Open Source is the Secret Sauce IT Monitoring

A Whitepaper by David Collier, Director, Nobius.

Enterprise grade solutions with no license costs.

Understanding Open Source licensing and solutions in the area of IT Monitoring leads to lower costs and improved service delivery.

Nobius
IT MONITORING. DELIVERED.

About Nobius

Award Winning UK based IT consultancy Nobius helps customers gain value from open-source software and hosts solutions for them.

Nobius is a strong advocate of Open-Source software. We are an award-winning UK company that specialises in Open-Source based IT Infrastructure monitoring based on Zabbix.
Zabbix is enterprise level Open-Source software that identifies, manages and alerts on issues within your entire IT Infrastructure.

Reality Check

Let's get one thing clear, you already use Open Source software within your organisation. Somewhere. And probably more – a lot more - than you think.

If we take the ubiquitous mobile phone - research from Statista (https://www.statista.com) shows that Android has 49% market share of the UK mobile operating system market as of June 2023. If you want to download Android, then feel free it's here: https://source.android.com/. Android is primarily developed by Google. What about Open Source databases such as MySQL? MySQL was acquired by Oracle as part of its acquisition of Sun Microsystems back in 2010. As well as Sun servers, storage and networking hardware, that acquisition also included JAVA and the MySQL database engine.

We shouldn't forget too that Microsoft has acquired github. Github is the worlds largest open source development repository. Back in 2018, Microsoft CEO Satya Nadella was quoted as saying "We are all in on open source."

> "Microsoft has heritage here. We were a developer tools company first and now, of course, we are all in on open source, and that's what really brings us together with GitHub. We're going to operate it as an open platform for any language, any framework, any platform."

Even development languages such as Python, RUST, and C[1] can be said to be Open Source.

So does that mean that Google, Oracle and Microsoft are Open Source companies? No, definitely not, absolutely not and I should be laughed out of the industry if I even suggested it.

What it does mean is that the Open Source waters are cloudier than you may think. That's why we need to understand what Open Source actually means.

For many people, the phrase "Open Source Software" seems interchangeable with the phrase "Free Software". There is also the hybrid acronym "FOSS" (Free and Open Source Software).

[1] *Languages are standard definitions, but their compilers can be Open Source, e.g. GCC.*

I won't bore you with a long history lesson other than to say back in the mid-80's, Richard Stallman defined 4 essential freedoms for software to be Free and Open Source Software:

- **The freedom to run the program as you wish, for any purpose.**
- **The freedom to study how the program works, and change it so it does your computing as you wish.**
- **The freedom to redistribute copies so you can help your neighbour**
- **The freedom to distribute copies of your modified version to others**

This was later clarified by Linus Torvalds – the creator of the Linux Open Source Kernel and father of the Linux Operating System – with this wonderful analogy :

So think of Open Source in the same way you think of how science as a discipline works.

"Free software" is a matter of liberty, not price. To understand the concept, you can think of "free" as in "free speech," not as in "free beer".

Benefits of Open-Source

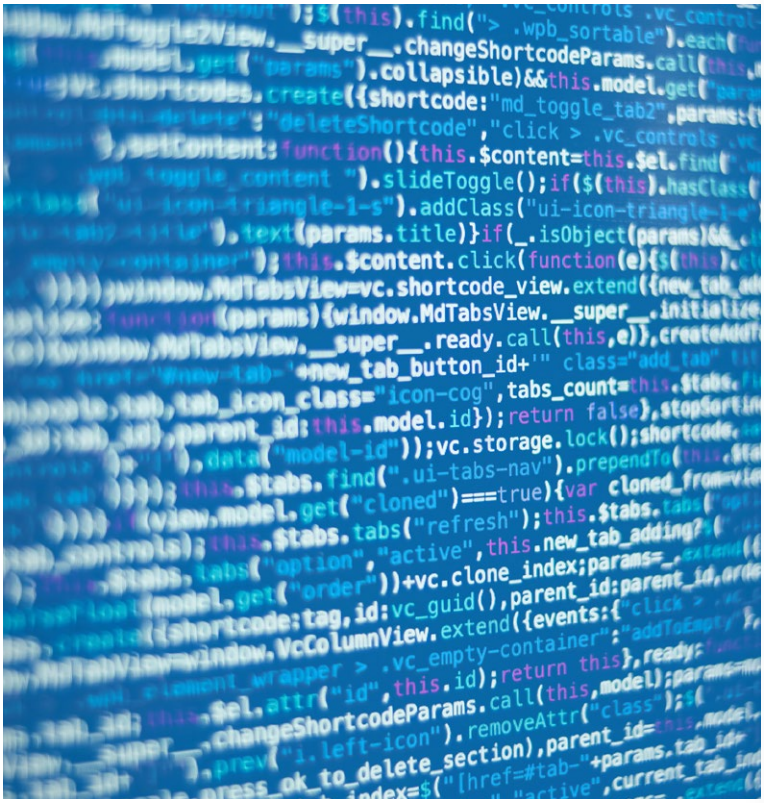
- **Open-Source provides a high degree of flexibility and customization.**
  This means that you can tailor the software to fit your specific needs
- **Open-Source is generally very stable and reliable.**
  This is because the software is constantly being tested and improved by the community. Third, Open- Source is usually free to use. This is a big advantage for organisations that have tight budgets
- **Open-Source software is often more secure than proprietary software**
  This is because the security flaws are quickly found and fixed by the community.

> I often compare open source to science. Science took this whole notion of developing ideas in the open and improving on other peoples' ideas. It made science what it is today and made the incredible advances that we had possible.
>
> Linus Torvalds
> Creator of Linux and Git

Open-Source Licensing

In order to support Open-Source development it's necessary to have to have some sort of licensing scheme. The reason is straightforward, without a license scheme that specifically allows sharing of source code then that code is covered by intellectual property laws.

Intellectual property (IP) laws restrict the modification and sharing of creative works. Free and open-source software licenses use these existing legal structures for the inverse purpose of granting freedoms that promote sharing and collaboration. They grant the recipient the rights to use the software, examine the source code, modify it, and distribute the modifications.



There are several types of open-source licenses, but the most common ones are:

1. GPL (General Public License):

   This license requires that any modifications or derivative works of the original code be released under the same GPL license. It also requires that the source code be made available to anyone who receives the software.

2. MIT License:

   This is a permissive license that allows people to use, modify, and distribute the code as long as they include the original copyright notice and disclaimer. It does not require that derivative works be licensed under the same license.

3. Apache License:

   This license also allows people to use, modify, and distribute the code, but it includes a patent license that grants recipients the right to use any patents that the contributor holds that are necessary to use the software.

4. BSD License:

   This is a permissive license similar to the MIT License that allows people to use, modify, and distribute the code, but it also includes a clause that prohibits the use of the original author's name in advertising without their permission.

The main differences between these licenses are their requirements for derivative works, distribution, and attribution. GPL is considered more restrictive because it requires that derivative works be licensed under the same license and that the source code be made available. MIT and BSD are more permissive, allowing derivative works to be licensed under any license and not requiring source code to be made available. The Apache License is similar to MIT and BSD, but it includes a patent license that may be useful in some situations.

Zabbix Licensing

Zabbix software is released under the GNU General Public License (GPL) version 2. The formal terms of the GPL can be found at http://www.fsf.org/licenses

You can redistribute it and/or modify it under the terms of the GNU GPL as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

For additional details, including answers to common questions about the GPL, see the generic FAQ from the Free Software Foundation at http://www.fsf.org/licenses/gpl-faq.html

Zabbix and Industry

All large organisations are facing challenges of complexity that have evolved over time. The situation is compounded by the 'profile' of the service users who have become increasingly more tech-literate. The service users demand that the services they use are connected, reliable and intuitive. It's no exaggeration to say that one of the impacts of COVID that continues to this day is that more people are more used to using online services as opposed to the more traditional means such as the telephone.

This changing landscape, where technology debt is impacting service delivery, combined with more advanced service users and acutely constrained budgets means that your IT Infrastructure needs to be more stable and more cost effective than ever before.

Zabbix is an enterprise class IT monitoring solution, built by a full-time team of developers and released under the GPL v2 license. In addition to the software, Zabbix – through it's network of certified partners, such as Nobius, offer world

class training and support services.

You can think of Zabbix as being just like any other software with one major difference.

Zero licence costs

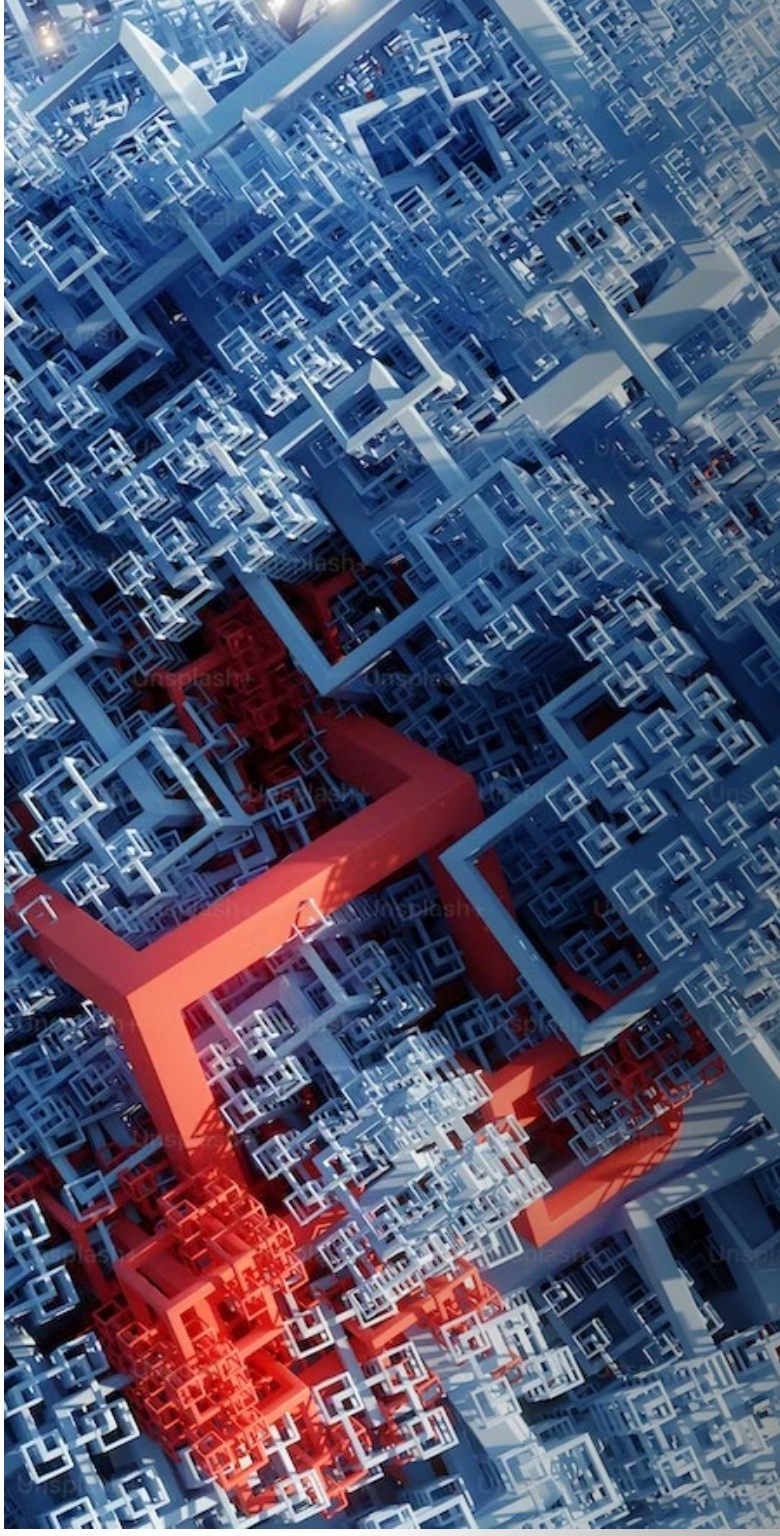
In July 2023, the UK Governments Central Digital and Data Office updated The Technology Code of Practice. This document actively encourages the use of Open-Source technology to "..improve transparency, flexibility and accountability." The document goes on to say:

How using open source will help your programme

Your technology project or programme could benefit from:

- **solving common problems with readily available open source technology**
- **saving time and resources for customised solutions to solve rare or unique problems**
- **lower implementation and running costs**
- **allowing open source and closed source (proprietary) software to work together**

Be aware that open source software is not completely free, so take into account the total cost of migrating, including exit and transition costs.



Of course, the use of Open-Source software may not always be the most effective solution and the CDDO provides a 15-point checklist when deciding on the best solution.

1. Does the solution do what you need it to do?
2. Does the solution meet the needs of your end users?
3. What are the solution's initial and ongoing costs?

4. Will the staff need training or will expert users need to be employed to manage the solution?
5. If the solution is open source, how widely is the code already adopted? How mature is it?
6. Does the solution offer the level of support needed?
7. How well is the solution maintained and is there evidence of further development?
8. How reliable is the solution? This is hard to measure, but one way is to assess it by looking at its maturity.
9. How well does the solution perform? Can you analyse performance data or reviews?
10. How well will the solution scale to meet your needs?
11. Does the solution's security meet your needs and does it have regular security patches?
12. Is the solution flexible? You can customise the solution to fully meet your needs but be aware this can make future updates and security patches hard to implement.
13. Will the solution work with your other technology?
14. Is the solution's licence acceptable to your organisation's business requirements? Are there any restrictions or gaps that would cause issues?
15. Is the solution's warranty acceptable and is there an option to buy one?

A little more about Nobius

Nobius is a UK limited company formed in 2019 by ex-Hewlett Packard and Micro Focus employees. They bring over 75 years combined expertise in IT Operations Management and Monitoring.

This experience extends far beyond product specific knowledge. Nobius are highly-skilled in designing monitoring architectures and full-lifecycle implementation of IT monitoring solutions.

In addition to implementing what is believed to be the largest Zabbix platform in the UK, we also host Zabbix for a number of customers.

Nobius has also successfully extended Zabbix to monitor CCTV systems, Time and Attendance systems as well as fire and intruder detection.

Nobius was the first official Zabbix partner in the UK and remains the only UK-based Zabbix dedicated partner.

ZABBIX
CERTIFIED PARTNER

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