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The outlook for open source? Growing, but there are challenges

While more companies are using open source technologies, not everyone may realise it

By **Steve Ranger**   Published: **09 Feb 2024 16:45**

Use of open source software continues to grow as companies look for ways to squeeze the most value out of their tech budgets – even if the bosses do not always realise what's going on.

The vast majority (95%) of respondents to a survey by Perforce Software said their organisations had increased or maintained their use of open source software in the past year: 33% said their usage had increased significantly. The 5% who reduced their usage were mainly from early stage startups, while 39% of those in large enterprises reported an increase.

Not everyone inside those organisations may actually realise that they are using open source. Senior executives were more likely to say their organisation's usage had stayed the same, compared with those in more hands-on technology roles.

"This suggests a possible disconnect for those in leadership positions who may not know how much open source software is being adopted," the report said.

There were more than 2,000 respondents to the survey, half with job titles including systems administrator, developer, engineer and architect, another 17% in manager, team lead and director roles, and 5% in vice-president or C-suite positions.

The top reason cited for their use of open source software was the absence of license costs and the ability, therefore, to reduce costs. But second to that came the flexibility of open source options to help speed-up development, followed by access to stable technologies, innovation and the chance to reduce supplier lock-in.

In last year's report, however, cost reduction was only the ninth most popular reason, suggesting a tougher economic outlook and tighter budgets may have played a part in the technology choices being made. Just over half (51.5%) of respondents working in government or public services said the lack of license costs and cost reduction was the reason for using open source – the highest percentage for any industry.

Concern for open source supporters

However, even if most organisations are happy to use the software, far less are willing to contribute their own time and effort. Less than a third (29%) said their organisation contributes to open source projects and organisations, or develops new software in public Git

repos. That's down from the previous year's report, and something of a concern for some open source supporters.

In terms of specific technologies, in last year's report, software development lifecycle tools and containers were the top two choices that companies were using to build projects. This year, however, both have been overtaken by databases and data technologies.

The interest in data technologies goes hand in hand with the exponential growth happening right now in the artificial intelligence (AI), machine learning (ML) and deep learning (DL) space, said Stefano Maffulli, executive director of the Open Source Initiative, which worked with OpenLogic by Perforce on the report. "Artificial Intelligence, machine learning and deep learning models are trained on massive amounts of data, so it follows that investment in open source data technologies is surging," he said.

Cloud and container technologies are still being invested in by many organisations – particularly by large enterprises that are investing in the use of containers as the preferred architectural model.

Small to medium-sized firms are putting more effort into data technologies. Software development lifecycle tools have dropped right down to 11 on the list, perhaps as a result of a lack of innovation in that sector recently, the report said. But the growth in open source usage is not without challenges: maintaining security policies or compliance was seen as at least "somewhat challenging" by 79% of respondents (and 44% said it was challenging or very challenging).

Nearly half (42%) said maintaining end-of-life versions of open source software is challenging or very challenging, while 70% said keeping up with updates and patches was challenging.

Only a small group (16%) said they had no open source skills shortages; of the rest, the largest proportion (45%) said they were dealing with their skills shortfalls by providing training to their existing staff – or hiring staff or contractors. Perhaps unsurprisingly, larger companies were more willing (or more able) to hire in, rather than train up.

End of life software

According to the survey, Ubuntu is the most common Linux distribution, with 46% of the respondents using it (up from 26% last year), while Debian is used by 23%. Nearly a quarter are still using CentOS, even though it is approaching end of life (EOL) later this year. "Time is running out for organisations on CentOS, as community support for CentOS 7 will end on 30 June 2024, making all CentOS versions EOL," the report said.

Beyond saving money on software licensing, open source enthusiasts argue it could be a significant driver of the tech economy. Industry group OpenUK describes open source as "the submarine under the digital economy" and said it contributed 27% of the UK tech sector gross value added (a measure of economic value) in 2022.

It argues that the "crew" of that submarine – with 8,000 UK contributors to open source projects in a 12-month period – are often overlooked but play an influential role in the tech industry.

The broader potential impact of open source – such as in government – has not gone unnoticed. Chi Onwurah, shadow minister for science research and innovation, recently praised it on X after giving a keynote at an open source event. "Open source can help democratise tech driving innovation for the nation, economic growth across the country – digital integration for public good," she said.

For open source web infrastructure, Apache HTTP and NGINX are always very close in terms of usage, and this year, NGINX was the more popular choice according to the report.

Apache Tomcat was in third place, and in terms of most-used programming languages, Python has overtaken JavaScript as the most used programming language. "Regardless of the type of application, everything starts with the choice of programming languages or runtimes, and while Python has been popular for a long time, it's significant to see it become the most popular programming language," the report said.

Larger organisations (with 500 to 5,000 or more employees) seem to favour Python, but there is an even split among small to medium-size organisations (0-499 employees), and early stage startups are using JavaScript more. PHP and C/C++ are the second or third most popular among all organisations except startups, which favour Node.js after JavaScript and Python.

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