



Comments of Cisco Systems, Inc.
to Office of Management and Budget
Request for Information Regarding
Federal Participation in the Development and Use
of Voluntary Consensus Standards and in
Conformance Assessment Activities

April 30, 2012

I. Introduction

A. Background

The National Technology Transfer and Advancement Act of 1995 (“NTTAA”)¹ was a significant turning point in the U.S. technology industry, mandating that federal agencies “shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.”² In passing the NTTAA, “[t]he objective [was] for Federal agencies to adopt private sector standards, wherever possible, in lieu of creating proprietary, non-consensus standards.”³

¹ National Technology Transfer and Advancement Act of 1995, PL 104-113.

² *Id.*, at 12(d)(1).

³ “National Technology Transfer and Advancement Act”, <http://gsi.nist.gov/global/index.cfm/L1-3/L2-6/A-166>

To clarify that the use of voluntary consensus standards – those developed by private industry – was the rule, replacing the then-common practice of developing government-specific standards⁴, the Act went on to specify that exceptions to the rule were allowed only in rare instances, and required the Office of Management and Budget (“OMB”) to report annually on each exception made by a federal agency or department.⁵

The intent to substitute “voluntary consensus standards” for government-developed standards whenever possible was described further in an implementing regulation issued by the Office of Management and Budget, OMB Circular A- 119,⁶ last revised in March 1998., which “direct[ed federal] agencies to use voluntary consensus standards in lieu of government-unique standards except where inconsistent with law or otherwise impractical” and provided rules/procedures to be followed by the federal agencies and departments to ensure compliance with the NTTAA.

⁴ In describing the purposes of the NTTAA, the National Institute of Standards and Technology noted that:

“Among other things, the NTTAA directs NIST to bring together federal agencies as well as state and local governments to achieve greater reliance on voluntary standards and decreased dependence on in-house standards. To illustrate, when government agencies discovered a need for a standard, they had, in the past, created and adopted unique, proprietary standards when voluntary consensus standards already existed that effectively addressed those needs. The result was an unnecessary government standard that created confusion and added expense for those who had to comply with it.”

<http://gsi.nist.gov/global/index.cfm/L1-3/L2-6/A-166>

⁵ NTTA., at 12(d)(3).

⁶ http://www.whitehouse.gov/omb/circulars_a119/

As the 1998 version of Circular A-119 makes clear, OMB understood the importance of providing some additional specificity to the term “voluntary consensus standard.” The Circular noted that one attribute of voluntary consensus standards is that they “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.” The Circular went on to state that

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.⁷

Those general principles set forth in the 1998 revision were correct, as far as they went. But there have been significant changes in the development and use of standards – and in the licensing by patent owners of standards-essential patents – during the fourteen years since Circular A-119 was last revised. Those changes clearly demonstrate that OMB must provide much more specific guidance to adapt

⁷ OMB Circular A-119 at § 4(a).

the Circular to today's realities, and to ensure the continuing advancement of federal policy goals in this area. In its role as a consumer of standards for use in both procurement and regulation, the federal government is in a position to continue to exercise leadership and provide guidance in the minimum criteria that must be met for a standard to qualify as a "voluntary consensus standard."⁸

OMB has asked for comments "to inform OMB's consideration of whether and how to supplement Circular A-119."⁹ Our Comments in response will focus on the specific supplements we recommend be made by OMB to Circular A-119 to ensure its continued relevance.

B. Cisco

Cisco regularly participates in a variety of standards development activities. Cisco is active in a wide range of standards setting organizations ("SSOs") standards development organizations ("SDOs"), from large, formal SDOs like the Institute for Electrical and Electronics Engineering Standards Association ("IEEE-SA") to numerous informal special interests groups, fora, and consortia, formed by industry participants to create technical specifications in a focused area, sometimes with the goal of subsequent standardization by a formal SDO.

The range of Cisco's involvement in standardization spans the range of networking technologies underlying Cisco's businesses, including, *e.g.*: Ethernet,

⁸ Circular A-119 further clarifies that "voluntary consensus standards" and "technical standards that are developed or adopted by voluntary consensus standard bodies" are equivalent terms. *Id.*

⁹ 77 Federal Register, No. 62, at 19357.

Wi-Fi, Internet Protocol (IP), Multi-Protocol Label Switching (MPLS), and other wide area networking standards; standards for the provision of video, voice, and broadband over cable television and telephone networks; and wireless air interface standards such as UMTS and LTE. On any given day dozens of Cisco engineers are actively engaged in standards development, including attending meetings, creating technical contributions, and directing the work of SDOs as board members, working group chairs, or technical editors.

Cisco also actively patents innovations we create, including innovations that Cisco contributes for inclusion in standards. The IEEE Spectrum's 2011 Patent Power Scorecard ranked Cisco's patent pipeline as the best in the category of "Communications/Internet Equipment."¹⁰ Cisco innovations in the areas of routing, MPLS, and quality of service have been critical to the development of the internet and the ability of data networks to carry voice and video. Cisco has also played a leading role in the development of multiple generations of the DOCSIS standard that is used to transmit data over cable networks, the standard most households in the United States that receive broadband use to access the internet.

Cisco also regularly implements standards in our products. We are industry leaders in Ethernet switching products which implement the IEEE-SA's 802.1 and 802.3 family of local area networking standards. We are also the leading developer of home and business wireless local area networking products that implement IEEE-SA's 802.11 family of wireless LAN standards. And we are a leading

¹⁰ <http://spectrum.ieee.org/ns/pdfs/2011.PatentFinal.pdf>. IEEE Spectrum assigned Cisco's patent pipeline a power score of 3299, more than four times higher than Cisco's score for 2010, four percent higher than the second-place company, and more than double the rating of the third place company.

innovator in routers, which implement a large number of standards created by the Internet Engineering Task Force (“IETF”) the International Telecommunications Union Telecommunication Standardization Sector (“ITU-T”), and other SDOs. We also implement IETF (and IEEE-SA) standards in our internet telephony products, ITU-T video compression standards in our videoconferencing products, and CableLabs standards in cable set-top boxes, routers, and home networking products, to name just a few examples. Indeed, many Cisco products implement dozens of different standards created by dozens of standards development organizations.

II. Recommended revisions to Circular A-119

The heart of Circular A-119 for purposes of our Comments is the recognition that implementing the NTTAA’s requirement that the federal government rely on “voluntary consensus standards” requires OMB to articulate more clearly what standards qualify as “voluntary consensus standards.” To put it another way, the NTTAA requires OMB to state what rules must govern SSO/SDO activities, and what obligations an SSO or SDO must impose on participants, in order for the standards developed under its aegis to qualify as a “voluntary consensus standard.”

The core list set forth in the revised 1998 Circular remains valid: openness, balance of interests, due process, an appeals process, and reaching agreement by consensus. Experience has shown, and *Circular A-119 should be revised and supplemented to specify, that genuine openness – the literal ability of any interested person or entity to participate – will generally draw a sufficient cross-*

section of the relevant industry participants to ensure a balance of interests.¹¹

Similarly, procedural rules ensuring due process – fundamental fairness in the way contributions are sought and considered, and in the discussion and decision processes – will generally result in consensus around standards that enable broad interoperability among the greatest number of competing products.

The challenges that have surfaced over the years since the 1998 revisions relate to attributes beyond the core set then articulated, yet every bit as central to ensuring that standards deserve to be described as “voluntary consensus standards” as the NTTAA intended that term to mean.

Below we describe ways in which we recommend, based on our experience, OMB can have a significant procompetitive and pro-consumer effect on the creation and licensing of standards, by revising and supplementing Circular A-119 to give more content and meaning to the term “voluntary consensus standards” and to principles relating to conformance assessment.

A. The RAND Requirement

As noted above, Circular A-119 requires that for a standard to qualify as a voluntary consensus standard, patents essential to the practice of the standard must be available on royalty-free or RAND terms. That bare requirement, while necessary to ensuring interoperability, will not be sufficient, without more, to

¹¹ We strongly recommend that the “balance” requirement does not require mandated balancing of voting interests, which is the approach of the ITU, and which we believe is artificial and not conducive to meaningful balance. Rather, as noted above, our extensive experience in standards setting teaches that true openness requires permitting any interested person or entity to join and participate in deliberations – which is the approach of many SSOs and SDOs, including IETF, will achieve balance in a more natural and constructive way.

accomplish the goal, because patent owners and potential licensees can and increasingly do argue – and litigate – at great length over the meaning of RAND, particularly the meaning of “reasonable.”

Inclusion in a standard of a patented technology that is essential to implement the standard (a “standards-essential patent”) may give the patent owner significant bargaining power over a potential licensee.¹² Therefore, simply mandating that licenses to standards-essential patents be made available on RAND terms has proven to be an insufficient constraint on the power and ability of essential patent owners to demand and achieve excessive royalties. The time has come for OMB to recognize that RAND is ineffective, without more specific content, in providing industry participants with the ability to predict their future licensing expenses for implementing the interoperability standards in their products and services, or protecting consumers – including federal agencies – against product prices artificially increased by the market power of patent holders. Indeed, disputes over whether particular licensing terms are or are not compliant with RAND have

¹² The recently-revised EC Guidelines on horizontal cooperation, discussed in more detail at n. 20 and accompanying text, recognize that the adoption of proprietary technology into a standard gives the owners of those patents real market power in setting terms and conditions of access to them. Noting that a holder of IPR incorporated into a standard could acquire control over the right to implement a standard (presumably if the patent in question were essential to practice of the standard), and where the standard constituted a barrier to entry, such IPR ownership “could allow companies to behave in anti-competitive ways, for example by ‘holding-up’ users after the adoption of the standard either by refusing to license the necessary IPR or by extracting excess rents by way of excessive royalty fees, thereby preventing effective access to the standard. EC Guidelines at ¶ 269.

become increasingly numerous in recent years, and continue to be the subject of competition-law investigations.¹³

Moreover, particularly in the ICT sector, the complexity of devices and the networks supporting them continues to increase. As devices and networks incorporate increasing numbers of technologies, they must implement numerous standards, *each one of which* may require that the implementer have licenses to dozens or hundreds of patents. That prediction is neither speculative nor fanciful; today we see that level of complexity in such common consumer devices as “smart phones” which incorporate a vast array of patented technologies, including memory, multiple long-range radio frequency protocols such as GSM, GPRS, EDGE, UMTS, and the newer 4G LTE standard, Wi-Fi, and a large variety of other feature protocols including an array of audio and video codecs.

One issue that has proven controversial in determining whether particular licensing terms satisfy a RAND requirement is whether reasonableness should be determined in relation to the entire value of the device (or service) which uses the patented technology, or instead only with respect to that portion of the device’s

¹³ Joaquín Almunia, Vice President of the European Commission responsible for Competition Policy and head of DG Comp, revealed that the Commission “recently opened an investigation against Samsung to make sure that the company has not failed to honour the commitments it had taken back in 1998 to make its standard-essential patents for mobile phones available in fair, reasonable and non-discriminatory terms.” Lewis Bernstein Memorial Lecture, Washington, DC, March 30, 2012. <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/249&type=HTML> More recently, the Commission opened a similar investigation of Motorola with respect to its licensing activities against Apple and Microsoft. <http://www.fosspatents.com/2012/04/european-commission-investigates.html>

value comprised of the technology at issue.¹⁴ The focus should be on the economic value of the particular patent at issue in relation to the specific functionality enabled by the patent.

This approach to defining the “R” element of RAND is consistent with recent cases on the calculation of a reasonable royalty by courts deciding patent infringement cases outside the context of essential patents.¹⁵ Those cases teach, and *Circular A-119’s definition of voluntary consensus standards should include, a requirement that the calculation of a reasonable royalty should not be based on the value of the entire device that implements an essential patent, but rather on the incremental value of the product created by the inclusion of the invention claimed in the patent.*

Where a product embodies more functionality than that which is enabled by a single patent – as is dramatically true of many of today’s technology products – basing a RAND royalty on the value of the entire product effectively attributes to the patented technology value from attributes entirely unrelated to the patented technology.

¹⁴ In private litigation in the United States, Microsoft has alleged that Motorola is seeking royalties of 2.25% – assessed against the full retail price of a computer – as royalties for its patents on the H.264 video codec. <http://www.fosspatents.com/2012/03/these-two-charts-show-that-motorolas.html>

¹⁵ See, e.g., *Uniloc USA, Inc. v. Microsoft Corp.*, Fed. Cir. (Jan. 4, 2011); *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1337 (reducing damage award where patentee failed to show that claimed invention was “the basis – or even a substantial basis – of consumer demand for [the infringing product]”); *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 289 (N.D.N.Y. 2009) (reducing amount of damages awarded by jury where patentee “fail[ed] to connect consumer demand” for the infringing product to the claimed invention).

Moreover, competing products incorporating the patented technology may be differentiated from each other by numerous factors and attributes unrelated to the inclusion in all of them of the patented technology, and therefore may command very different prices in the marketplace. Basing royalties on the entire value of the product would allow the patent holder to receive widely varying payments from different competing products even though the contribution of the patented technology in each of them is identical.

The irrationality of basing royalties on the entire value of the product rather than of the value of the patented technology itself becomes even more clear when looking across product categories. A royalty of 2% for Wi-Fi patents would result in royalty payment of \$1 on a \$50 Wi-Fi access point, of \$12 on a \$600 iPad, of \$60 on a \$3,000 television, and of \$1,000 on a \$50,000 car that provides an in-car Wi-Fi “hotspot,” even though the Wi-Fi functionality contained in each product is the same.

A related issue is whether reasonableness should be determined with respect to the inventive contribution that a particular patent makes to a standard, *i.e.*, whether the patented technology is central to the standard, or alternatively is a feature whose exclusion from the standard would not cause a significant diminution of the value of the standard. Participants in standards setting know that some technologies are so central to a standard that removing them would significantly alter the functionality, and diminish the value, of the standard, while other technologies incorporated in the standard could be removed with little impact on

the functionality and value of the standard. Once again, the focus should be on, and *Circular A-119's definition of voluntary consensus standards should include a requirement that to be reasonable, royalties must be based on the economic value of the particular patent at issue in relation to the specific functionality enabled by the patent. A patent for a functionality that only marginally contributes to the standard should not be valued as if it were core to the standard.*

A third and related issue is whether reasonableness should be determined with respect to the inventive contribution that a particular patent makes to a standard in relation to other alternative technologies that were available at the time. Where there were alternative technologies available at the time, the technology chosen for incorporation has less value than it would have had, had it been the only available technology choice. Therefore, once again, the focus should be on, and *Circular A-119's definition of voluntary consensus standards should include a requirement that, to be reasonable, a royalty must be based on the economic value of the particular patent at issue, measured in relation to the specific functionality enabled by the patent. Where there were alternative technologies available at the time, the technology chosen for incorporation has less value than it would have had, had it been the only technology choice available to the creators of the standard.*

B. Irrevocable Commitments and Patent Transfers

One positive development among standards setting organizations and standards development organizations is an increasing trend to require that owners

of standards-essential patents not only commit to license on royalty free or RAND terms but also make their commitment irrevocable.

But requiring that patent owners who participate in standards setting make commitments that are irrevocable unfortunately does not ensure that the commitment will last the life of the patents at issue. This further uncertainty as to the durability of a RAND commitment arises from today's increasingly liquid market for patents.¹⁶

This increasing liquidity has been accompanied by, and to some extent driven by, a dramatic surge in the number of purchasers who do not practice the standards on which the purchased patents read, but instead derive all their revenues from licensing.¹⁷ And many of the non-practicing entities ("NPEs") that have arisen and come to prominence over the past decade or two have demonstrated a set of incentives and practices around licensing quite different from those of the R&D entities and from those of the patent owners who also practice the standards on which they have obtained patents.

Companies that implement standards in the products they sell are likely also to have significant R&D activities which generate patents related to the products the companies sell. These practicing patent owners are therefore likely to be both licensors and licensees of patents that are essential to implement standards and

¹⁶ As a general policy matter, this increasing liquidity is either a neutral or positive development, as it creates a third path for an inventor to monetize her inventions by selling the patents, as an alternative to selling her own implementations and/or licensing the patents to others.

¹⁷ Of course, entities whose only or primary focus is research and development also do not practice the standards on which they have obtained patents, but most R&D entities have a long history of licensing on reasonable terms and conditions.

that are subject to RAND licensing commitments. Being both a licensor and a licensee tends to moderate the positions practicing entities take as to what royalties they can seek from potential licensees, because if practicing entities acting as licensors take “unreasonable” positions as to what constitutes a “reasonable” royalty, those excessive demands can be used against them when they are themselves prospective licensees. NPEs, by contrast, are never licensees, and therefore have no incentive to moderate their views as to what royalties are reasonable. And patent assertions by NPEs are increasing. In 1998, the year the Circular was last revised, there were approximately 60 patent lawsuits involving NPEs.¹⁸ In 2001, there were approximately 140. In 2011 there were nearly 1,150.¹⁹

While there may be no way to change the incentives or behavior of NPEs with respect to the patents they already own, there is a straightforward path to controlling their behavior with respect to standards-essential patents they acquire in the future. Because the NPEs neither invent nor practice, their only source of patent ownership is to purchase patents from, or have patents or licensing rights assigned to them by, inventors. *Circular A-119's definition of voluntary consensus standards should include a requirement that the participants in the standards setting process are obligated to ensure that successors, assignees, and licensees with the right to sublicense are bound by the RAND and other obligations that bind the original patent holder.* While the benefits of this approach are obviously limited

¹⁸ Patent Freedom, found at <https://www.patentfreedom.com/research-lot.html>.

¹⁹ Patent Freedom, “Patent Lawsuits Involving NPEs Over Time,” January 9, 2012, found at <https://www.patentfreedom.com/about-npes/litigations/>

to situations where the IPR was subject to RAND and other obligations, this change would nevertheless prevent NPEs and other acquirers of standards-essential patents from seeking to evade RAND licensing obligations assumed by their predecessors-in-interest. This requirement also would ensure that patents with RAND and other obligations could not be “laundered” of those obligations by a strategic transfer or assignment of the patents by the original patentee to another related entity, and additionally would ensure that any legitimate transferee would be bound by the same obligations as the original patent owner.

The benefits of passing the RAND and other obligations to assignees and transferees of standards-essential patents is becoming recognized as a core principle of ensuring a competitive patent landscape. For example, in December 2010, the European Commission published greatly-revised “Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal cooperation agreements” (“EC Guidelines”) to take effect on January 15, 2011. Taking into account the increased importance of SSOs, and the concomitant need for additional guidance regarding their activities, the Commission included a dramatically enlarged chapter (Chapter 7) on standardization agreements in the draft Guidelines. Among the specific provisions of the new Guidelines, the Commission noted that to qualify for “safe harbor” in standardization activities, IPR owners must ensure that their RAND commitments are transferred to subsequent owners of the IPR.²⁰

²⁰ *Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements* at ¶ 285 (January 14, 2011) (available at [http://eur-](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010D0408(EN)&id=32010D0408(EN)&fromDoc=32010D0408(EN)&fromUri=CELEX:32010D0408(EN))

C. Irrevocable Commitments and Injunctions

Another area in which greater specificity in defining the obligations that SSOs and SDOs should impose on those participating in standards setting relates to the ability of the owner of a standards-essential patent who alleges infringement to obtain an injunction against a company implementing that standard. Because licensing negotiations most commonly occur after a potential licensee has made some significant and unrecoverable investments in creating and selling standard-compliant services or products, the threat of an injunction is the threat of serious business disruption.

Thus, even where the licensing terms proposed by the patent owner would not survive an objective test of reasonableness, that patent owner nevertheless has significant additional leverage²¹ to insist on its terms, because it has the ability to disrupt the business of a potential licensee who refuses to agree.²²

This additional leverage would be moderated by, and *Circular A-119's* definition of voluntary consensus standards should be revised and supplemented to

lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF) (“To ensure the effectiveness of the FRAND commitment, there would also need to be a requirement on all participating IPR holders who provide such a commitment to ensure that any company to which the IPR owner transfers its IPR (including the right to license that IPR) is bound by that commitment, for example through a contractual clause between buyer and seller.”)

²¹ This degree of leverage is over and above the market power leverage stemming from the incorporation of the patented technology into the standard.

²² See Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties* (2010), available at <http://faculty.haas.berkeley.edu/shapiro/royalties.pdf>.

*include, a requirement that a patent owner cannot obtain an injunction against a potential licensor until after an objective third party, for example a court, has determined that the patent owner (or transferee or assignee) has offered, **and** that the prospective licensee has refused to take, a license to the patent on terms that are compliant with the licensor's obligations under the SDO's IP policy.*

Once that determination has been made, the accused implementer should have the ability to identify a mechanism, for example payments made into escrow or the posting of a bond, that offers the licensor reasonable assurance that it will receive its reasonable royalty at the conclusion of the dispute if it is successful. Only if the accused implementer refuses to provide reasonable assurances of payment may the licensor seek injunctive relief (or an order of exclusion or similar remedy prohibiting importation).

Imposing these conditions on the availability of injunctive relief will prevent the use of injunctions as a tool to coerce implementers to accept unfair and unreasonable terms, thereby protecting both implementers and the consumers to whom they provide products and services, including the federal government.

D. Conformity Assessment Activities

The RFI requests comment on whether Circular A-119 should be supplemented to set out relevant principles on conformity assessment, and if so what issues should be addressed. Given our implementation of hundreds of

standards across hundreds of products, we engage daily in conformity assessment activities.

This experience has taught us several lessons. First, and perhaps obviously but none the less importantly, conformance assessment is essential to ensure compliance with the relevant standards. Second, while at first blush it may appear that the best approach is to mandate a single conformance assessment methodology, our experience is that the availability of several alternative assessment conformance methodologies with equivalent validity provides more efficient and less costly conformance assessment, without diluting the value of the results. For example, the FCC rules on compliance assessment for electromagnetic compatibility (EMC) provide for not one, but several, test standards. This accommodates the reality that different test standards are best suited for different products. By contrast, the requirement of a single test standard for all products would result in greater complexity and cost, without improving the result.

Therefore, Circular A-119's definition of voluntary consensus standards should be revised and supplemented to include an explicit acknowledgement that, wherever possible, more than one test standard should be available and acceptable for conformance assessment.

III. Summary and Conclusion

The NTTAA, together with Circular A-119, have been effective in encouraging voluntary industry standards by mandating that the federal

government must rely wherever possible on such standards, to the exclusion of proprietary government-specific standards. We commend OMB for reaching out to the public in this RFI to solicit views on whether the Circular should be further revised and supplemented from its present 1998 version, and to solicit recommended additions and revisions.

We describe above several additions and revisions to Circular A-119 which will have significant procompetitive and pro-consumer effects on the creation and licensing of standards, by giving more content and meaning to the term “voluntary consensus standards” and to principles relating to conformance assessment. Those recommendations are:

1. Circular A-119 should be revised and supplemented to specify, that genuine openness – the literal ability of any interested person or entity to participate – will generally draw a sufficient cross-section of the relevant industry participants to ensure a balance of interests. Similarly, procedural rules ensuring due process – fundamental fairness in the way contributions are sought and considered, and in the discussion and decision processes – will generally result in consensus around standards that enable broad interoperability among the greatest number of competing products
2. Circular A-119’s definition of voluntary consensus standards should be revised and supplemented to include a requirement that the calculation of a reasonable royalty should not be based on the value of the entire device that implements an essential patent, but rather on the incremental value of the product created by the inclusion of the invention claimed in the patent.
3. Circular A-119’s definition of voluntary consensus standards should be revised and supplemented to include a requirement that to be reasonable a royalty must be based on the economic value of the particular patent at issue measured in relation to the specific functionality enabled by the patent. A patent for a functionality that only marginally contributes to the standard should not be valued as if it were core to the standard.
4. Circular A-119’s definition of voluntary consensus standards should be revised and supplemented to include a requirement that to be reasonable a

royalty must be based on the economic value of the particular patent at issue measured in relation to the specific functionality enabled by the patent. Where there were alternative technologies available at the time, the technology chosen for incorporation has less value than it would have had, had it been the only technology choice available to the creators of the standard.

5. Circular A-119's definition of voluntary consensus standards should be revised and supplemented to include a requirement that the participants in the standards setting process are obligated to ensure that successors, assignees, and licensees with the right to sublicense, are bound by the RAND and other obligations that bind the original patent holder.
6. Circular A-119's definition of voluntary consensus standards should be revised and supplemented to include a requirement that a patent owner cannot obtain an injunction against a potential licensor until after an objective third party, for example a court, has determined that the patent owner (or transferee or assignee) has offered, and that the prospective licensee has refused to take, a license to the patent on terms that are compliant with the licensor's obligations under the SDO's IP policy.
7. Circular A-119's definition of voluntary consensus standards should be revised and supplemented to include an explicit acknowledgement that, wherever possible, more than one test standard should be available and acceptable for conformance assessment.

By updating and supplementing OMB Circular A-119 to reflect the current standards development and patent licensing environments, the federal government will facilitate federal adoption of standards developed under rules that provide agencies with greater visibility into licensing terms and costs. Revising the Circular to favor greater transparency in standards development, including further guidance on the obligations SDOs should apply to participating patent holders will limit the future diversion of scarce federal resources to those who engage in opportunistic behavior in standards development and licensing of standards-essential patents, and encourage industry to support the adoption of standards w

which truly qualify as voluntary consensus standards in support of critical government priorities. The recommended revisions will also help ensure that taxpayers benefit directly in more efficient and effective federal procurement and regulation and also as consumers of products based on more procompetitive standards processes and patent licensing practices.