

26 September 2005

Asia-Pacific Development Information Programme
c/o United Nations Development Programme
United Nations Service Building 3rd Floor
Rajdamnern Nok Avenue
Bangkok 10200, Thailand
(Attn: Mr Shahid Akhtar)

Dear Sir,

IOSN PRIMER ON OPEN STANDARDS

We refer to the draft IOSN Primer on Open Standards that was released on 16 August 2005 for public comment.

BSA and its members are active participants in many standards-setting bodies, and view technology standards, including open standards, as important mechanisms for promoting IT interoperability. Thus, along the spirit of our earlier correspondence with you on these Primer documents, we like to offer some thoughts below with a view of making these Primers of greater usefulness and relevance for decision-makers in the region.

General Observations

We recognize the significant effort that the author Nah Soo Hoe has taken to report on some important developments in the area of open standards. We appreciate that the author has rightly made the distinction between open source and open standards in his *Introduction*. In that regard, we suggest that the title of the Primer may be better renamed as simply "Open Standards" (which more accurately reflects the contents of the document) rather than "Free/Open Source Software – Open Standards", so as to avoid conflating the two distinct concepts.

We respectfully suggest the clarification and modification of the document in four important areas:

- First, the author's implicit preferred open standards definition – the European Interoperability Framework (EIF) definition – is not the prevailing accepted definition worldwide. In fact, IDABC, the European Commission Unit in charge of the EIF, has clarified that the EIF definition is confined to a very narrow context (custom software developed for European public administrations) and does not represent the European Commission's official view on what is an open standard. We further elaborate on this concern in **Annex A** and urge the author to consider quoting examples of definitions by other established standards organizations in the Primer.
- Second, the Primer does not recognize that many existing open standards are available on Reasonable and Non-Discriminatory (RAND) licensing terms and unrealistically advocates for all open standards to be available royalty-free. Most major standards bodies permit standardization of technologies that include innovations subject to patents ("essential" patents) so long as the patent owner agrees to license the essential patent claims to implementers of the standard on RAND terms. Such RAND terms may or may not include payment of a reasonable royalty fee, and may also include restrictions on sublicensing. Further elaboration on this issue is found in **Annex B**, which includes a table of examples of open standards used in IT products today that are not royalty-free (**Table 1**), and another table summarizing the IP policies of major standards bodies (**Table 2**).
- Third, the Primer inadequately represents the legitimate role of patents in software innovation and IT interoperability. The simple fact that patents offer substantial incentives for innovation in particular for small and independent developers is not recognized. Instead, patents are sweepingly characterized as a disadvantage arising from the threat of infringement. **Annex C** sets out a further explanation of the role of patents in relation to IT interoperability.

- Fourth, the author misrepresents BSA's efforts in relation to the EIF on RAND licensing and fails to provide clarity on the relationship between RAND and FOSS. In **Annex D**, we reiterate the nature of BSA's work in Europe and highlight other bodies that hold similar views. We also outline the relationship between RAND and FOSS which we hope the author will consider when improving the discussion in this area.

Apart from the above, we note that the Primer does not contain any discussion on one of the key issues governments are struggling with, and that is the difficulties and challenges in implementing standards-based procurement policies. The author may wish to consider surveying or elaborating on the procurement policies of governments such as Canada¹, New Zealand², United Kingdom³ and United States⁴ as some illustrations of possible approaches.

Conclusion

Rather than presenting the issues in a selective manner and omitting key aspects of the debate, we believe that the Primer's objective can be better achieved through a clear and balanced presentation of the different perspectives, so as to let the learned reader form his own conclusions.

We hope that you will consider the comments offered above and the more detailed views in the attached Annexes as you revise the Open Standards Primer. This Primer has the promise of being a good reference document if the shortcomings above can be addressed and the issues are presented in an objective and accurate manner, reflecting the reality of market diversity and the co-existence of different solutions and approaches.

BSA continues to be available and ready to provide you and the author of the Primer with information and references on the various issues discussed. We would welcome an

¹ http://www.tbs-sct.gc.ca/fap-paf/oss-ll/position_e.asp

² <http://www.e-government.govt.nz/docs/open-source-200303/>

³ http://www.govtalk.gov.uk/policydocs/policydocs_document.asp?docnum=905

⁴ <http://www.whitehouse.gov/omb/memoranda/fy04/m04-16.html>

opportunity to clarify or work with you further on the points highlighted above.

Yours sincerely

A handwritten signature in grey ink, appearing to be 'Sh' followed by a long horizontal stroke.

GOH Seow Hiong (Mr)
Director of Software Policy, Asia
Business Software Alliance
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Annex A: EIF Definition Not Prevailing Definition

In the *Introduction* section, the author begins his discussion (at page 7) with the definition of open standards from Wikipedia, but omits the important clarification that:

“... Being an open standard also does not necessarily imply that no licenses to patent rights are needed to use the standard or that such licenses are available for free. For example, the standards published by the major internationally-recognized standards bodies such as the ITU, ISO and IEC are ordinarily considered open, but may require patent licensing fees for implementation.”⁵.

Instead, the author makes a passing reference to the open standards policy of the state of Massachusetts in the US and then quotes the definition provided by the European Commission’s EIF in full.

The reference to the state of play in the US should more appropriately be to the American National Standards Institute (ANSI) rather than to the policy of a single US state.

More important to note, as indicated in our main letter, is that IDABC, the European Commission Unit in charge of the EIF, has clarified that the EIF definition is confined to a very narrow context (custom software developed for European public administrations) and does not represent the European Commission’s official view on what is an open standard.

Various leading standards organizations, including ANSI⁶, European Telecommunication Standards Institute (ETSI)⁷ and other standards organizations acting as the Global Standards Collaboration (GSC)⁸, as well as leading industry associations, including BSA⁹ and the European Information

⁵ http://en.wikipedia.org/wiki/Open_standards

⁶ <http://public.ansi.org/ansionline/Documents/Standards%20Activities/Critical%20Issues%20Papers/Open-Stds.pdf>

⁷ European Telecommunication Standards Institute. See <http://www.etsi.org/>

⁸ http://www.tta.or.kr/gsc/upload/GSC9-14B_IPR_ResolutionFINAL.doc

⁹ <http://www.bsa.org/eupolicy/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=16892>

Communication Technology Association (EICTA)¹⁰ have expressed concerns¹¹ with this EIF definition. The adoption of EIF's royalty-free requirement will result in many existing open standards failing to meet the definition (see further elaboration in **Annex B**) and IDABC itself recognizes that this is not a desirable outcome, and hence has offered to clarify the narrow context for which the EIF is intended.

In quoting the EIF definition in full, we urge the author to minimally also quote the ANSI¹² and ITU-T¹³ definitions in full as being reflective of the US and international views on the definition respectively, and to indicate the range of other well-established standards bodies such as ETSI, ECMA International, European Committee for Standardization (CEN), IEEE, ISO and IETF that have also defined the term.

Given that the document also makes an explicit reference to BSA's work in the EIF (at page 66), we also encourage the author to similarly quote BSA's definition of open standards¹⁴ in this section for the reader's reference and comparison.

¹⁰ <http://www.eicta.org/press.asp?level2=41&level1=6&level0=1&docid=229>

¹¹ The reservations of these organizations relate to the EIF's requirement for royalty-free licensing for necessary IP and the prohibition on any restrictions for the reuse of the standard.

¹² http://www.ansi.org/about_ansi/introduction/introduction.aspx?menuid=1

¹³ International Telecommunication Union Telecommunication Standardization Sector (ITU-T). <http://www.itu.int/ITU-T/othergroups/ipr-adhoc/openstandards.html>

¹⁴ <http://www.bsa.org/usa/policy/upload/BSA-Statement-on-Technology-Standards-Feb-2005.pdf>

Annex B: Open Standards Commonly Available on RAND Terms

One of the key aspects in the international debate on standards is the subject of Intellectual Property (IP) policies. This is important because an objective of developing standards is to bring together and benefit from the best technology available to solve the problem that the standard is intended to address. To do so, it is paramount that standards bodies explicitly deal with how IP belonging to specific owners is to be dealt with. This important issue should be more thoroughly discussed in the Primer.

At the outset, it should be clarified that RAND and royalty-free are not two entirely different concepts. Most IP policies of standards bodies allow for RAND licensing, with the possibility of either a reasonable royalty or a royalty-free provision as one of the possible RAND terms.

As mentioned in our main letter, most major standards bodies, including the IEEE, ISO, IEC, IETF and ITU, permit standardization of technologies on RAND terms. More specialized standards-setting consortia in the IT industry have also adopted similar licensing policies¹⁵. The US Government¹⁶ and the European Commission¹⁷ have recognized the importance of the RAND approach as well. This longstanding practice is based on the recognition that RAND licensing appropriately balances the legitimate rights of patent owners, who contribute innovative technology to

¹⁵ These include OASIS, WS-I, the Liberty Alliance, UPnP, Bluetooth, MPEG-LA, the Digital Video Broadcasting (DVB) project, and the Open Mobile Alliance (OMA), among many others.

¹⁶ The US Government encourages federal use of "voluntary consensus standards" adopted through a process which includes "provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory and royalty-free or reasonable royalty basis to all interested parties". Source: OMB Circular A-119 (which describes the US policy toward "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities"). <http://www.whitehouse.gov/omb/circulars/a119/a119.html>

¹⁷ The European Commission has recognized the appropriateness of a RAND-based approach in its recommendation that all European standards organizations ensure "that any intellectual property rights (IPRs) that [standards] might contain can be used by market operators on fair, reasonable and non-discriminatory terms". Source: *General Guidelines for the Cooperation Between CEN, CENELEC and ETSI and the European Commission and the European Free Trade Association, 2003/C 91/04 at 91/11* (28 March 2003)

the standard, with the interests of implementers who wish to obtain access to essential patents on reasonable terms.

Many highly successful and widely deployed open standards developed by well-recognized bodies¹⁸ involve patent licensing that is not royalty-free. Many open standards also involve field-of-use restrictions, reciprocity requirements, or other reasonable restrictions on use¹⁹. See **Table 1** below for examples of such standards that are incorporated into IT products on the market today.

Table 1: Examples of Widely Used Standards

Standard	Maintained by Non-Profit	Available Free of Charge or Nominal Fee?	Copy and Distribute at no or nominal fee?	Patents irrevocably available royalty-free?	Free from constraints on Re-Use?
3GPP	Yes (ETSI)	Yes	No	No (RAND patent pool)	No
AVC/H.264 ²⁰	Yes (ISO)	No	No	No (RAND)	No
DHCP ²¹	Yes (IETF)	Yes	Yes	No (RAND)	No
DVB MHP ²²	Yes (ETSI)	Yes	No	No (RAND)	No
ebXML	Yes (OASIS)	Yes	Yes	No (RAND)	No
GSM	Yes (ETSI)	Yes	No	No (RAND)	No
IEEE 1394 ²³	Yes (IEEE)	Yes	No	No (RAND) ²⁴	No
IEEE 802.1X ²⁵	Yes (IEEE)	Yes	No	No (RAND)	No
Liberty Alliance 1.0 (ID-FF 1.0) ²⁶	No (Liberty Alliance)	Yes	No	Maybe ²⁷	No

¹⁸ For example, standards bodies such as ECMA, ETSI, IEEE, IETF, ISO/IEC, ITU, OASIS, W3C, and those accredited by ANSI.

¹⁹ For instance, Session Initiation Protocol (SIP), Dynamic Host Configuration Protocol (DHCP), WLAN protocol, XML Configuration Access Protocol (XCAP), Internet Key Exchange (IKE) and GSM.

²⁰ Also ISO/IEC IS 14496-10; audio-video format.

²¹ Dynamic Host Configuration Protocol.

²² Digital Video Broadcasting, Multimedia Home Platform.

²³ High speed data transfer.

²⁴ Portfolio license with flat fee of \$0.25/device, available through MPEG LA.

²⁵ Port based network access control for wireless access.

²⁶ And ID-WSF Interaction Service v1.0; identity for web services.

Standard	Maintained by Non-Profit	Available Free of Charge or Nominal Fee?	Copy and Distribute at no or nominal fee?	Patents irrevocably available royalty-free?	Free from constraints on Re-Use?
MPEG-2	Yes (ISO)	No	No	No (RAND)	No
MPEG-4 ²⁸	Yes (ISO)	No	No	No (RAND)	No
OMA DRM 2.0 ²⁹	No (Open Mobile Alliance)	Yes	Yes	No (RAND) ³⁰	No
SNMPv3 ³¹	Yes (IETF)	Yes	Yes	No (RAND)	No
WLAN ³²	Yes (IETF)	Yes	Yes	No (RAND)	No
XML Configuration Access Protocol ³³	Yes (IETF)	Yes	Yes	No (RAND)	No
XrML	No ³⁴	Yes	No	No (RAND)	No

At pages 64-65 of the Primer, the table of *Patent Policies of Some Standards Organization* should reflect other major standards organizations such as ANSI³⁵, ECMA³⁶, ETSI³⁷, IEEE³⁸

²⁷ Royalty-free by default, but RAND as alternative; RAND Reservations by various parties, see, e.g., Necessary Claims Disclosure Notices By Citigroup, Inc. (<http://www.projectliberty.org/specs/Citigroupable.php>) and Sony Corporation (<http://www.projectliberty.org/specs/Sonytable.php>).

²⁸ Also ISO/IEC 14496-2:2001 [Part 2 Visual dated 2001-12-01], 14496-2:2001/Amd.1:2002 [Studio profile dated 2002-02-01], or 14496-2:2001/Amd.2:2002 [Streaming video profile dated 2002-02-01].

²⁹ DRM for mobile devices.

³⁰ MPEG LA has issued a call to form a new patent pool.

³¹ Simple Network Management Protocol Version 3.

³² See Telecom Italia's Statement About IPR Related to WLAN Access (<http://www.ietf.org/ietf/IPR/telecom-italia-ipr-wlan-access.txt>).

³³ See Nokia Statement on Patent Licensing (<http://www.ietf.org/ietf/IPR/NOKIA>); Nokia's Statement About IPR Claimed in draft-ietf-scon-cpcp-xcap-00 (<http://www.ietf.org/ietf/IPR/nokia-ipr-draft-ietf-xcon-cpcp-xcap-00.txt>).

³⁴ Currently maintained by ContentGuard, but being reviewed for standardization by OASIS & MPEG.

³⁵ ANSI (Section 3.1.1 of ANSI Essential Requirements document (<http://www.ansi.orgwww.ansi.org>), stating that essential patent holders may indicate that a license will be made available to implementers either on a royalty compensation-free basis or "under reasonable terms and conditions that are demonstrably free of any unfair discrimination")

³⁶ ECMA (<http://www.ecma-international.org/memento/codeofconduct.htm>, Section 1.2<http://www.ecma-international.org/memento/codeofconduct.htm>) ("A written statement from the patentee is required, according to which he is prepared to grant licences on a reasonable, non-discriminatory basis.")

and ITU³⁹, who also allow for the inclusion of patents in their standards and for patent holders to license their essential patents on RAND terms. See **Table 2** below for a summary of the IP policies of these key standards organizations.

Table 2: IP Policies of Some Standards Organizations

Standards Organization	Copyright Policy: Limits on copying / distribution / modification of the specifications?	Patent Policy: RAND Licensing?	Patent Policy: Royalty-free licensing requirement?
American National Standards Institute (ANSI)	Yes	Yes	No
CableLabs (OpenCable)	Yes	Yes	No
Digital Video Broadcasting Project (DVB)	Yes	Yes ⁴⁰	No
ECMA International	Yes	Yes	No
European Committee for Standardization (CEN)	Yes	Yes ⁴¹	No
European Telecommunications Standards Institute (ETSI)	Yes	Yes ⁴²	No
GlobalPlatform	Yes	Yes	No
Institution of Electrical and Electronics Engineers (IEEE)	Yes	Yes	No

³⁷ ETSI (http://www.etsi.org/legal/ipr_a.htm, Section 6.1) (holders of essential IPR must be prepared to grant "licences on fair, reasonable and non-discriminatory terms and conditions under such IPR.")

³⁸ IEEE (<http://standards.ieee.org/guides/bylaws/sect6-7.html#6><http://standards.ieee.org/board/pat/guide.html>) (letter of assurance that essential patent holders are encouraged must to file with IEEE affords them the following option: "The Patent Holder is prepared to grant a license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions to comply with the [Proposed] IEEE Standard.")

³⁹ ITU (<http://www.itu.int/ITU-T/dbase/patent/patent-policy.html>, Section 2.2) ("The patent holder is not prepared to waive his rights but would be willing to negotiate licenses with other parties on a non-discriminatory basis on reasonable terms and conditions. Such negotiations are left to the parties concerned and are performed outside the ITU-T.")

⁴⁰ Non-exclusive, non-transferable, world-wide licenses on RAND terms; third party to submit an equivalent undertaking.

⁴¹ RAND to entire world required or standard may be withdrawn.

⁴² RAND, but standard may be adopted even if patentee refuses to license.

Standards Organization	Copyright Policy: Limits on copying / distribution / modification of the specifications?	Patent Policy: RAND Licensing?	Patent Policy: Royalty-free licensing requirement?
International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC) Joint Technical Committee (ISO/IEC JTC1)	Yes	Yes	No
International Telecommunication Union (ITU)	Yes	Yes	No
Internet Engineering Task Force (IETF)	Yes	Yes	No
Organization for the Advancement of Structured Information Standards (OASIS)	Yes	Yes	No
The Open Group (formerly Directory Interoperability Forum)	Yes	Yes	No
World Wide Web Consortium (W3C)	Yes	Maybe	Yes ⁴³

It is important to create an environment that encourages the participation and contribution of technology owners in the standards setting process. Dissuading a technology owner from participating in the standards process may have the detrimental effect of establishing an inferior standard that does not reflect the best technology and engineering available. Such an environment represents a breakdown of the innovation cycle and is at odds with the current highly successful open standards and RAND model, under which thousands of standards have been developed and approved, and a remarkable level of competition, innovation and interoperability has been fostered.

⁴³ While the W3C patent policy generally requires royalty-free licensing, it also allows a patent holder to refuse to license its essential patents by making timely disclosures of them, and also allows for the inclusion of RAND-based technologies in W3C standards in certain circumstances. See Sections 4 and 7 of the W3C Patent Policy (<http://www.w3.org/Consortium/Patent-Policy-20040205/>).

Annex C: Legitimate Role of Patents in Interoperability and Innovation

In the discussion on *Intellectual Property Rights In Standards* at pages 60-66 of the Primer, the author has set out some of the pros and cons regarding software patents. In many regards, BSA is also of the view that improvements can and should be made to the patent system. Technological progress is dynamic and the patent systems, in order to promote innovation, should evolve accordingly.

At page 61, the author asserts that small and independent developers face a huge challenge to avoid infringing a patent. In reality, patent protection is critical to enable start-up software firms attract venture capital and to prevent competitors from simply adopting the inventions of small companies and supplanting them through stronger marketing efforts.

In addition to the general discussion on patents set out in the Primer, it is also important to consider the discussion of patents as it relates to standards and interoperability specifically. There are some who believe that patents make it more difficult to achieve IT interoperability. We believe that it is important to understand that patent protection can facilitate the development and adoption of high-quality, broadly available technology standards.

Patent protection encourages innovators to contribute key and leading-edge technologies to standards-setting organizations, as well as with partners, customers and others, even competitors. Patents enable broad industry use of the technology through licensing⁴⁴ without requiring inventors to forfeit their ability to obtain a reasonable financial return on such contributed technology.

In addition, a prerequisite for patent protection is that the inventor discloses a clear and precise description of the

⁴⁴ RAND licensing offers the right balance of encouraging innovators to contribute to the standards-setting process while allowing reasonable terms to be determined in a consensual process with other participating stakeholders and taking into account other important principles such as non-discrimination, reciprocity, the need to maintain interoperability, and so on.

invention. To obtain patent protection, an inventor must be willing to disclose a description of the invention to the world-at-large. This enables others to understand the inner workings of the invention and to develop interoperable products and services. It also enables further innovation to be built on top of the invention.

Experience has demonstrated that participants in the standards setting process can maintain and exercise patent rights, including patent rights in software-based technologies, without preventing the widespread adoption of such standards by vendors and users. One should recognize that there is a valuable and legitimate role played by patents in fostering greater interoperability and innovation.

Annex D: Clarifying FOSS and RAND

In the conclusion of the section discussing *Intellectual Property Rights In Standards*, at page 66, the author has characterized BSA's work in Europe as an attempt to "*undermine the mutually beneficial relationship which FOSS currently enjoys with open standards*".

There is no special relationship between open source and open standards – the two concepts are separate and distinct. Just as FOSS does not mean software "free-of-charge", open standards do not mean standards "free-of-charge" or "royalty-free". Openness in a standard relates to the process in which the standard is defined, ratified and maintained, and not with its cost. FOSS and commercial software are both equally capable of implementation that meets the requirements and specifications of open standards.

Key aspects of BSA's position on the EIF definition are shared by numerous other bodies such as EICTA, ITU-T, GSC, ANSI, ETSI, CompTIA and many others. It is perhaps not the author's intention to imply that these other organizations are similarly attempting to undermine FOSS. Neither do we think that the author is necessarily advocating that many critical and well-established technologies that are implemented on the basis of accepted open standards and maintained by many existing standards bodies (for example, the standards in listed in **Table 1 of Annex B**) should no longer be considered so. As such, the author may wish to cast the issue here in a different light.

It is perhaps inappropriate to go to an in-depth discussion of FOSS and RAND licensing in this letter. We would however highlight that common licensing provisions governing matters such as royalties, defensive suspension, reciprocity, field of use and sublicensing do not preclude developers from distributing standards implementations under the vast majority of open source licenses.

Certain FOSS licenses, particularly the GPL⁴⁵, contain restrictive terms concerning free redistribution, derived works and distribution of license that create a direct conflict with RAND terms. Even where there are no royalties or other fees associated with a RAND patent license, the GPL is still at odds with the field-of-use limitation, restriction on sublicensing and reciprocity requirement, the three common terms in standards-related patent licenses.

For the purposes of the Primer, we believe that a licensing restriction that is unique to the GPL should not be generalized as being applicable to all open source licenses that may not face such restrictions. Most FOSS licenses are flexible enough to be used to redistribute software covered by an independent RAND patent license (assuming redistributors have taken steps to mitigate infringement risks).

Fortunately, while some conflict exists, given the increasing success and importance of FOSS, the proprietary software industry and the standards industry continue to explore ways to resolve any such conflicts and to forge an environment in which all software – commercial and FOSS alike – can co-exist and thrive, all with the ultimate goal of enhancing interoperability and consumer choice.

⁴⁵ Unlike the vast majority of FOSS licenses, the GPL prohibits the distribution of software under the GPL if the software includes any patented technology that is licensed under terms at odds with the GPL. Hence, the requirement that the software be freely distributable, for example, is at odds with any RAND license which permits reasonable royalties, and accordingly the patented technology associated with such a RAND license may not be included in FOSS distributed under the GPL. A developer of FOSS distributed under the GPL may be unable to implement open standards covering RAND-licensed patented technology in its products, thereby impairing such software's interoperability potential.