

FEATURE ARTICLE:

Openness and Legitimacy in Standards Development

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Abstract: *Consensus regarding which specifications can rightfully claim to be 'open standards' has been notably difficult to achieve in recent times. Usually, the question is academic, but when governments restrict their very substantial purchasing power to the acquisition of products and services implementing only such standards, then the selection of openness criteria can become contentious. In this article, I review the norms of openness observed by traditional SDOs and modern consortia in light of their standards-related goals, and traditional as well as cutting edge definitions of openness to be found in a variety of modern national government, international treaty, and private sector settings.¹*

There is perhaps no phrase in standards development less susceptible to a common definition than the deceptively simple words, 'open standards.' A commonly expressed industry sentiment is that there can, and should, be no such common definition, and in particular when it comes to the rules relating to intellectual property rights that an organization may choose to apply to its standards development process. Instead, it is said, 'openness' should be understood as a situation-specific waypoint located along a spectrum of multiple attributes and process requirements. Utilizing such a relativistic approach permits a balancing of factors in any given case, such as sectoral norms, stakeholder requirements and market demands, to determine which processes and rules are essential and which might be superfluous, and even damaging. Even then, the list of elements that might (or in another person's opinion, might not) qualify as requirements can be lengthy and the related discussions contentious.²

Differences in definitions for open standards might be accepted simply as an example of healthy market-based competition among business models (which indeed they are), but for the fact that such definitions can be used to establish legitimacy in the eyes of third parties, and especially legitimacy for purposes of trade regulation and government procurement. If openness becomes a factor (as it has) in defining what standards do and do not qualify

¹ An earlier version of this paper, lacking the section on the recently announced U.K. Cabinet Office Open Standards Principles and policy comparison table, was submitted to the First OpenForum Academy Conference, held in Brussels on September 24, 2012. The collected papers can be accessed [here](http://www.openforumacademy.org/library/ofa-research/first-conference-proceedingsA4.pdf): <http://www.openforumacademy.org/library/ofa-research/first-conference-proceedingsA4.pdf>. All Web pages cited were last accessed on November 25, 2012.

² A frequently cited (and extensive) list of attributes of openness has been assembled by Ken Krechmer. See, [The Meaning of Open Standards](#), *The International Journal of IT Standards and Standardization Research*, Vol. 4 No. 1, January - June 2006, available at <http://www.csrstds.com/openstds.pdf>. Krechmer proposes that openness requirements should be assessed from the differing viewpoints of implementers and users as well as creators of standards, and then identifies ten categories under which openness criteria can be identified and organized.

under relevant laws, regulations or international treaties, then the definition used necessarily takes on significant importance for commercial interests, and often for consumers and citizens as well.

In this article I will briefly review the historical evolution of open standards definitions, the manners in which they have become legally significant, and finally, current developments nationally, regionally and globally that touch upon this issue.

History of openness principles: The history of standards development in the modern era can be roughly divided into two periods. The first began in the late 19th century, and resulted in the gradual evolution of a two-tier, global development and acceptance infrastructure. The first tier was made up of national standards development organizations (SDOs), which were in turn represented in the second tier, comprising a small number of global non-government and treaty organizations, including the 'Big Is' (ISO, IEC and ITU), within which the majority of internationally recognized standards were evaluated and adopted. In the course of this evolution, a set of values and process expectations evolved that were agreed to represent baseline principles necessary to establish the legitimacy of the SDO, entitling its standards to be considered for acceptance on a global basis. These principles included process-oriented values such as accessibility to all affected stakeholders and transparency to non-participants, as well as fair competition concepts, such as the obligation to make available to all standards implementers any embedded intellectual property rights (principally patents) on fair, reasonable and non-discriminatory (FRAND) terms.

Each of these lofty principles was articulated in only a few words. Various supporting processes were designed at the national level to live up to the principles. The resulting activities were not supervised by the Big Is, because these organizations had no authority to review actions in member nations, no remit to accept appeals, and no powers of enforcement in the case of a failure by a member to adhere to standards of openness (a state of affairs that continues to exist today). But still, there was consensus on the principles, and consensus was, after all, one of the primary process values of the principles themselves.

The second era began in the early 1980s with the rise in the information technology (IT) sector of what are sometimes referred to as fora, alliances, or special interest groups (SIGs), but which today are most commonly referred to as consortia. These initiatives represented a move by industry to 'opt out' of the traditional SDO system, in part to assert more control, in part to limit development activities to their commercial peers, and in part to move more quickly from concept to standards implemented in actual products.

While vendors had always been the most directly interested and numerous participants in SDOs, companies in the rapidly evolving field of computer technology increasingly chafed under the often glacial process of the SDOs, encumbered in part by the delays that requirements to achieve consensus and to provide a right of appeal imposed, especially when enabled through procedural steps in a pre-Internet world dependent on face to face meetings and surface mail. Over time, the great majority of information technology, and to a lesser extent communications technology, vendors opted out of the world of SDOs as their venue of choice for standards development. In a rather Orwellian sense, the animals in the land of information and communications technology (ICT) had evicted the farmers, and taken over the farm.

These new consortia were typically narrow in focus (often developing a single standard), industry driven, and (if they so desired) unencumbered by the principles of the past. They were also vigorously goal-oriented – seeking wide spread adoption of a standard rather than simply its development. Accordingly, they took on such additional activities as might be

necessary in the given case to achieve that goal, including promotion, test suite development, certification and branding programs, and much more.

But over time, a strange process began to unfold: the animals began to look more like the farmers as some consortia broadened their scope, and others were founded to serve as centers of development in their self-assigned domains, becoming not unlike the many scores of SDOs formed in the U.S., each serving the standards needs of a discrete market sector. Unlike the traditional SDOs, however, consortia almost always aspired to international membership, and to the direct adoption of their standards on a global basis. Most significantly for current purposes, consortia also started to adopt most (but not all) of the same principles that had become normative in the traditional world of standards development.

That this should occur is not surprising. While traditional principles, as a lawyer might observe, 'sound in equity,' in fact, they are equally justifiable from the perspective of self-interest, because standards uptake is by definition voluntary (except when a standard is referenced into law). Absent the kind of market power in a standards development group that leaves the marketplace no choice but to adopt, consortia as well as SDOs are wise to pledge allegiance to, and also implement, the type of process and procedures that can assure everyone that they would be safer and smarter to participate in the development and adoption of a new standard than to stand aside and reject the specification in question.

An excellent way to convince competitors that a given initiative represents an opportunity rather than a threat can be found in honoring and implementing principles such as open participation (so that all can affect the result) and transparency (so that all can see that games are not being played, and expose them if they are). So it came to pass that those who formed consortia began to consciously design their governance structures and processes to demonstrate and guarantee that these principles would be protected in the breach.

That said, a one to one correspondence did not come to exist between the principles espoused by SDOs and those that guide consortia. For example, in SDOs, achieving consensus typically involves recording, responding to, and reconciling objections of dissenting participants in a working group, and a formal appeals process. Consortia, true to the original goals of their creators, are likely to adopt more agile, real time (rather than necessarily sequential, and therefore time consuming) mechanisms that nonetheless satisfy member-perceived requirements for due process.

Moreover, over time additional developments in the ICT sector introduced new standards-relevant differentiators from the traditional standards development sector, and this process has accelerated. Chief among them have been the advent of the Internet and the Web, each supported by a strong culture of 'free,' the rise of open source software (often made available under license terms incompatible with RAND declarations), and a remarkable convergence of technologies in laptops and mobile devices, resulting not uncommonly in the implementation of many hundreds of standards in a single device.³ The market-based expectations resulting from these developments have led many consortia to alter their intellectual property rights (IPR) rules and processes in response.

Trade Regulation and Government Procurement: At the same time that matters were changing at both traditional and modern setting organizations (SSOs), long-developed rules were coming under stress within government circles as well.

³ Brad Biddle, with co-authors Sean Wood and Andrew White, has concluded that a typical laptop implements at least 251 interoperability standards alone, with the total number of included standards of all types being far higher. See, [How Many Standards in a Laptop? \(and other Empirical Questions\)](http://standardslaw.org/How_Many_Standards.pdf), available at: http://standardslaw.org/How_Many_Standards.pdf.

Perhaps not surprisingly, these rules initially recapitulated the principles of openness that had evolved within the traditional world of SDOs, and not the ever-changing landscape upon which consortia are active. Indeed, when there were only 'de facto' standards owned by individual companies and many 'de jure' standards owned by SDOs, it was easier for governments to simply require the implementation of standards developed by SDOs than to delve into definitions of openness.

Europe: This was the route pursued in the European Union, where the only standards eligible for referencing in government procurement came from recognized global SDOs, such as the Big Is, and Europe's own regional SDOs (CEN, CENELEC and ETSI, organizations developing 'European Standards' under mandates from the EU). In recent years in the ICT sector, however, it has become clear that a rigid commitment to such a rule flies in the face of reality, given the pervasiveness of consortium-developed standards in most key areas of ICT.

This uncomfortable truth was recognized in one of the ten recommendations made in the 2010 Report of the Export Panel for the Review of the European Standardization System (ESS), which stated that:

. . . in many areas there is pressure for fora and consortia specifications to be 'recognized' in some way, and to facilitate the uptake of such specifications in a public policy or public procurement context. It is proposed that... the ESS will ensure that it has the improved mechanisms to interact with fora and consortia and ensure that the best standards are adopted appropriately.

Since the date of this report, the EU has moved (not without much *sturm und drang*) gradually in this direction, and on September 11, 2012, the European Parliament overwhelmingly approved the adoption of regulations intended to give EU firms:

. . . access to standard solutions to technical problems, enabling them to cut production costs, help spread best practice, boost competitiveness and drive growth under a new deal. . . . to modernise the development process for EU standards.⁴

The regulations will also officially permit consortium-developed and other 'non-formal' standards to be given consideration in addition to European and ISO/IEC/ITU standards.⁵

Meanwhile, a more long-standing debate regarding the use of standards by government continues in Europe, this one focusing expressly on 'openness.' This dialogue was occasioned by the development by the European Commission of a European Interoperability Framework (EIF) for Pan-European eGovernment Services, the first version of which was released in 2004.⁶ The reason that standards were to be addressed in this context relates to the purpose of the Framework: to "support the delivery of pan-European eGovernment services to citizens and enterprises." Issues such as accessibility (both physical and economic) and technology neutrality were therefore recognized as being of special concern.

The first version of the Framework adopted the use of 'Open Standards' as an underlying principle, and established four 'minimal characteristics' for such standards:

⁴ European Parliament press release, "[Delivering standards faster to drive growth](http://www.europarl.europa.eu/news/en/pressroom/content/20120907IPR50816/html/Delivering-standards-faster-to-drive-growth)," September 11, 2012, available at: <http://www.europarl.europa.eu/news/en/pressroom/content/20120907IPR50816/html/Delivering-standards-faster-to-drive-growth>.

⁵ Or, as the press release rather elliptically phrased it, "Thanks to the new rules, European standards will also be better plugged into the international standardisation system,..."

⁶ [Available at: http://ec.europa.eu/idabc/servlets/Docd552.pdf?id=19529](http://ec.europa.eu/idabc/servlets/Docd552.pdf?id=19529).

- The standard is adopted and will be maintained by a not-for-profit organisation, and its ongoing development occurs on the basis of an open decision-making procedure available to all interested parties (consensus or majority decision etc.).
- The standard has been published and the standard specification document is available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee.
- The intellectual property - i.e. patents possibly present - of (parts of) the standard is made irrevocably available on a royalty free basis.
- There are no constraints on the re-use of the standard.⁷

This definition was notable – and controversial – for a variety of reasons. First, it expressed no preference for the output of SDOs over consortia. Second, it acknowledged that some traditional indicia of openness might not be uniquely desirable after all (e.g., majority voting could be an acceptable alternative to consensus). Next, it cut to the root of the largest source of income upon which many SDOs rely (SDOs typically charge a significant fee to purchase a single, non-distributable copy of their standards; virtually all consortia, on the other hand, make their standards available for free). Lastly, and most controversially, owners of patent claims that would be necessarily infringed by implementation of a standard would be barred from charging a royalty.

Following aggressive lobbying by multiple constituencies, the definition was substantially diluted in Version 2.0 of the Framework (now titled the European Framework for European public Services), which was released in December, 2010.⁸ In this version, the EIF no longer speaks in terms of minimum requirements at all, nor does it include the use of Open Standards as an ‘underlying principle’ (although values such as openness and transparency do apply with respect to the Framework generally). Instead, it only observes that, “[t]he level of openness of a formalised specification is an important element in determining the possibility of sharing and reusing software components implementing that specification,” and noting that:

If the openness principle is applied in full:

- All stakeholders have the same possibility of contributing to the development of the specification and public review is part of the decision-making process;
- The specification is available for everybody to study;
- Intellectual property rights related to the specification are licensed on FRAND terms or on a royalty-free basis in a way that allows implementation in both proprietary and open source software.

. . . However, public administrations may decide to use less open specifications, if open specifications do not exist or do not meet functional interoperability needs.⁹

The single remaining Recommendation (number 22) in EIF 2.0 that mentions ‘open standards’ (as compared to simply ‘specifications’) reads as follows: “When establishing

⁷ [European Interoperability Framework for Pan-European eGovernment Services](http://ec.europa.eu/idabc/servlets/Docd552.pdf?id=19529), European Commission, IDABC, 2004, available at: <http://ec.europa.eu/idabc/servlets/Docd552.pdf?id=19529>

⁸ Available at: http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf.

⁹ EIF 2.0, Section 5.2.1.

European public services, public administrations should prefer open specifications, taking due account of the coverage of functional needs, maturity and market support.”¹⁰ Nevertheless, even in its current, diluted form, the absence of any reference at all to Big I standards is remarkable, given the equally vigorous debate that is still ongoing in the EU regarding the legitimacy of SDO vs. consortium-developed standards in public procurement generally, more than eight years after the release of the initial version of the EIF.

U.K. Cabinet Office: While the European Union as a whole was moving towards implementing the final form of EIF 2.0, a number of individual member nations were proceeding to develop domestic procurement rules that built upon the foundation laid by the European Union’s EIF 1.0. One of the first to complete such a definition was the United Kingdom Cabinet Office, which on November 1, 2012 issued its “Open Standards Principles: For software interoperability, data and document formats in government IT specifications,” which is binding on all government bodies, and took immediate effect.¹¹

The definition of open standards that appears in an Annex to the Principles reads as follows:

Open standards for software interoperability, data and document formats, which exhibit all of the following criteria, are considered consistent with this policy:

Collaboration - the standard is maintained through a collaborative decision-making process that is consensus based and independent of any individual supplier. Involvement in the development and maintenance of the standard is accessible to all interested parties.

Transparency - the decision-making process is transparent and a publicly accessible review by subject matter experts is part of the process.

Due process - the standard is adopted by a specification or standardisation organisation, or a forum or consortium¹ with a feedback and ratification process to ensure quality.

Fair access - the standard is published, thoroughly documented and publicly available at zero or low cost².

Market support - other than in the context of creating innovative solutions, the standard is mature, supported by the market and demonstrates platform, application and vendor independence.

Rights - rights essential to implementation of the standard, and for interfacing with other implementations which have adopted that same standard, are licensed on a royalty free basis that is compatible with both open source³ and proprietary licensed solutions. These rights should be irrevocable unless there is a breach of licence conditions.

1. The European Regulation enabling specification of fora or consortia standards will enter into force 20 days after its publication in the EU Official Journal and will apply directly in all EU member states from 1 January 2013 see:

¹⁰ For a more in depth analysis of the changes between the two versions of the EIF, see, Updegrove, Andrew, [EC Takes One Step Forward, Two Steps Back](http://www.consortiuminfo.org/standardsblog/article.php?story=20101221084910541), ConsortiumInfo.org Standards Blog (December 21, 2010), at: <http://www.consortiuminfo.org/standardsblog/article.php?story=20101221084910541>.

¹¹ [Available at: http://www.cabinetoffice.gov.uk/sites/default/files/resources/Open-Standards-Principles-FINAL.pdf](http://www.cabinetoffice.gov.uk/sites/default/files/resources/Open-Standards-Principles-FINAL.pdf)
The government of Portugal adopted a less detailed definition in a law made effective on June 21, 2011, [available](http://www.esop.pt/uploads/2011/10/OpenStandardsPT.pdf) in unofficial translation at: <http://www.esop.pt/uploads/2011/10/OpenStandardsPT.pdf>.

<http://register.consilium.europa.eu/pdf/en/12/pe00/pe00032.en12.pdf>.

2. Zero cost is preferred but this should be considered on a case by case basis as part of the selection process. Cost should not be prohibitive or likely to cause a barrier to a level playing field.

While much of the definition is typical and traditional, other aspects stand out. Most notable are the following features:

- ✓ The explicit concern with avoiding dominance by a single vendor;
- ✓ The requirement that all necessary intellectual property rights be available on a royalty free basis, and also under terms that permit implementation under all recognized open source licenses; and
- ✓ The explicit recognition that consortium standards are equally acceptable with those created by traditional SSOs, so long as these organization have appropriate rules and processes.

This definition supports a carefully thought through and publicly vetted set of Principles. These Principles explain the standards-related public procurement goals that the policy is to achieve; the manner in which appropriate standards will be selected; the obligations that will now bind government bodies to implement those standards; and the penalties for failing to do so.

The Principles were created in furtherance of a Government ICT Strategy adopted in March of 2011, which reads in part as follows:

36. The Government will create a common and secure ICT infrastructure based on a suite of agreed, open standards which will be published and updated. The use of common standards can make ICT solutions fully interoperable to allow for reuse, sharing and scalability across organisational boundaries into local delivery chains. The adoption of compulsory open standards will help government to avoid lengthy vendor lock-in, allowing the transfer of services or suppliers without excessive transition costs, loss of data or significant functionality. . . .

39. The Government believes that citizens should be able to read government documents with the standardised document format reader of their choice. The first wave of compulsory open standards will determine, through open consultation, the relevant open standard for all government documents.¹²

Not surprisingly, the adoption of the Government ICT Strategy was noted by the major vendors in the technology industry, not all of which were pleased. As the Cabinet Office moved forward, its postings were met with a spirited response, both pro and con. An initial informal survey, posted from February 25 to May 20, 2011, elicited more than 970 responses on a lengthy survey that focused on three overarching topics:

- ✓ The open standards definition;
- ✓ The open standards that should be a priority for the Government to consider; and

¹² [Available at: http://www.cabinetoffice.gov.uk/content/government-ict-strategy](http://www.cabinetoffice.gov.uk/content/government-ict-strategy).

- ✓ Whether particular standards should be mandated, recommended or avoided.

A formal public consultation supported by an on-line site as well roundtable discussions ran from February 9 to June 4, 2012, and garnered a further 480 responses of varying types.¹³

Despite resistance from some individual information technology corporations as well as trade groups (e.g., the Business Software Alliance), the Cabinet Office held firm. In a Foreword to the Principles document, Francis Maude, Minister for the Cabinet Office and Paymaster General stated in part:

Government IT must be open - open to the people and organisations that use our services and open to any provider, regardless of their size.

We currently have many small, separate platforms operating across disconnected departments and IT that is tied into monolithic contracts. We need to have a platform for government that allows us to share appropriate data effectively and that gives us flexibility and choice.

. . . . The publication of the Open Standards Principles is a fundamental step towards achieving a level playing field for open source and proprietary software and breaking our IT into smaller, more manageable components.

The Principles themselves make for an interesting read, reflecting a mix of pragmatic, economic, civic and aspirational concerns:

1. We place the needs of our users at the heart of our standards choices
2. Our selected open standards will enable suppliers to compete on a level playing field
3. Our standards choices support flexibility and change
4. We adopt open standards that support sustainable cost
5. Our decisions on standards selection are well informed
6. We select open standards using fair and transparent processes
7. We are fair and transparent in the specification and implementation of open standards

Each Principle is accompanied by a slightly expanded Statement, a detailed Rationale, and a list of specific Implications. For example, the first Principle is restated as follows:

Government IT specifications are based on user needs, expressed in terms of capabilities with associated open standards for software interoperability, data and document formats.

The Rationale section that follows specifically expands on Paragraph 39 of the Government ICT Strategy, stating in part as follows:

¹³ The comments received, and the Cabinet Office response (each in multiple formats) are [available at: http://www.cabinetoffice.gov.uk/resource-library/open-standards-consultation-documents](http://www.cabinetoffice.gov.uk/resource-library/open-standards-consultation-documents). The Government's response provides a detailed summary and cross section of the comments received as well as high level reactions to the comments.

Citizens, businesses and delivery partners must be able to interact with the Government, exchanging appropriately formatted information/data using the software package of their choice. They must not have costs imposed upon them, or be digitally excluded by the IT choices which the Government makes, beyond those which may reasonably be associated with accessing digitally provided services (i.e. internet access).

The related Implications expand on this theme as follows:

- ✓ The product choice made by a government body must not force other users, delivery partners or government bodies, to buy the same product e.g. web-based applications must work equally well with a range of standards-compliant browsers, irrespective of operating system, and not tie the user to a single browser or desktop solution.
- ✓ Government bodies must not impose undue cost on citizens and businesses due to the standards choices made in government IT specifications.
- ✓ . . . Government bodies must not specify particular brands or products.

Although the Principles recognize that there will not be an open standard for every purpose, they place the onus on the procuring or internally developing government body to justify any failure to purchase or develop technology that does not comply with open standards, requiring a “robust and transparent reason” (in one Implication Statement) and “a clear business need why an open standard is inappropriate and an exemption has been agreed” in another.¹⁴

The Principles are intended to gradually convert all government systems to compliance, and to make it very difficult for individual agencies and bodies to avoid toeing the line. Further to this goal, Implications under Principle 4 include the following:

- ✓ For all new government IT expenditure (for new systems or extensions to existing systems), government bodies must specify compulsory open standards (or open standards profiles) for use within common government contexts. This may be subject to exceptional case-by-case exemption if agreed in advance by the Government’s Senior Responsible Owner (SRO) for open standards (or through Departmental Accounting Officer procedures for cases below the Cabinet Office spend controls threshold for IT).
- ✓ The Departmental Accounting Officer in a government body must be accountable for approval of any exception to the open standards policy in specifications for projects below the Cabinet Office IT spend controls threshold.
- ✓ Government bodies must perform an economic appraisal for each request for an exemption as part of a comply or explain process.
- ✓ For government bodies that are identified as not adhering to the Open Standards Principles (e.g. through transparent reporting or spend controls cases), Cabinet Office may consider lowering the threshold for IT spend controls until alignment is demonstrated.¹⁵

¹⁴ Principles, p. 10.

¹⁵ Principles, p. 16.

In short, not only must a government body apply for case-by-case exemptions, but it can face reductions in its budget if it is found to be dragging its heels in implementing the Principles.

Perhaps most intriguingly, the Principles include a mechanism for actively discouraging vendors from responding to bids with proposed solutions that do not implement approved open standards. Specifically, one of the Implications to Principle 4 reads as follows:

As part of examining the total cost of ownership of a government IT solution, the costs of exit for a component should be estimated at the start of implementation. As unlocking costs are identified, these must be associated with the incumbent supplier/system and not be associated with cost of new IT projects.

In other words, if a vendor's bid on a project includes proprietary, rather than interoperable, products, the costs of later switching to open standards compliant products must be added to the bid for purposes of comparing it with competing bids of other vendors. This places the proprietary vendor at a bidding disadvantage, and helps protect the government body from the economic effects of lock in, as it will either have picked the open system to begin with, or will have purchased the proprietary system at a sufficient discount from the open system to offset later switching costs.

Going forward, the Principles charge appropriate and knowledgeable personnel with creating frameworks of 'core' open standards intended to assure open competition and lowest costs of ownership, as well as honoring public accessibility concerns. The transparency of the process by which these standards are agreed upon is assured via a [Cabinet Office Standards Hub](#), which is styled as, "the 'front door' through which you can contribute to the process for prioritising and adopting open standards in Government."¹⁶ At the same time, the Standards Hub process is charged with making an economic analysis of the effects of adopting an open standard or standards-based profile before recommending it for compulsory use.¹⁷

Principle 5 ("Our decisions on standards selection are well informed") is followed by a lengthy list of Implications which address how open standards are to be selected and maintained. These Implications take into account security, EU regulatory, legal, and many other concerns. Among other mechanisms, they call for the development of reference implementations where necessary, training, and the creation of an Open Standards Board to advise the Cabinet Office on the selection of compulsory standards. The members of that board are to be, "selected from a group of industry, professional, developer and academic volunteers who have demonstrated implementation, standards setting or strategic leadership in the field." The board is to be chaired by the "Government's senior responsible owner for open standards," and further panels of experts, as needed, will support its efforts.

Principle 6 provides that the process must be open, transparent, and implemented through the public Standards Hub Web site, while Principle 7 requires that all exceptions and exemptions, as well as any extensions to open standards, must be similarly public.

World Trade Organization: A quite different approach is taken under the WTO's Agreement on Technical Barriers to Trade (TBT Agreement).¹⁸ This is hardly surprising, because the TBT Agreement is focused on preventing standards-based trade gamesmanship, rather than raising the bar of standards development. The primary standards-related directive, found in Article 2, Section 2.4 reads as follows:

¹⁶ Principles, pp. 13-14.

¹⁷ Principles, p. 16.

¹⁸ [Available at:](http://www.wto.org/english/docs_e/legal_e/17-tbt.pdf) http://www.wto.org/english/docs_e/legal_e/17-tbt.pdf.

Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfillment of the legitimate objectives pursued

Article 4 of the Act requires that the domestic SDOs of signatory nations must, "adopt and comply with" a Code of Good Practice that is appended to the TBT Agreement as Annex 3. The terms of the Code of Good Practice do include some requirements relating to open participation and transparency, but the context makes it clear that the intention relates not to values-based principles, but to drive national efforts towards, "harmonizing standards on as wide a basis as possible." Perhaps due to the focus of the WTO on actions by signatory parties, the requirements of the main text of the TBT Agreement as well as that of the Annex, are addressed only to SDOs that are national or regional in scope. Global consortia are therefore definitionally excluded as objects of national signatory obligations.

Lastly, it should be noted that the TBT Agreement speaks only of 'international standards' rather than referring to the origin of such standards. In other words, the WTO takes a substantially neutral position on how standards are created, except to the extent that their mode of creation leads to a harmonized global marketplace. The TBT Agreement is also silent with respect to whether the Code of Good Practices should be adopted by consortia, although standards that have achieved global adoption would appear to enjoy equal status under the TBT Agreement, whether developed by SDOs or consortia.

United States: The American approach to procurement regulations is at once more granular relating to the definition of open standards than EIF 2.0 and similarly tepid regarding the degree of preference to be given to open standards, other than (impliedly) where there are two equally viable alternatives from which to choose. In fact, the Purpose clause of the Circular bluntly states that, "[t]hese policies do not create the bases for discrimination in agency procurement or regulatory activities among standards developed in the private sector, whether or not they are developed by voluntary consensus standards bodies."

The U.S. definition of an open standard came into being as a result of Congress's 1995 decision that government should get out of the business of developing, and requiring compliance with, 'government unique' standards. That directive was set forth in the Technology Transfer and Advancement Act,¹⁹ which was subsequently augmented by Office of Management and Budget (OMB) Circular A-119.²⁰

Circular A-119 uses the term 'voluntary consensus standards' instead of 'open standards,' and defines such standards, and the organizations that create them, as follows:

- a. For purposes of this policy, "voluntary consensus standards" are standards developed or adopted by voluntary consensus standards bodies, both domestic

¹⁹ [National Technology Transfer and Advancement Act of 1995](http://ftp.resource.org/gpo.gov/laws/104/publ113.104.txt), 15 U.S.C. § 3701 (1995), available at <http://ftp.resource.org/gpo.gov/laws/104/publ113.104.txt>.

²⁰ [OMB Circular A-119 Revised](http://www.whitehouse.gov/omb/circulars_a119), Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities (rev. Feb. 10, 1998), available at http://www.whitehouse.gov/omb/circulars_a119.

and international. These standards include provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties

(1) "Voluntary consensus standards bodies" are domestic or international organizations which plan, develop, establish, or coordinate voluntary consensus standards using agreed-upon procedures A voluntary consensus standards body is defined by the following attributes:

- (i) Openness.
- (ii) Balance of interest.
- (iii) Due process.
- (vi) An appeals process.
- (v) Consensus, which is defined as general agreement, but not necessarily unanimity, and includes a process for attempting to resolve objections by interested parties, as long as all comments have been fairly considered, each objector is advised of the disposition of his or her objection(s) and the reasons why, and the consensus body members are given an opportunity to change their votes after reviewing the comments.

While the OMB definition of voluntary consensus standards borrows heavily from the traditional process and IPR focused rules of SDOs, the last attribute of the definition stands out due to its significantly greater level of detail. The particularity of this criterion, in contrast to those that precede it (each of which could have been expanded to a similar degree) apparently arose from a desire to mimic to the extent possible the protections inherent in the U.S. administrative law adoption process. This was felt to be necessary by those that drafted the definition due to the fact that Congress was, in effect, delegating a significant governmental function to the private sector.²¹ This concern is understandable in the case of (for example) the development of health and safety standards, but is less evident in connection with the creation of the great majority of purely technical ICT standards.

While Circular A-119 gives Federal agencies substantial leeway regarding which private sector standards they may choose to utilize, it is (in my view) regrettable that such a granular approach was taken regarding the definition of voluntary consensus standards of all types. As earlier noted, the marketplace has found that equally efficacious and less burdensome processes can be used to create robust, open, and widely adopted standards in the ICT sector.²²

Comparison of Definitions: While the definitions reviewed above are somewhat different, it is possible to roughly juxtapose the terms of each example, with the exception of the WTO TBT Agreement, due to its focus on preventing the use of standards and conformity assessment to disadvantage non-domestic trade.

²¹ Personal communication with James H. Turner, Jr., former Chief Counsel of the U.S. House of Representatives Committee on Science and Technology, who was directly involved in the drafting of the Act.

²² The Department of Commerce recently invited the submission of comments relating to the Circular which may lead to its amendment, or more likely the release of additional guidance to the Federal agencies in respect of its implementations. My [written comments](#), also presented verbally at a government workshop, can be found at: <https://law.resource.org/pub/us/cfr/regulations.gov.docket.02/09000064810013ef.pdf>.

	EIF 1.0 2004	EIF 2.0	U.K. Principles 2012	WTO TBT Annex 3 - 1995	OMB A-119 1998
Term	Open Standards	Open Standards	Open standards	Standards	Voluntary Consensus Standards
Applica- bility	Managers of eGovernment projects in Member State administrations and EU bodies	All those involved in defining, designing and implementing European public services	Central government departments, their agencies, non- departmental public bodies and any other bodies for which they are responsible	WTO/TBT Signatory nations	Agencies and agency employees who use standards and participate in voluntary cons- ensus standards activities, do- mestic and international, except for active- ities carried out pursuant to treaties
Purpose	- Support EU strategy of providing user- centered eServices by facilitating the interoperability of services and systems between public adminis- trations, as well as between administrations and the public (citizens and enterprises), at a pan-European level - Supplement national inter- operability frameworks in areas that cannot be adequately addressed by a purely national approach - Help achieve interoperability within and across different policy areas	Promote and support the delivery of European public services by fostering cross- border and cross-sectoral interoperability	[Standards that] exhibit all of the following criteria are considered consistent with this policy: Col- laboration, Trans- parency, Due process, Fair access, Market support, IP Rights are available royalty free	In respect of standards, the standardizing body shall accord treatment to products origin- ating in the territory of any other Member of the WTO no less favourable than that accorded to like products of national origin and to like pro- ducts originating in any other country	Directs agencies to use voluntary consensus standards in lieu of government- unique standards except where inconsistent with law or otherwise impractical, but does not create the basis for discrimination in agency procure- ment or regula- tory activities among standards developed in the private sector, whether or not they are devel- oped by volun- tary consensus standards bodies
Origin	Adopted and will be maintained by a not-for-profit organisation	Not addressed	Specification or standardisation organisation, or a forum or consortium	To be created by organizations complying with the Code of Good Practice for the Preparation, Adoption and Application of Standards	Domestic and international voluntary consensus standards bodies that have listed attributes
Process and Trans- parency	Ongoing develop- ment occurs on the basis of an open decision- making proce- dure available to all interested parties (consen-	All stakeholders have the same possibility of contributing to the develop- ment of the specification and public review is	[SSO has a] feedback and ratification process to ensure quality; the standard is maintained through a colla- borative decision-	Before adopting a standard, the standardizing body shall allow a period of at least 60 days for the submission of comments on the	Required attributes: (i) Openness (ii) Balance of interest (iii) Due process (vi) Appeals process

	sus or majority decision etc.)	part of the decision-making process	making process that is consensus based and independent of any individual supplier; Involvement in the development and maintenance of the standard is accessible to all interested parties; Decision-making process is transparent and a publicly accessible review by subject matter experts is part of the process.	draft standard by interested parties within the territory of a Member of the WTO	(v) Consensus (details omitted)
Availability	Either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee	Available for study by all	Published, thoroughly documented and publicly available at zero or low cost	To be promptly published and available to domestic and foreign interested parties on the same terms; drafts to be available internationally on request	Not addressed ²³
IPR Terms	Intellectual property - i.e. patents possibly present - of (parts of) the standard is made irrevocably available on a royalty free basis	Intellectual property rights related to the specification are licensed on FRAND terms or on a royalty-free basis	Rights essential to implementation of the standard, and for interfacing with other implementations which have adopted that same standard, are licensed on a royalty free basis	Not addressed	Owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties
Open Source Terms	There are no constraints on the re-use of the standard	[Licensing terms] allow implementation in both proprietary and open source software	Rights [are also] licensed on a basis that is compatible with both open source and proprietary licensed solutions; These rights should be irrevocable unless there is a breach of licence conditions	Not addressed	Not addressed
Other	Part of a detailed and comprehensive pan-European ICT framework	Part of a detailed and comprehensive pan-European framework	Provides for eventual conversion of all government systems to comply with open standards	International standards to be "used as a basis" for national and regional standards where they exist; duplication to be otherwise avoided; participation	Annual reports on compliance to be delivered to Congress via NIST

²³ Whether or not SSOs may charge for copies of standards referenced into law is currently a topic of vigorous discussion in the United States. While the discussion has been simmering for years, a recent act of Congress requires that as of January 1, 2012, pipeline standards referenced into law must be available for free, resulting in a showdown of sorts between the SSO community and government.

				in international standards creation expected; standards to be based on performance, where possible; more	
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Conclusions: It is likely that governments and industry will continue to struggle with definitions of open standards. Indeed, in August of this year, several of the SSOs that have been most influential in the development of the standards enabling the Internet and the Web issued their own set of principles for standards development. A significant motivation for this initiative appears to be an effort to claim equal legitimacy with the Big Is in the run up to a meeting of the ITU-T this December, at which (it is rumored) the ITU-T intends to seek to wrest a degree of control over the Internet away from the SSOs that have helped to make it what it is today. While reminiscent of traditional tenets, the elements underlying the principles endorsed by the group of SSOs include some intriguing additions that are in some ways reflective of modern realities, and in others that are perhaps best interpreted as serving the purposes of the organizations involved in making the joint announcement.^{24, 25}

In light of the situational differences between industry sectors and standards applications, and between the disparate goals of governments and treaty organizations, it would seem that there is some validity to the industry contention that the importance of some elements of open standards definitions (e.g., relating to intellectual property rights) should in some cases be evaluated on a situational basis. Most obviously, the relevance to the public of the technical parameters of an obscure widget in the electronic bowels of a server is far different from the public interest in an accessibility standard deployed at government Web sites.²⁶ Process controls that would be relevant to the adoption of the latter would impose needless burdens on the creation of the former, because the public would not avail itself of the opportunities to participate or comment in any event. On the other hand, the creation of such a widget remains of significant importance from the perspective of antitrust and trade laws.

At the end of the day, if governments wish to adopt minimum requirements (or, more realistically, preferences) – as they should, in the appropriate situation – what is needed is not a simplistic one size fits all solution, but a more nuanced approach that recognizes the following:

- A base level of important openness elements (e.g., participation, transparency, availability, consensus/majority, technology neutrality) that should be regarded as relevant to the processes and other attributes of all types of standards, taking competition and trade law concerns into account;
- Special requirements that map to the unique needs of discrete situations and/or policy goals, such as mandating elements appropriate to protect civil rights exercised electronically; and

²⁴ The principles can be found at: <http://open-stand.org/principles/>. For a detailed analysis, see, [Leading Standards Organizations Assert Principles of a “New Global Standards Paradigm,”](#) Updegrave, Andrew, ConsortiumInfo.org Standards Blog (August 30, 2012), at: <http://www.consortiuminfo.org/standardsblog/article.php?story=20120830102530600>.

²⁵ While definitions are helpful, confirmation is another matter. I have proposed that the creation of a global entity capable of certifying compliance with open standards development processes would be useful. See, [A Proposal for a New Type of Global Standards Certification](#), Standards Today (Vol. VI, No. 8), Oct. – Nov. 2007, available at: <http://www.consortiuminfo.org/bulletins/oct07.php#feature>.

²⁶ I have forcefully argued for the recognition of what I refer to as “[Civil ICT Standards](#),” and for the protections that should be afforded to their development and adoption. See, for example, <http://www.consortiuminfo.org/bulletins/feb08.php#feature>.

- In the case of standards to be implemented in software, the means to enable implementation in both open source code as well as in proprietary software.

If such a relative approach is followed in ICT, it should be possible to ensure that those openness attributes that are appropriate and important will be employed when they are necessary, and not where their imposition would only tax a process that provides value as much based on agility and speed as on technical merit.

In a fully realized open environment, multiple levels of openness, together with their process requirements, would be recognized, and appropriate bodies would exist to certify compliance with those requirements. As of this point in time, it seems unlikely that such an ordered universe of standards development will develop in the near term. But with time, perhaps a system will evolve that objectively judges the openness of all standards on a situationally informed basis, and without discriminating on the basis of arbitrary classifications of their organization of origin.

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