

## On Performance, Legislation and Growing Importance

# Paul Ramsey on Open Source

*Geospatial open source seems to be on the rise. During a June conference in Delft (The Netherlands) on the use of open source, software architect Ramsey held a keynote on the use of open source geospatial software. According to Ramsey, the Google Suite can be seen a perfect example of a software suite to produce maps, made for use by a mass audience. He stated that with a similar architecture consisting of open source components, the same product can be offered to the public. After his keynote, I had a chance to ask Paul about his views on topics such as open source versus closed source, performance, decision-making processes and legislation on the use of open source.*

By Eric van Rees



Paul Ramsey

vendors don't like to publish physical benchmarks of their software. They like to have full control over that information. However, there was a benchmark Mapserver vs. ArcIMS, for example, that was done a few years ago, presented at a open source conference that showed operational performance where Mapserver ran about 20 % faster. Why? Because of a lighter architecture.

We found similar things benchmarking PostGIS versus Oracle Spatial. And there PostGIS was much faster than Oracle Spatial. And I can only assume this is because Oracle Spatial is implemented on top of a fairly heavy generic object structure. Whereas PostGIS is a direct C-language extension to PostgreSQL, that doesn't have to build on top of an abstract feature model. And also, Oracle supports and does all things for all people – it has a much wider set of features, and you have to pay a price at some point for having that.

So for physical scalability, in general open source has been comparable or better. Sometimes a lot better, sometimes just similar. But once they're similar, that's where the dollars kick in. You say: 'well, the cost of scaling the system when I use proprietary software, is mostly in the expensive software'. If you're spending \$20,000 to license software for a \$2,000 server, what's the scalability equation going to be? It's going to be all in the software.

Organisationally, if you do actually have the scale your system a great deal, there's never going to be any comparison. Even if open source software is twice as slow, you'll still be better off just buying twice as many servers. I mean, it's interesting to know who's physically faster, but from an organisational decision-making point of view, what are you getting for your dollars and where are you going to spending your dollars?

**In your keynote, you mentioned the importance of communities in open source. As a whole, who is leading the open source community?**

So far open source has been hampered in its expansion into big organisations, by the fact that the people who understand it aren't the people who make the decisions. Open source

**I'd like to start with a question about the performance of open source. It seems that open source is faster than proprietary software. Is open source faster on the server side compared to closed source?**

Well, it depends on which product you look at, since different products have different speeds. And you have to be really careful

about what you mean by "performance". Because "performance", raw physical performance, is only a small portion of the institutional decision on whether to use a product or not. An institution only has so many dollars, so what they really need to support is X-transactions per dollar per second.

In terms of pure physical performance, unfortunately benchmarks are un-publishable for the most part because proprietary

been 'nerd-led'. So the nerds understand what it can do but they don't get to choose technology necessarily. At best, they get to make a recommendation. The decisions are made at higher levels. And they also are made within the context of existing technology. Any organisation of more than a half dozen people has already made a whole bunch of legacy technology decisions.

So open source is going to have the same problems that any non-incumbent vendor will have. The incumbent vendor will always have an advantage. So to the extent that, say, Microsoft owns the whole market, anyone who's not Microsoft, open source or otherwise, is going to have a very hard time dislodging them, because new IT decisions are made within the context of previous decisions.

What happens is that big organisations go through generational changes: technology changes and decision-maker changes. What we're going to see over the next ten or twenty years is that the geeks and the nerds who understand open source are going to move from a technology advisory role to a decision-making role. And they're not going to swap out their proprietary infrastructure immediately, because that would be stupid and uneconomic. But when proprietary infrastructure reaches the point of needing to be replaced, there will be an opportunity for a decision that takes into account all the alternatives and not just a particular vendor.

### What do you think of governmental legislation on the use of open source? Should people be obliged to use open source by law?

It just has to do with data freedom.

As long as the vendors are adhering to a

certain concept of data freedom that mostly has to do with open standards, and not open source, I don't think the government should be getting involved in terms of mandating a certain solution.

Don't say 'use this technology', just say 'achieve these goals'. The goal should be data freedom, that's a reasonable public policy goal. By the same token, I think it's important in order to achieve good technology outcomes that maybe there'd be some mandates around purchasing and technology selection that say not 'you must select open source' but 'you must consider it'.

Because, unlike proprietary software, there's not going to be an open source vendor with the marketing budget to drag the product into a traditional product evaluation process. And if the government does not avail itself of this technology they're missing a potential opportunity. So again, it's a bad policy to ignore options, right? So, a mandate saying 'look at every option' is probably a good one. A mandate saying 'always select this option' is probably not a good one.

### GIS and CAD are becoming more and more mainstream: ESRI with Google and Microsoft, Bentley with Adobe, Autodesk with Web 2.0 and open source connections. Is open source going mainstream?

Open source is still geek talk, for the most part. The mainstream users know what they're told, and the primary source of geospatial information for most users is their vendors. The biggest GIS conference in North America is the now the ESRI User Conference.

Now, I don't expect the average GIS practitioner to go out there and teach themselves how to do stuff. It would be particularly nice for systems architects to understand all the compo-

nents, but your mainstream GIS practitioner is an end-user, so they take what's put in front of them. So, no, I don't expect open source GIS to hit the mainstream GIS practitioner.

What IS going to change, is where is all the activity is happening, the 'new stuff'. Are Microsoft Office, Microsoft Windows relevant in a world of Google and internet apps? Are the people who are building internet apps all that concerned with things like Microsoft Windows and Office? No, not particularly. They are using the tools that are at hand, like PHP, like Python, open source libraries for doing Javascript.

What's happening is the mainstream of technological development is migrating away from the place where the proprietary vendors have full control. And the same thing is happening in geospatial. So, yeah, for traditional desktop GIS it's not going to change. It's still going to be ESRI. But the place where the important GIS growth is happening is moving away from the desktop and to the server side, to internet stuff. And that's where open source is strong, 100% competitive in terms of technology, and a lot more flexible because the lack of licensing, and the lack of a vendor who wants to use their product line to tie people into their suite at every level of the technology stack.

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*For more information on Paul Ramsey, have a look at his blog at <http://blog.cleverelephant.ca>*



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