benefits of adopting Open Source software. Then if the software doesn't work as expected the insurance will enable it to be fixed, or to be replaced with software that does.

How could the software be selected for inclusion on the program?

You could certify the software with the version to be indemnified being run through a certification process. Once certified a copy of its source code would be maintained. If a bug is identified the insurance arrangement would allocate resources and money to fix the problem at whatever scale, up to a maximum cost. This approach is designed to identify the scale of the problem and to ensure that enough resource is available to fix the problem with the agreed timescale.

Do you think that this service would help or hinder the adoption of OSS?

Berkeley Software Distribution (BSD) Licences that allow Open Source code to become Closed Source

Contributed by Mark Elkins, Chair OSSG

It is usually taken for granted that a central tenet of Open Source software is that the code is open for viewing. Indeed the ['The Open Source Definition'](#) as set out by The Open Source Initiative (OSI) might lead the reader to conclude that any software code created under an OSI approved licence would always have to be open for viewing. The two BSD licences approved by OSI namely the [BSD 2-Clause](#) and [BSD 3-Clause](#) do in fact challenge this concept in practice.

A perusal of the 'The Open Source Definition' makes it clear the code should be open in section "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-publicised 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 pre-processor or translator are not allowed".

Within the BSD 3-Clause licence it states:-

"Copyright (c) <YEAR>, <OWNER>
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the <ORGANISATION> nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission".

The BSD 2-Clause licence differs from the BSD 3-Clause licence simply in that it omits the last clause. From an examination of the two BSD Licences approved by OSI it would appear that all that is required to comply with their terms is that software includes the BSD Licence, the name of who created it, and the year it was created.

To the uninitiated it might be easy to conclude that they would not be aware that the two OSI approved BSD licences allow Open Source code to be taken and placed in closed source software where there is no right to view the code. For this to happen the requirements are that the software includes the BSD Licence, the name of the creator and the year of creation. Interestingly and perhaps rather controversially the permission of who created the BSD licensed code is not required.

What is your view about this?

Open Source Software Meets Open Source Hardware: The RISC 1000

Contributed by Jeremy Bennett, Embecosm

The following paper presents the OpenRISC 1200, an Open-Source implementation of the OpenRISC 1000 architecture, verified using Open-Source tools. The OpenRISC 1000 is supported by modern GNU tool chain and is capable of running Linux as well as many real-time operation systems.

The OpenRISC 1000 was conceived in 1999 by Damjan Lampret. The objective was to use an open source approach to silicon intellectual property (IP) development, which at the time was almost exclusively closed source. The concept was wider than just the OpenRISC processor, and a website for open source IP of all types, [opencores.org](#), was set up to host contributions.

Originally supported by Flextronics, the opencores.org website is now run by ORSoC AB, a Swedish design consultancy. Discussions are in progress to set up a fully independent community run foundation in the longer term.

The OpenRISC 1000 is a family of 32 and 64-bit RISC processors with a Harvard architecture. The instruction set architecture (ISA) is similar to that of MIPS or DLX, offering 32 general purpose registers. The processor offers WishBone bus interfaces for instruction and memory access with IEEE 1149.1 JTAG as a debugging interface. Memory management units (MMU) and caches may optionally be included.

The design is completely open source, licensed under the *GNU Lesser General Public License* (LGPL), this means it can be included as an IP block in larger designs, without requiring that the rest of the

design be open source. Although there have been ASIC implementations, the majority of uses are with *field programmable gate arrays* (FPGAs).

The OpenRISC processor has been adopted in a number of commercial applications. Beyond Semiconductor is a design house, supplying commercially hardened derivatives of the OpenRISC processor. Jennic (now part of NXP) was an early adopter of the Beyond Semiconductor designs for their Zigbee chips. Cadence use OpenRISC as a reference architecture to demonstrate their various EDA design flows.

You can read the complete paper here - <http://www.linuxit.com/assets/files/media/memberships/bcs-ossq-or1k-verification.pdf>

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Contributing to the OSSG newsletter – please send your contribution to The OSSG newsletter Editor, Sarah Davey, LinuxIT at: sarah.davey@linuxit.com. Submissions must be in electronic format, as plain text.

In all cases, the views expressed are those of the authors and are not necessarily those of the Editor, the Open Source Specialist Group (OSSG), the BCS or LinuxIT.

The OSSG newsletter is compiled by LinuxIT, specialists in Open Source software and related services. More at www.linuxit.com.

