



Business Software Alliance: Software and Openness Issues for eGovernment

The goal of the eGovernment initiative is to use information technology to improve citizen access to government in three primary ways:

- The delivery of government services to citizens;
- Citizen engagement and dialogue with government; and
- The provision of government data to citizens for their use.

As recognized in the W3C working draft, *Improving Access to Government through Better Use of the Web* ("Improving Access draft"), making the initiative a functioning reality will require software tools and standards to be developed and adopted. In deciding how best to identify and choose software for these purposes, the draft touches on the question of whether commercial or open source software is best suited to eGovernment needs. BSA believes that the choice should be made on the basis of neutral performance and cost criteria necessary to improve citizen access to government -- such as ease of use, interoperability, security, and total cost of ownership and deployment -- and not on whether the software tool is made available on commercial terms or through open source licenses. What is the best software for the task depends on the specific requirements necessary to meet these important eGovernment objectives, rather than in the inherent nature of a software development or licensing model. Furthermore, in the drive for a more open government, it is important to distinguish between open source products and open standards: whether a standard qualifies as "open" has nothing to do with the development and licensing model of the software used to implement that standard.

Considerations for eGovernment Procurement

To achieve the eGovernment objectives, the decision whether to acquire an open source or a commercial software product should be based on the value the government receives from the software (performance, interoperability among systems) weighed against its cost (including acquisition costs, training costs, and maintenance and support costs). The decision should not be based on factors unrelated to achieving the goals of better delivery of government services, improved citizen engagement, and increased citizen access to government data.

At the broader policy level, it should also be recognized that technological innovation is best accomplished by a healthy, competitive, and diverse marketplace that allows software companies to develop and grow according to their own strengths and capabilities. Fair and open competition, and not procurement preferences, should determine which products earn the confidence

of government and the public. Rigorous competition ensures that technology providers have the incentive to invest and produce the best products for the market, which in turn means broader consumer choice among many innovative technologies.

Budgetary concerns

In making buying decisions, purchasers must also consider the cost of software during its entire lifecycle, such as long-term support and maintenance needs. Whether open source software is cheaper than commercial software for a particular customer should be determined in the context of the lifetime costs of a product. Purchasers should also consider the cost of retraining users familiar with one product to become competent in an alternative product, as well as initially lower productivity levels while the users familiarize themselves with the alternative product.

Performance

Government should choose software solutions, like any other product, based on its merits in terms of functionality, performance, interoperability, security, value and cost of ownership in relation to other software solutions available in the market. An organization procuring software should state in clear and objective terms the functionality, security requirements, and performance characteristics that the user needs, rather than how the software was developed or licensed. As recognized in the Improving Access draft, characteristics such as interoperability, privacy, and security must be taken into account in for eGovernment solutions.

Commercial, off-the-shelf software has been in the market for many years, offering consumers a wide range of computing functionalities and productivity enhancements on a mass scale. Customized commercial software solutions have also met the complex business operating requirements of larger organizations that off-the-shelf products may not be able to meet adequately.

Competition

The presence of competition in a market has a direct impact on the efficiency of the companies operating within the market, and, in the long term, on the benefits that consumers may receive from the products in the market. Instituting a government policy to pick winners or to constrain competition from an industry segment goes against the principles of competition and free choice. Such actions can harm the industry and suppress the benefits that may otherwise arise from competitive market forces.

Interoperability and standards

The Improving Access draft highlights the importance of interoperability for eGovernment, as well as the crucial role for standards. Sometimes, however, the need to promote interoperability among information technology is cited as the reason to promote a particular software development model, like open source. A more effective approach to achieving interoperability, in fact, is to develop a good understanding of technology standards and have a suitable strategy to adopt interoperable standards. .

Technology standards play an important role in hardware and software solutions. They facilitate interoperability, which gives a customer the ability to choose from a range of innovative software products to meet its need. Good standards are neutral and serve the needs of both small and large companies.

Standards are particularly important for the public sector due to the need for better communication between government and citizens and among government agencies. Standards also address archival and legacy system problems by providing continuity and minimizing the risk of fragmentation of the market into technological solutions that cannot work together. As recognized in the Improving Access draft, "[s]tandards work across many groups, governments, and organizations continues to aid governments."

Technology standards are typically documented in written specifications that enable developers of software, hardware and services to make and distribute products or components that interoperate. This interoperability can take the form of information exchange (e.g. protocols or file formats), task performance (application programming interfaces – APIs) and other functions that allow systems and people to collaborate effectively. Based on the standards, different suppliers can develop their own interoperable products, thus giving consumers a choice.

Voluntary processes have proven to be the most effective means of fueling innovation through standards. The marketplace, responding to customer demands, is typically in the best position to determine the appropriate timing for the development and promotion of a standard.

By contrast, government-mandated technology standards can have unintended consequences, such as freezing the development of new technologies or disadvantaging certain market players. There are, however, limited situations where standards may need to be mandated in the public interest, such as standards related to public health and safety issues (e.g. aviation, medical equipment, and cellular emission).

The success of a standard is measured by whether it ultimately solves the problem for which it is intended. A standard may be developed and evolved through a variety of dynamic processes that are voluntary and responsive to market demands, and the method of development is not the critical factor that determines a standard's success.

i. Open standards

“Open standards” are one type of technology standards that has garnered interest in relation to achieving widespread interoperability. On this point, the Improving Access drafts states, “It is of paramount importance to use open standards where available . . .”

Although there is no universally accepted definition of the term, the U.S. Patent and Trademark Office of the U.S Department of Commerce, in recent inter-agency cleared statement to WIPO, stated that open standards, as traditionally defined, are those “developed through an open, collaborative process, whether or not intellectual property is involved.”¹ All open standards have the following common characteristics:

- Open standards are published without restriction (e.g. potential implementers are not restricted from accessing the standard) in electronic or tangible form and in sufficient detail to enable a complete understanding of the standard’s scope and purpose;
- Open standards are publicly available without cost or for a reasonable fee for adoption and implementation by any interested party;
- Where there are any patent rights necessary to implement open standards, such rights are made available by those developing the specification to all potential implementers on reasonable and nondiscriminatory (RAND) terms, either with or without the payment of a reasonable royalty fee; and
- Open standards are regularly developed, maintained, approved, or ratified by consensus in a market driven standards-setting organization that is open to all interested and qualified participants. Standards can also develop by consensus in the marketplace.

¹ USPTO Statement to WIPO, posted on American National Standards Institute website at [http://publicaa.ansi.org/sites/apdl/Documents/News and Publications/Links Within Stories/US Statement on Patents and Standards.pdf](http://publicaa.ansi.org/sites/apdl/Documents/News%20and%20Publications/Links%20Within%20Stories/US%20Statement%20on%20Patents%20and%20Standards.pdf) .

ii. Open source distinguished from open standards

Open standards are not synonymous with open source software, and they do not exist only by virtue of open source software. An open standard is a technical specification (i.e. a written description) and either commercial or open source software may be used to implement an open standard in a particular product or service. Whether a standard qualifies as “open” has nothing to do with the development and licensing model of the software used to implement that standard.

Conclusion

The rapid advancement of computing technology in recent years has prompted the software industry to create better solutions, bringing about greater benefits to consumers, including government. Open source and commercial software each offer solutions for eGovernment needs and neither software development model is inherently superior to the other.

Those charged with implementing the goals of the eGovernment directive should not create a specific preference for one software model over another. Instead, government should choose software products for eGovernment, like any other product, based on its merits in terms of functionality, performance, interoperability, security, value and cost of ownership. Fair and open competition, not government-mandated preferences, should determine which products earn the confidence of consumers, including government entities.

Finally, effective adoption of standards, and open standards when they exist and are widely supported by industry, will bring about greater competition and innovation. Vigorous competition among different but interoperable technological products will allow government to choose innovative products that best serve eGovernment needs.