Chapter 1: Proposed open standards specification policy

<table>
<thead>
<tr>
<th>Qu.</th>
<th>Your views</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>How does this definition of open standard compare to your view of what makes a standard 'open'?</strong></td>
</tr>
</tbody>
</table>

While there is no single definition of what makes a standard “open,” like many other stakeholders to the standardisation development and implementation process, Microsoft, based on deep engagement with the standard setting ecosystem, believes that the following attributes are useful in assessing the openness of a standard:

- **Collaboration.** The standard is developed, approved, and maintained under a consensus-based process that is open to all interested stakeholders.
- **Transparency.** Information about the process and standardisation projects is publicly available.
- **Accessibility.** The standard is published, and a copy of the standard is available to the public for free or at a reasonable cost. Patent rights required to implement the standard are available under fair, reasonable and non-discriminatory terms (with or without a reasonable royalty).

The attributes that make up the definition above generally line up with the proposed definition in the Consultation, except with regards to the treatment of intellectual property. We believe this broader definition, which allows for licencing under Fair, Reasonable and Non-Discriminatory (FRAND) terms with or without a royalty at the option

---

1 The Global Standards Collaboration ([http://www.itu.int/en/ITU-T/gsc/Pages/default.aspx](http://www.itu.int/en/ITU-T/gsc/Pages/default.aspx)) includes hundreds of participants from numerous standards setting organisation and has passed a resolution at its annual meeting that defines the term “open standard” in a way that is in accord with the criteria we set out above (See [http://www.itu.int/dms_pub/itu-t/oth/21/06/T2106000000C0020MSWE.doc](http://www.itu.int/dms_pub/itu-t/oth/21/06/T2106000000C0020MSWE.doc)).
of the patent holder, encompasses a far broader set of useful standards from which the
government will want (and may need) to choose. We believe that the government’s
proposed narrower definition, which requires patents to be licenced on a royalty free
basis, would ultimately limit the government in its choices, potentially undermining the
government’s ability to obtain best value for money in its procurement of IT products and
services over the long term. We also believe that the proposed definition could potentially
have an adverse impact on innovation in next generation standards, by removing one
incentive for innovators to contribute new technology to that next generation. As we
explain more fully in answers to the questions below, many participants in the standards
development ecosystem rely on licencing to at least partially recoup the R&D costs
associated with their technical contributions to a standard. Discouraging the practice of
seeking royalties would adversely impact those companies, and could cause some to no
longer contribute their innovative technologies to standards.

2 What will the Government be inhibited from doing if this definition of open standards is
adopted for software interoperability, data and document formats across central
government?

By using the narrower royalty free definition of open standard, the government may be
inhibited from (1) picking an overall solution that provides best value for money; (2)
leveraging “Bring Your Own Device” (BYOD) and “Consumerisation of IT” (COIT) trends that
are driving productivity gains in the private sector; and (3) engaging with citizens and
businesses via the technologies that those service users choose to use.

A royalty on a standard is only one component cost of overall Total Cost of Ownership
(TCO) of a product or service that implements the standard and lack of a royalty is not
determinative of lowest total cost or overall value for money. By analogy, a consumer
typically would not consider selecting a car for purchase based on price of the radio in the
vehicle. Doing so might ultimately remove from consideration the option which ultimately
provides the best value for money. By adding a new criterion (the absence of a royalty) to
to all other widely accepted considerations, the government will potentially be removing
from consideration a number of other options which have a lower TCO and ultimately
provide better value for money.

Additionally, it is critical to remember that the government IT market does not exist in
isolation from broader IT markets, including the consumer market. Increasingly, consumer

---


3 “Global Survey: Dispelling Six Myths of Consumerisation of IT”, Research & Insights Report, Avenade, January 2012
technology is influencing enterprise IT decisions: as consumers bring their technology to work, they are pushing for new ways to work that align with how they use social, mobile, and digital tools in their day-to-day lives. These two trends, “Bring Your Own Device” and “Consumerisation of IT” are transforming enterprise IT policy and planning, but they are also ushering in cost savings and productivity gains. If the government uses an open standards definition that does not align with the broader technology market, it may be inhibited from leveraging trends such as BYOD and COIT, amongst others.

Lastly, citizens and small businesses will choose to interact with the government with the devices and technologies which they acquire in the consumer marketplace. That marketplace does not limit its use of standards to those that are available for implementation without a royalty and so the government may wind up not supporting a standard or technology which citizens do in fact use (and expect to use in their interactions with the government).

We also urge the government to consider abandoning what we see as an unhelpful and artificial “scope” limitation set out in the Consultation (“standards for software interoperability, data and document formats”). Similar language was considered during a protracted debate related to the European Interoperability Framework v2.0, and ultimately rejected, in large part due to the realisation that it does not provide a meaningful line in the real world from which to determine whether a particular standard would be in or out of scope. While there might have been some initial distinction between “software” and “telco” or “hardware”, the trend of “convergence” continues to erode any distinction that may have existed between these categories of technologies and the standards that make them work. As researchers at the Arizona State University College of Law noted in their work examining the technical interoperability standards in a laptop, “We believe that as technological convergence continues, and ICT devices increasingly include elements from the computing, telephony and consumer electronics sectors, the number of relevant standards will only increase.”

Although many participants in the Consultation have suggested otherwise, we fail to see how the resulting policy would not apply to a broad swath of standards, including audio/video codecs such as H.264, which is an interoperability standard, is implemented in technology other than just in software and is clearly a data format. To the extent the government believes it should define the term open standard, it should not do by introducing this artificial concept of “standards for software interoperability, data and document formats.”

3 For businesses attempting to break into the government IT market, would this policy make things easier or more difficult – does it help to level the playing field?

Microsoft supports SMEs breaking into the government IT market, but we do not believe

---

that the policy would result in any noticeable change in the ease of businesses being able to do so. We do not believe that royalties on standards are a barrier to access to the government IT market by any segment of the IT vendor community. We believe that any claims that FRAND-based patent royalties do create a barrier to the government IT market would need to be subjected to an economic analysis by market regulators before embarking on this path.

We believe there is an assumption in this question that the “playing field” is not level, yet the Consultation offers no definition of what the “playing field” might be or why it is assumed not to be level at this time. We believe that both of these issues require further study.

Additionally, we believe that focusing exclusively on standards as a barrier to the government IT market results in a failure to address the real barriers that vendors (especially SMEs) face when they attempt to sell products or services to the government—including length of contracting cycles, the complexity of and resources required for bidding process, the aggregated nature of IT RFPs, and the risk shifting that many government contracts include. Indeed, tightening the definition of open standards and then mandating only certain standards within that tighter definition might only create additional obligations or constraints on bidders for government ICT contracts, consequently making it even more difficult to break into the market. Microsoft works with a community of over 30,000 partners in the UK, many of whom are SMEs (very innovatively) building their own IPR as a core pillar of their business by building apps and extenders to our products and services; these partners employ over 500,000 people in the UK and contribute around 40% of IT GDP. The proposed narrow definition may inhibit these UK innovators from breaking into the government IT market (and growing their businesses accordingly) by hindering them from monetising their intellectual property or by effectively requiring them to support some standards for a government market in addition to those that they already support for the non-governmental market.

4 How would mandating open standards for use in government IT for software interoperability, data and document formats affect your organisation?

We believe this question raises two distinct issues. First to what extent will mandation of any standards by the government impact Microsoft. Second, to what extent will mandation of “open standards” (as defined in the Consultation as those where patents are available on a royalty free basis) impact Microsoft. When a government mandates any standard, it runs the risk that it will impose on vendors a requirement that is not present in the broader marketplace, something which may add development costs to vendors which will ultimately be passed on to governments. Where a government uses narrower criteria

---

6 Information from the Cabinet Office identifies some of these challenges and shows that the government has managed to facilitate more SME participation in the government ICT market through addressing these issues. 
http://www.cabinetoffice.gov.uk/content/sme-contracts
(such as the royalty free requirement in the Consultation) than the general marketplace to
select standards, the likelihood increases that the government will impose on vendors a
requirement that is not present in the broader marketplace (where the royalty free
limitation is not widely present). Microsoft, like any other vendor, will be impacted if the
government mandates require us to implement standards which do not have broader
market support. As we explain further in response to Question 1 in Chapter 2, we believe
it is important for governments to set out clear parameters to delineate the circumstances
in which the government believes it is appropriate to mandate particular standards.

Governments around the world have learned important lessons about mandating
standards that ultimately do not achieve market acceptance. Such policies have resulted in
the creation of a second parallel market for government goods that ultimately adds costs
to vendors who would otherwise design products for a single market. Companies
including Microsoft and Digital Equipment Corporation made significant investments in
supporting the Open Systems Interconnect (OSI) standard during the 1990s, as a result of
government mandates that required products to support that networking standard. At the
time of these mandates, most products in the non-government market supported the
TCP/IP networking standard and ultimately the government market too moved to the
TCP/IP standard. The OSI mandates from a range of governments resulted in additional
development costs to the vendors, which ultimately resulted in higher prices for
customers.

We believe our broader definition of the term “open standard”, discussed above, which
allows for licensing under Fair Reasonable and Non-Discriminatory (FRAND) terms with a
royalty at the option of the patent holder encompasses a far broader set of useful
standards from which the government will want to choose. We believe that the proposed
narrower definition, which requires patents to be licenced on a royalty free basis, would
ultimately limit the government in its choices, potentially undermining the government’s
need to obtain best value for money in its procurement of IT products and services. We
also believe that the proposed definition could potentially have adverse impact on
innovation in next generation standards, by removing one incentive for innovators to
contribute new technology to the next generation of standards.

Additionally, this policy may be particularly detrimental to SMEs trying to break into the
government IT market, many of which are Microsoft partners:

- It may favour SMEs that develop specialised solutions for the UK public sector, but
  would add development costs for those SMEs who wish to compete in the other
  markets in the UK and in Europe more broadly;

- It may exclude SMEs which have built their solutions on market relevant standards
  which happen not be chosen by the government;
It may be inconsistent with public procurement policies of major economies like France or Germany which both list FRAND standards and in general allow public entities to use standards other than those referenced (especially for document formats), just at a time when cross border interoperability is becoming more and more important.

5 What effect would this policy have on improving value for money in the provision of government services?

Microsoft does not believe that there is any direct relationship between value for money and existence or not of FRAND-based royalties on patents within standards and therefore we do not believe the policy will improve value for money in the procurement of government services. ICT products and services have many distinct costs that go into the overall cost or Total Cost of Ownership (TCO) and FRAND royalties make up at most a relatively small portion of the overall TCO.

By focusing on the royalty free nature of patents within a standard that are implemented in a larger product or services, the policy may in fact interfere with the obligation of government procurement officers to pick the solution that provides best value for money. The royalty free requirement will potentially exclude from consideration a range of products or services that support royalty bearing standards, but which might ultimately provide better value for money to the government.

6 Would this policy support innovation, competition and choice in delivery of government services?

The effective use of standards by governments is an important component of ICT strategy; we believe it is vital for the government to view standards as merely one piece of its overall strategy and not as a silver bullet. Standards are a key component of better interoperability across government systems, but the role of standards in supporting innovation, competition and choice in delivery of government services is less clear. Importantly, this policy contains a definition that equates the term open standard with royalty free licensing of patents. We do not believe that there is any direct relationship between the existence or not of royalties on standards essential patents and innovation, competition and choice in delivery of government services.

The question of whether the market for government IT is functioning properly (i.e., whether it currently “supports innovation, competition and choice in delivery of government services”) and, if not, what an appropriate remedy would be, are highly specialised questions that require expertise in competition law and economics. Such issues are customarily resolved by competition authorities who are able to conduct thorough economic analyses and understand how potential remedies, perceived to be appropriate fixes in one segment of the market, can have harmful unintended
consequences across a broader industry.

A recent government report in the Netherlands clearly highlighted this concern. In the context of reviewing the Netherlands open source and open standards policies, the Netherlands Court of Audit noted the importance of separating the goals of the procurement function and policy goals related more generally to the functioning of the IT market more generally:

_We recommend that a clear distinction be made between the policy goals to improve operational management at the ministries (a responsibility of the Minister of the Interior and Kingdom Relations (BZK)) and the policy goals to organise the software market (a responsibility of the Minister of Economic Affairs, Agriculture and Innovation (EL&I)). Only when these distinct goals are defined clearly and unambiguously can the ministers agree the policy and account for it._

Significant aspects of the Consultation appear to seek to affect the dynamics of the current ICT marketplace. We believe that these aspects of the Consultation should be the subject of an economic impact assessment that looks not just at government procurement objectives but also at potential impacts (both positive and negative) on the technology marketplace. Such assessments often benefit from direct involvement of the appropriate competition function within government, which will likely have expertise in this complex area.

7 **In what way do software copyright licences and standards patent licences interact to support or prevent interoperability?**

Patent licencing promotes interoperability, by allowing participants in the ICT ecosystem to share innovative technologies. Nearly a decade ago, Microsoft announced an expanded intellectual property licencing policy to provide the IT industry with increased access to Microsoft's growing IP portfolio. That program has resulted in Microsoft making key intellectual property available on a range of terms - from royalty bearing to royalty free - in the context of formal standards as well as a range of other non-standardised technologies. We believe the ICT ecosystem as a whole benefits from increased sharing of intellectual property through patent licencing. It is worth noting that patent licences are often entered into between different segments of the IT industry (as well as across the technology industry more broadly), highlighting the theme of convergence. This trend emphasises the risk that the narrow definition proposed in the Consultation will inhibit innovation, by making it more challenging for these diverse stakeholders (including mobile telcos, fixed line telcos, software companies, hardware companies, publishers etc.) to work

together.

Whilst there are many assertions that patent licences in the standards context conflict with restrictions imposed in open source copyright licences, we believe that the current state of research indicates there is in fact widespread adoption of FRAND based standards across all software licencing models. According to one noted intellectual property expert

/[T]here is a considerable amount of interoperability in today’s ICT environment, notwithstanding the issuance of many interface patents and the dire predictions of social harm that underlie proposals for strong regulatory responses to interface patents/

This Consultation seeks to define the term open standard and require use of such standards in order to “deliver [...] a level playing field for open source and proprietary software providers.” This would imply that the playing field is not currently level for open source developers because FRAND-based patent royalties on industry standards are incompatible with open source licences, and therefore preclude free and open source (FOSS) developers from implementing many of those standards. Microsoft believes that the current record supports the opposite conclusion, i.e. that open source vendors of all licencing types are actively implementing FRAND standards, including those that include patent royalties. Publicly available licencing data reveals that for the commonly used H.264 standard (which is subject to a royalty payment) there are over 1100 licensees, including such obvious open source vendors as #755 the Raspberry Pi Foundation Ltd, Linux vendor Canonical at #149 and Linux set top box maker Roku at #772. By contrast, there appears to be no evidence of any specific FRAND based industry standard which is not implemented in open source as a result of the requirement to pay a patent royalty.

The Consultation appears to seek to affect the dynamics of the current ICT marketplace. We believe that these aspects of the Consultation should be the subject of an economic impact assessment that looks not just at government procurement objectives but also at potential impacts (both positive and negative) on the technology marketplace. Such assessments often benefit from direct involvement of the appropriate competition function within government, which will likely have expertise in this complex area.

---

8 How could adopting (Fair) Reasonable and Non Discriminatory ((F)RAND) standards deliver a level playing field for open source and proprietary software solution providers?

We believe that FRAND delivers a level playing field for open source and proprietary developers today and that the government’s continued adoption of FRAND standards will continue to deliver a level playing field for open source and proprietary software solution development.

---


providers. Whilst there are many assertions that patent licences in the standards context conflict with restrictions imposed in FOSS copyright licences, we believe that the current state of research indicates there is in fact widespread adoption of FRAND based standards across all software licencing models. Publicly available licencing data reveals that for the commonly used H.264 standard (which is subject to a royalty payment) there are over 1100 licensees, including such obvious open source vendors as the Raspberry Pi Foundation Ltd, Linux vendor Canonical at and Linux set top box maker Roku at . By contrast, there appears to be no evidence of any specific FRAND based industry standard which is not implemented in open source as a result of the requirement to pay a patent royalty. Accordingly, we believe that the current framework of adopting FRAND standards has resulted in a level playing field for open source and proprietary software solution providers.

9 **Does selecting open standards which are compatible with a free or open source software licence exclude certain suppliers or products?**

We believe that FRAND, including a payment of a royalty, delivers a level playing field for open source and proprietary developers today, however, as noted above (in our answers to Questions 7 and 8), we disagree with the premise that only standards available for implementation without the payment of a royalty are “compatible” with open source licences.

We also believe it is important to note that the question appears to overlook potential exclusion at another point in the innovation ecosystem. In addition to the “products market” which is addressed in this question, where vendors sell products and services to customers, there is an independent upstream “technology market” where innovators sell or licence their technologies to vendors who ultimately include it in products they sell. While participants in the “product market” may not be excluded through any requirement that they implement a royalty free standard, the government’s decision to select only standards which are free of royalties will have an adverse impact on certain participants in the upstream technology market. Specifically, those companies who derive a substantial portion of their revenues from upstream patent licencing activities (including in the standards context) will be adversely impacted if the price for their innovative technology is forced to zero.

The European Union Horizontal Agreement Guidelines include extensive discussion of the competition law aspects of patent licencing in the standards context. These Guidelines explained the various business motivations of participants in the downstream products market as well as the upstream products market, noting:

*In the context of standards involving intellectual property rights (‘IPR’), three main groups of companies with different interests in standard-setting can be distinguished in the abstract. First, there are upstream-only companies that solely*
develop and market technologies. Their only source of income is licensing revenue and their incentive is to maximize their royalties. Secondly, there are downstream-only companies that solely manufacture products or offer services based on technologies developed by others and do not hold relevant IPR. Royalties represent a cost for them, and not a source of revenue, and their incentive is to reduce or avoid royalties. Finally, there are vertically integrated companies that both develop technology and sell products. They have mixed incentives.\(^{10}\)

Microsoft believes that the proposals in the Consultation would result in a policy that would favour downstream only companies and disadvantage upstream only and vertically integrated companies. This could ultimately have the impact of reducing investment and innovation in the standards ecosystem and across the technology sector more broadly.

\begin{center}
\textbf{10} Does a promise of non-assertion of a patent when used in open source software alleviate concerns relating to patents and royalty charging?
\end{center}

Microsoft is unsure of the exact meaning of this question. We have chosen to interpret the question as asking for input about whether non-assertion covenants are a licencing tool that might reduce perceived concerns about the tension between FOSS licences and patent royalties. Because non-assertion covenants are only used in situations where the patent holder has already made a determination that it will forgo collection of royalties, we do not believe that non-assertion covenants would be an effective instrument to decrease the perceived concerns about the tension between FOSS licences and patent royalties. Where patent holders wish to receive a royalty for use of their innovations, they will either licence through a patent pool or bilaterally with each implementer, and they are unlikely to consider using a non-assertion covenant. We would also note that both implementers and patent holders have expressed concerns that non-assertion covenants are not formally recognised in all jurisdictions and that they therefore do not represent an ideal solution in all circumstances.

For background, we would provide the following additional information about non-assertion covenants. Over the past decade, standards participants in certain contexts have opted to use various non-assertion covenants as an alternative to formal bilateral licences.\(^{11}\) These non-assertion covenants are seen by some standards participants as an alternative to a bilateral FRAND licencing with a zero royalty. Non-assertion covenants are applicable only in situations where the licensor has made a determination that it will licence its standards related patents without a royalty. The legal status of non-assertion

---

\(^{10}\) See The Netherlands Court of Audit, “Open standards and open source software in central government” (March 15, 2011) (available at http://www.courtofaudit.com/english/Publications/Audits/Introductions/2011/03/Open_standards_and_open_source_software_in_central_government)

\(^{11}\) See http://www.consortiuminfo.org/standardsblog/article.php?story=20060912140103877 for an overview of such non-assertions covenants.
covenants is not settled in all jurisdictions and so some implementers prefer a more formal bilateral licence. Microsoft has used its Open Specification Promise\(^{12}\) and Microsoft Community Promise\(^{13}\) extensively in the context of certain specifications (whether formally standardised at a standards setting organisation or not), where it does not intend to seek a patent royalty and where ecosystem feedback suggests that an alternative to a bilateral licence would be utilised.

As noted above, we disagree with the premise that only standards available for implementation without the payment of a royalty are “compatible” with open source licences. We believe that FRAND, including a payment of a royalty, delivers a level playing field for open source and proprietary developers today.

**11 Should a different rationale be applied when purchasing off-the-shelf software solutions than is applied when purchasing bespoke solutions?**

Microsoft believes that off the shelf solutions tend to have interoperability built in by design and tend to be built to meet the interoperability and standards needs of a wide swath of the market. Government should leverage this dynamic by taking a light touch approach to standards in the context of off the shelf solutions. Bespoke solutions present a potentially different set of concerns that might require more internal government direction, especially with regard to conformity with standards to promote cross department interoperability. As a result, we believe that the government may need to take a much more active role in selecting standards in connection with the building out of bespoke solutions, but in the context of off the shelf solutions it should be a fast follower of the marketplace. In addition to selecting standards, there may be an important role for government to ensure that non-standard interfaces created in bespoke developments are licenced and documented in such a way that interoperability with other vendors is enabled\(^{14}\).

**12 In terms of standards for software interoperability, data and document formats, is there a need for the Government to engage with or provide funding for specific committees/bodies?**

The government, like any customer of technology, should engage in the standards ecosystem to ensure its needs as a customer are met. Many government representatives do this today, either at the fora and consortia level (in organisations such as OASIS, W3C and the like) or in the regional and international standardisation level (CEN/CENLEC, ISO, [and the like]).


ITU, etc.). Industry welcomes government participation in standards setting organisations where government interests are raised. As cloud computing becomes more ubiquitous and crosses national boundaries, such engagement should encompass other jurisdictions to ensure interoperability over the long term.

<table>
<thead>
<tr>
<th>13</th>
<th><strong>Are there any other policy options which would meet the described outcomes more effectively?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Microsoft commends the government for its efforts to address several key objectives related to government purchase and use of ICT, including using policy to drive better interoperability and reduce vendor lock-in across government departments, ensuring a level playing field for all business models and more generally driving better value for money for government ICT. We believe it is important for the government to view standards as merely one piece of its overall strategy and that it should undertake additional policy consultations to better understand how it can address the following important policy objectives: SME participation in the market for government IT; Interoperability and lock-in;, Value for money; Ensuring a level playing field for all business models; Continuing to drive pragmatic innovation and SME policies, including strong support for development and use of IPR.</td>
</tr>
<tr>
<td></td>
<td>• <strong>SME participation in the market for government IT:</strong> Microsoft has over 30,000 partners in the UK, many of whom are SMEs and so we have a keen interest in any government policy which seeks to reduce barriers to SMEs who would like to do business with the government. We believe aspects of current procurement processes make it more difficult for our SME partners to do business with the government. We would welcome government and industry collaboration to identify all aspects of procurement process that impair SME participation and examine the extent to which these impediments can be lowered or removed. By way example, we know that government procurement cycles can be too lengthy for SMEs and can require resources or expertise that SMEs often don’t possess in-house. We also know that the government often procures in “blocks” that are simply too big for SMEs to bid on and looks to shift risk to vendors. SMEs are unlikely to be able to take on this risk themselves and as a result SMEs often end up doing business with the government through a larger system integrator (SI). In addition to identifying the complete set of barriers, the government should identify possible solutions and explore whether these possible solutions are, on balance, preferable to the current state of play. It may be that for some of the barriers identified, the government may ultimately conclude that SME participation through a relationship with an SI is optimal. Decreasing the amount of “red tape” necessary for a public entity to procure ICT solutions and for suppliers (including SMEs) to participate in public tenders will drive competition and reduce costs.</td>
</tr>
</tbody>
</table>
• **Interoperability and lock-in**: Governments have been concerned for decades about challenges related to interoperability of systems across different departments. Initially, many governments viewed these interoperability challenges as purely technical problems, and a decade or more ago they frequently were of a technical nature. As a result, some of the earliest interoperability policy documents from governments, including the UK’s eGIF in 2000, were focused almost exclusively on technical aspects of interoperability. The European Commission considered a number of additional dimensions when it began work on its European Interoperability Framework. They examined their state of affairs and realised that the initial technical subject matter identified by the UK eGIF had been transformed and there were now a host of critical interoperability challenges in the semantic, organisational, political and legal dimensions that needed to be addressed. In fact, the recently updated version 2 of the EIF has gone even further, reducing again the technical content and increasing the focus on semantic and organisational challenges. These changes reflect the massive progress that industry has made in addressing technical interoperability challenges over the last decade, based largely on a core set of standards that are now supported in nearly all products. We believe that a government policy approach to interoperability that highlights the semantic, organisational and legal/political challenges will serve the government well. To that end, we believe the government should identify specific scenarios where government interoperability is still inadequate and examine the specific technical, semantic, organisational and legal/political issues that need to be addressed to improve interoperability. By promoting a flexible standards policy which highlights the market leading standards in the areas of interest, such as document formats, encryption, etc., government can empower government departments and local public entities with the necessary flexibility to select the standards that best suit their needs.

• **Value for money**: We believe the government should continue to focus significant efforts on ensuring it receives best value for money for its ICT purchases through rigorous use of a Total Cost of Ownership (TCO) analysis, by rationalising and simplifying the way that government specifies ICT requirements and by ensuring that its policies are designed to leverage the cloud, Consumerisation of IT (COIT) and Bring Your Own Device (BYOD) trends that are emerging in the broader ICT marketplace. Many respected researchers have made similar recommendations, including Harvard Business School Professor Josh Lerner and London School of Economics Professor Mark Schankerman in their recent book “The CoMingled Code”.\(^{15}\) They highlight that established models for TCO may be challenging to apply in the government context and urge governments and industry to redouble their efforts to design and utilise robust TCO analysis. Our own experiences around the world also reveal that governments also adversely impact value for

---

money they receive from ICT by over-specifying requirements. We believe that governments can improve the value for money they receive from ICT by being more flexible in how they specify requirements, in some cases taking cues from the private sector so it can take advantage of more commodity based pricing. Lastly, we believe that the success of UK efforts to promote a BYOD strategy (which is closely connected to the government’s G-Cloud strategy) depend in part on the broader procurement policy that embraces standards popular in the consumer marketplace.

- **Ensuring a level playing field for all business models**: One of the key issues raised in the Consultation is “leveling the playing field”, yet the Consultation provides little economic evidence of the current playing field or any economic impact assessment of what the policies in the Consultation would result in if implemented. We believe it is critical that the Government undertake a proper study to specifically identify what evidence there is that the playing field is not level for open source software today. Like the Netherlands Court of Audit Report (discussed in our response to Chapter 1 Question 6 above) we believe that the Government would benefit from analysis by market regulators and competition law experts. Government should encourage software vendors and services providers to focus on market relevant standards, be they FRAND or RF and explain to FOSS developers that most open source licences appear to be compatible with FRAND as demonstrated by the number of FOSS solutions on the market today that implement FRAND-based standards, and that patent royalties are just another cost like network bandwidth, storage, electricity, or software developer time. Government should not exclude FRAND standards as a principle, because this may lead to inefficiencies and may eventually drive higher costs for the government.

- **Continuing to drive pragmatic innovation and SME policies, including strong support for development and use of IPR**: Government innovation and SME policy can have a significant impact on the growth of national economies and we would like to highlight two recent UK policies that we believe positively contribute to that objective. In March 2012, HM Treasury confirmed implementation of a policy that will allow companies to pay a lower rate of tax on profits generated from UK-owned patented technology. That policy immediately resulted in a significant boost in domestic investment by pharmaceutical company GlaxoSmithKline. A second illustrative policy is the Intellectual Property Office program “From ideas to growth: Helping SMEs get value from their intellectual property” which outlines how the IPO will support SMEs, in particular by providing SMEs with the knowledge they need to maximise the value of their IP assets. These policies represent pragmatic work by the government to encourage UK companies to

---

16 “Glaxo invests £500m in UK and builds new factory” (available at http://m.bbc.co.uk/news/business-17465090)
17 http://www.ipo.gov.uk/business-sme
What criteria should the Government consider when deciding whether it is appropriate to mandate particular standards?

Microsoft believes that the government should consider the following criteria where it is engaged in determining whether it is appropriate to mandate standards for use by government departments:

- **Functionality fits needs**: The most important criterion is that any selected standards deliver the functionality needed for all necessary technical scenarios that the government has identified, including interacting and interfacing with citizens and businesses.
- **Maturity and marketplace support of standards**: Another critical criterion is that the standard has stood the test of time and rigors of the market. Governments should use caution when considering standards which have been in the marketplace for a period of time but which have not reached a critical mass of support. Standards that have not received broad market acceptance may not provide required functionality or might suffer from other limitations that have caused the broader marketplace to pass them up. Using standards without broad market support may also impair the government’s ability to interact and interface with citizens (and businesses), who may have embraced different standards.
- **Developed through open process**: This is an important criterion, although it should be viewed on a spectrum rather than as a hard rule. Where available, governments should rely upon standards created through an open and consensus based process.
- **Total Cost of Ownership**: Rather than focusing on whether standards have royalties associated with their implementation or are available to implement on a royalty free basis, the government should consider the overall functional needs met by standards over the lifecycle of products that implement such standards.
- **Single vs. Multiple**: Lastly, the government should recognise that one standard rarely meets functional requirements for all use cases, and mandation should reflect that fact and where adopted choose a limited (but not singular) number of accepted market standards.

Whilst the Consultation raises many important questions, it noticeably does not raise a very important one. Microsoft believes that the Government should consider a threshold question, namely **when is it appropriate for the government to restrict use of standards or require use of others?** Although many governments have created lists of “required,” “mandated” or “recommended” standards, relatively little analysis has been conducted to examine the objectives behind these efforts and more importantly to what extent these
standards lists have helped governments reach those objectives. These lists, often created as part of an eGovernment Interoperability Framework (eGIF) have sometimes taken on lives of their own and it is worth examining them in a bit more detail to understand the circumstances where governments have considered creating standards “requirements,” “recommendations” or “mandates.”

Microsoft has long tracked its customer standards requirements and we manage a database of the contents of over 36 distinct national standards lists. Our experience has revealed several misconceptions about the origin and content of these standards lists. Some observers have viewed these lists as an edict from a government to vendors outside the government to follow the list “or else.” According to this viewpoint, governments use these lists as a sort of club against vendors to drive industry to adopt standards that government needs but that industry does not support. In reality, the initial content and evolution of these lists indicate something quite different - governments have used these lists to change the behavior of internal actors within government who have failed to follow the broader marketplace in adopting widely used standards. The original UK standards list, which has been replicated and followed in many countries around the world indicated its purpose was to “align [...] government with the rest of industry” by “by adopting Internet and World Wide Web standards” which had gained significant traction in the broader marketplace. Over the past decade, standards lists have provided a powerful message to government departments to get in line with what industry is delivering and stop reinventing a different sized wheel where an existing solution could be used. As one analysis of these standards lists concluded, the emphasis has been “on alignment with industry rather than driving industry to create a bespoke set of standards just for the government sector.”

Microsoft believes it is important for governments to set out clear parameters to delineate the circumstances in which particular standards might be promoted. We believe the best practice in this area is for governments to promote standards where government ministries or departments have failed to adopt standards that have matured and developed strong marketplace support. We also believe that governments should conduct detailed market analysis before seeking to change the dynamics of the marketplace by requiring industry compliance with a standard which is not widely used in the broader marketplace. Mandating standards that do not have broad marketplace adoption may also impair a government’s ability to interface or interact with its citizens (and businesses), who may have adopted standards with broader market support. Moreover, policies that exclude any standard that has achieved strong marketplace support will also impair a government’s ability to interface or interact with its citizens (and businesses), who may have already adopted those standards.

---

2 **What effect would mandating particular open standards have on improving value for money in the provision of government services?**

Effective use of standards by governments is an important component of an ICT strategy. We believe it is important for the government to view standards as merely one piece of its overall strategy and not as a silver bullet.

Additionally, Microsoft does not believe that there is any direct relationship between value for money and existence or not of FRAND-based royalties on patents within standards and therefore we do not believe the policy will improve the value for money in the procurement of government services. ICT products and services have many distinct costs that go into the overall cost or Total Cost of Ownership (TCO) and royalties make up at most a relatively small portion of the overall TCO.

By focusing on the royalty free nature of patents within a standard that are implemented in a larger product or services, the policy may in fact interfere with the obligation of government procurement officers to pick the solution that provides best value for money. The royalty free requirement will potentially exclude from consideration a range of products or services that support royalty bearing standards, but which might ultimately provide better value for money to the government. In the end, a royalty on a standard is but one component cost of overall TCO of product or service that implements the standard and lack of a royalty is in no way determinative of lowest cost or best value of the overall product or service.

3 **Are there any legal or procurement barriers to mandating specific open standards in the UK Government’s IT?**

By focusing on the royalty free nature of a standard within a larger product or services, the policy may in fact interfere with the obligation of government procurement officers to pick the solution that provides best value for money. The royalty free requirement will potentially exclude from consideration a range of products or services that support royalty bearing standards, but which might ultimately provide better value for money to the government. In the end, a royalty on a standard is but one component cost of overall TCO of product or service that implements the standard and lack of a royalty is in no way determinative of lowest cost or best value of the overall product or service.

Furthermore, without taking a view on whether the following policies would preclude the mandation of royalty free standards, the UK Government may find it useful to review the following legislative instruments:

- the Public Procurement Directive (2004/18/EC), which requires that technical specifications in tenders afford equal access for tenderers and do not include unjustified obstacles to the opening up of public procurement competition, and the Public Contracts Regulations of 2006 transposing the Directive, which include a
similar restriction;
• the proposed Regulation on European Standardisation which is currently being finalised by the Council and the European Parliament;
• Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations;
• article 34 of the Treaty of the Functioning of the European Union which prohibits quantitative restrictions along with measures having equivalent effect on trade among Member States.

4 Could mandation of competing open standards for the same function deliver interoperable software and information at reduced cost?

Microsoft is unsure of the precise question that is being asked here, but we have interpreted the question to mean “are there circumstances where government support for two or more ‘competing’ standards might result in lower costs than if the government had supported only one of those standards?” Although short term analysis might suggest a cost saving by picking a single standard, we believe that allowing multiple standards to be supported and to compete in the marketplace may often have so-called dynamic efficiencies that in the long term result in better and more innovative technology at lower cost to end users.

As an implementer of many hundreds of standards, Microsoft understands that there are at times multiple standards in a given domain that we must implement in parallel to ensure we have provided necessary functionality to the broadest portion of the market. Referring to these standards as “competing” standards may give the impression that they are virtually identical, when in reality they often represent different feature sets that different market segments might be interested in or involve trade-offs between complexity (and possibly future extensibility) and simplicity (which may meet current needs but fail to deliver future needs). We therefore do not believe there are many instances where standards we implement in parallel provide “the same function.”

One common example of parallel standards is in the digital image format space. There are many different formats that customers use and vendors therefore support, including JPEG, GIF, BMP, PCX, PNG, TIFF and DICOM. GIF is a low resolution format that supports features such as transparency and interlacing. JPEG provides more crispness and support for many more colors than GIF. PNG represents several improvements over GIF, but as a result the files can be much larger. While it might be tempting to see these as competing standards for the same function, and make the conclusion mandating just one of the standards would lower costs for end users, the reality is likely more complex. These

20 James George, “GIF, JPG and PNG – What’s the difference?” May 1, 2011 (available at http://www.sitepoint.com/gif-jpg-png-whats-difference/)
different standards address different user scenarios and technical needs, what standards experts often refer to as “use cases.”

A more recent example involves the open data standards work that W3C and OASIS are currently undertaking. In early May, the W3C announced the formation of the Linked Data Platform (LDP) Working Group. Only a few weeks later OASIS announced the submission of a draft charter to establish the Open Data Protocol (OData) Technical Committee. Both of these emerging standards address specific use cases and in all likelihood will ultimately fill important needs in the future open data standards landscape. In fact, one of the supporters of both efforts recently clarified why his employer would be “so invested in two, seemingly overlapping standards initiatives” explaining:

There is an enormous variety in the types of data resources and equal diversity in the ways they are being used and accessed on the web. Linked Data Platform and OData each add value for specific use cases. Linked Data provides enhanced data integration capability, enabling easier linking of information from disparate sources. OData provides a simple, common interface for application programmers to access, query and update diverse data resources on the Web e.g. examining HR data on the Intranet or analytics results. Standardization will be an important step towards improving interoperability and consistency for each.21

5 Could mandation of open standards promote anti-competitive behaviour in public procurement?

Microsoft cannot advise the UK government on whether the considered policy could lead to anti-competitive behaviour in public procurement.

However the European Commission, as the ultimate competition authority in Europe, has assessed under which circumstances standardisation agreements could be pro or anti-competitive. Its Horizontal Agreement Guidelines22 highlight in particular that:

- Competition among a number of voluntary standards is beneficial in the standards-setting context and should be encouraged whereas obliging exclusive use of a particular standard may hinder competition23.
- Exclusion of patent protected innovative technologies or particular market

---


23 Paragraph 266. “[S]tandards requiring that a particular technology is used exclusively for a standard or preventing the development of other technologies by obliging the members of the standard setting organisation to exclusively use a particular standard, may lead to [barriers to entry and potential exclusion from the market].” Paragraph 277. “[...] restrictive effects [on competition] are most unlikely in a situation where there is effective competition between a number of voluntary standards.”
segments (such as upstream providers) from the standardisation process may be anti-competitive.  

- The FRAND regime for standard essential patents ensures effective access to a standard.

6 How would mandation of specific open standards for government IT software interoperability, data and document formats affect your organisation/business?

Mandating “open standards” as the policy narrowly defines that term may require Microsoft to implement and support additional alternative standards that do not have broader market acceptance, resulting in additional costs, resources and development time. Governments around the world have learned important lessons about mandating standards that ultimately do not achieve market acceptance. Such policies have resulted in the creation of a second parallel market for government goods, which ultimately adds costs to vendors who would otherwise design products for a single market. Companies including Microsoft and Digital Equipment Corporation made significant investments in supporting the Open Systems Interconnect (OSI) standard during the 1990s, as a result of government mandates that required products to support that networking standard. At the time of these mandates, most products in the non-government market supported the TCP/IP networking standard and ultimately the government market too moved to the TCP/IP standard. But the OSI mandates from a range of governments resulted in additional development costs to the vendors, which ultimately resulted in higher prices for customers.

Microsoft believes it is important for governments to set out clear parameters to delineate...

---

24 Paragraph 264. Standard-setting can, however, in specific circumstances, also give rise to restrictive effects on competition by potentially restricting price competition and limiting or controlling production, markets, innovation or technical development. This can occur through [...] foreclosure of innovative technologies [...]. Paragraph 297. Any standard-setting agreement which clearly discriminates against any of the participating or potential members could lead to a restriction of competition. For example, if a standard-setting organisation explicitly excludes upstream only companies (that is to say, companies not active on the downstream production market), this could lead to an exclusion of potentially better technologies.

25 Paragraph 269. “IPR promote dynamic competition by encouraging undertakings to invest in developing new or improved products and processes. IPR are therefore in general pro-competitive... [T]here is no presumption that holding or exercising IPR essential to a standard equates to the possession or exercise of market power. The question of market power can only be assessed on a case by case basis”.

Paragraph 285. “In order to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms (“FRAND commitment”)...”.

The European Commission reached this conclusion in the face of arguments from some organisations that FRAND may exclude open source software, see e.g.,


“In Red Hat’s view, FRAND, which allows rightsholders to charge royalties, still discourages competition by driving up costs for implementers and thus creating barriers for new entrants to the market.”
the circumstances in which particular standards might be promoted. We believe the best practice in this area is for governments to promote standards where government ministries or departments have failed to adopt standards that have matured and developed strong marketplace support. We also believe that governments should conduct detailed market analysis before seeking to change the dynamics of the marketplace by requiring industry compliance with a standard which is not widely used in the broader marketplace. Mandating standards that do not have broad marketplace adoption may also impair a government’s ability to interface or interact with its citizens (and businesses), who may have adopted standards with broader market support. Moreover, policies that exclude any standard that has achieved strong marketplace support will also impair a government’s ability to interface or interact with its citizens (and businesses), who may have already adopted those standards.

Several participants at the Cabinet Office sponsored workshops related to the Consultation expressed similar concerns, noting that in particular, SMEs are likely to be less able to respond to government mandates. They noted that SMEs by their nature have fewer resources and so would be less able to support some standards for a non-government market and others for the government market.

7 How should the Government best deal with the issue of change relating to legacy systems or incompatible updates to existing open standards?

Microsoft recommends that government engage directly with standards development organisations in order to best ensure current and future standards (that are important to government ICT services) have development paths that, where possible, minimise incompatibilities. It is useful to distinguish between “development” and “replacement” strategies for standards. In this context, the former builds on existing standards, while the latter would seek to “start again”. Development processes usually seek to minimise the impact of change on an existing installed base. Such processes might work best when they are informed of the practicalities and impact of change by real end user organisations.

Governments (with very large installed bases) can offer unique insights into deployments at scale, which we encourage them to share directly. Engagement also enables governments to understand (and plan to minimise) the impact of unavoidable change from very early in the development cycle. Some impact may be inevitable, since development should enable improvement through change. It then becomes important to understand and plan for change in plenty of time, which favours early engagement in the process. The impact of change may seem greater where organisations fail to plan for (or resist or simply ignore) incremental change in a project, technology or product lifecycle. Gradual and incremental upgrades, planned into longer term projects, should minimise or eliminate the change impact between service generations. With careful planning, processes of technology incrementalism can reduce the impact of stagnation and offer lower cost exit paths for legacy systems. This effect is already recognised and sought out as the
government begins to consume (public) cloud services, where service providers continually update services to ensure they always remain current and support the latest (stable) standards.

| 8 | What should trigger the review of an open standard that has already been mandated? |

Governments around the world have learned important lessons about mandating standards that ultimately do not achieve market acceptance. Such policies have resulted in the creation of a second parallel market for government goods, and that ultimately adds costs to vendors who would otherwise design products for a single market. Standards mandates by governments can also result in skewing of beneficial market forces which help drive changes to standards, or even the emergence of new standards altogether. Should the government embark on a path to mandating standards, we would urge it to carefully monitor the marketplace to ensure it is not skewing the beneficial market forces that drive innovation in standards or causing the market to support a standard solely for government markets.

| 9 | How should the Government strike a balance between nurturing innovation and conforming to standards? |

Governments should ensure that their policies do not slow down the pace of innovation within standards. Rigid mandates by governments could result in skewing of beneficial market forces which help drive changes to standards (or even the emergence of new standards altogether). These market forces ensure there is a healthy balance between the benefits of widely adopted standards and innovation (including within standards themselves).

The literature on standardisation suggests that standards can both constrain and enable innovation. Standards by their nature are about freezing (or at least constraining) the subject matter of standardisation for an agreed upon period of time. That period may be the agreed upon revision cycle for the standard or the period of time it takes market participants to develop and rally around a completely new standard. During that period, the existence of the standard is actually constraining innovation in the area of the standard. Of course freezing the subject matter of the standard itself allows innovation to occur on top of or around the standard. On balance, the marketplace has a number of mechanisms in it which help drive changes to standards (or even the emergence of new standards altogether) to ensure that innovation continues.

---


27 Even some of the web standards which are held up as standards which will be fixed for eternity are likely to be modified or replaced over time. The SPDY protocol has been proposed as a parallel or even outright replacement to the venerable HTTP standard. http://en.wikipedia.org/wiki/SPDY
The challenge is ensuring that government policy does not upset this delicate balance between stability and innovation. We believe that attempts to constrain the definition of what is a standard (any standard, “open” or otherwise) or to select “winners” by mandating adoption would have detrimental impacts on this balance and could ultimately impede innovation in the ICT ecosystem.

10 How should the Government confirm that a solution claiming conformity to a standard is interoperable in practice?

It is widely recognised that verified conformity to one or more standards often does not guarantee interoperability, so interoperability must be addressed separately. There are, broadly, two cases that need to be recognised which may be labelled “direct” and “by proxy”.

For verifying the interoperability of a unique assembly of standardised components or a bespoke solution based on standards, governments might need to verify directly that the standards have been implemented correctly and that the solution also interoperates with other relevant products. They might do this themselves or (more likely) it would (contractually) oblige a solution provider to demonstrate interoperability using an agreed set of the supplier’s own test cases plus test cases selected by the government relevant to the intended use of the solution.

For verifying the interoperability of a commodity solution, governments may be able to rely on established processes, that solution providers typically operate as a community to demonstrate the interoperability of their products with those of their competitors. These processes (for example “PlugFest” events) offer assurance by proxy, through the community verifying interoperability by delivering test results against the community’s published test cases. Most such communities welcome governments to take part in these events and governments should consider providing their own requirement-specific interoperability test cases. By way of an example, Microsoft hosted the 8th ODF “PlugFest” in Belgium in April 2012, where we also announced that the next version of Office (codenamed “Office 15”) will support the new version of the OASIS ODF standard (v1.2). (Microsoft did invite the Cabinet Office to that event, but unfortunately attendance was not possible.)

11 Are there any other policy options which would meet the objective more effectively?

Microsoft commends the government for its efforts to address several key objectives related to government purchase and use of ICT, including using policy to drive better interoperability and reduce vendor lock-in across government departments, ensuring a level playing field for all business models and more generally driving better value for money for government ICT. We believe it is important for the government to view standards as merely one piece of its overall strategy and that it should undertake
additional policy consultations to better understand how it can address the following important policy objectives: SME participation in the market for government IT; Interoperability and lock-in; Value for money; Ensuring a level playing field for all business models; Continuing to drive pragmatic innovation and SME policies, including strong support for development and use of IPR.

- **SME participation in the market for government IT:** Microsoft has over 30,000 partners in the UK, many of whom are SMEs and so we have a keen interest in any government policy which seeks to reduce barriers to SMEs who would like to do business with the government. We believe aspects of current procurement processes make it more difficult for our SME partners to do business with the government. We would welcome government and industry collaboration to identify all aspects of procurement process that impair SME participation and examine the extent to which these impediments can be lowered or removed. By way example, we know that government procurement cycles can be too lengthy for SMEs and can require resources or expertise that SMEs often don’t possess in-house. We also know that the government often procures in “blocks” that are simply too big for SMEs to bid on and looks to shift risk to vendors. SMEs are unlikely to be able to take on this risk themselves and as a result SMEs often end up doing business with the government through a larger system integrator (SI). In addition to identifying the complete set of barriers, the government should identify possible solutions and explore whether these possible solutions are, on balance, preferable to the current state of play. It may be that for some of the barriers identified, the government may ultimately conclude that SME participation through a relationship with an SI is optimal. Decreasing the amount of “red tape” necessary for a public entity to procure ICT solutions and for suppliers (including SMEs) to participate in public tenders will drive competition and reduce costs.

- **Interoperability and lock-in:** Governments have been concerned for decades about challenges related to interoperability of systems across different departments. Initially, many governments viewed these interoperability challenges as purely technical problems, and a decade or more ago they frequently were of a technical nature. As a result, some of the earliest interoperability policy documents from governments, including the UK’s eGIF in 2000, were focused almost exclusively on technical aspects of interoperability. The European Commission considered a number of additional dimensions when it began work on its European Interoperability Framework. They examined their state of affairs and realised that the initial technical subject matter identified by the UK eGIF had been transformed and there were now a host of critical interoperability challenges in the semantic, organisational, political and legal dimensions that needed to be addressed. In fact, the recently updated version 2 of the EIF has gone even further, reducing again the technical content and increasing the focus on semantic
and organisational challenges. These changes reflect the massive progress that industry has made in addressing technical interoperability challenges over the last decade, based largely on a core set of standards that are now supported in nearly all products. We believe that a government policy approach to interoperability that highlights the semantic, organisational and legal/political challenges will serve the government well. To that end, we believe the government should identify specific scenarios where government interoperability is still inadequate and examine the specific technical, semantic, organisational and legal/political issues that need to be addressed to improve interoperability. By promoting a flexible standards policy which highlights the market leading standards in the areas of interest, such as document formats, encryption, etc., government can empower government departments and local public entities with the necessary flexibility to select the standards that best suit their needs.

- **Value for money**: We believe the government should continue to focus significant efforts on ensuring it receives best value for money for its ICT purchases through rigorous use of a Total Cost of Ownership (TCO) analysis, by rationalising and simplifying the way that government specifies ICT requirements and by ensuring that its policies are designed to leverage the cloud, Consumerisation of IT (COIT) and Bring Your Own Device (BYOD) trends that are emerging in the broader ICT marketplace. Many respected researchers have made similar recommendations, including Harvard Business School Professor Josh Lerner and London School of Economics Professor Mark Schankerman in their recent book “The CoMingled Code”.

They highlight that established models for TCO may be challenging to apply in the government context and urge governments and industry to redouble their efforts to design and utilise robust TCO analysis. Our own experiences around the world also reveal that governments also adversely impact value for money they receive from ICT by over-specifying requirements. We believe that governments can improve the value for money they receive from ICT by being more flexible in how they specify requirements, in some cases taking cues from the private sector so it can take advantage of more commodity based pricing. Lastly, we believe that the success of UK efforts to promote a BYOD strategy (which is closely connected to the government’s G-Cloud strategy) depend in part on the broader procurement policy that embraces standards popular in the consumer marketplace.

- **Ensuring a level playing field for all business models**: One of the key issues raised in the Consultation is “leveling the playing field”, yet the Consultation provides little economic evidence of the current playing field or any economic impact assessment of what the policies in the Consultation would result in if implemented. We believe it is critical that the Government undertake a proper study to specifically identify what evidence there is that the playing field is not

---

level for open source software today. Like the Netherlands Court of Audit Report (discussed in our response to Chapter 1 Question 6 above) we believe that the Government would benefit from analysis by market regulators and competition law experts. Government should encourage software vendors and services providers to focus on market relevant standards, be they FRAND or RF and explain to FOSS developers that most open source licences appear to be compatible with FRAND as demonstrated by the number of FOSS solutions on the market today that implement FRAND-based standards, and that patent royalties are just another cost like network bandwidth, storage, electricity, or software developer time. Government should not exclude FRAND standards as a principle, because this may lead to inefficiencies and may eventually drive higher costs for the government.

- **Continuing to drive pragmatic innovation and SME policies, including strong support for development and use of IPR:** Government innovation and SME policy can have a significant impact on the growth of national economies and we would like to highlight two recent UK policies that we believe positively contribute to that objective. In March 2012, HM Treasury confirmed implementation\(^{29}\) of a policy that will allow companies to pay a lower rate of tax on profits generated from UK-owned patented technology. That policy immediately resulted in a significant boost in domestic investment by pharmaceutical company GlaxoSmithKline. A second illustrative policy is the Intellectual Property Office program “From ideas to growth: Helping SMEs get value from their intellectual property”\(^{30}\) which outlines how the IPO will support SMEs, in particular by providing SMEs with the knowledge they need to maximise the value of their IP assets. These policies represent pragmatic work by the government to encourage UK companies to invest in and more effectively harness intellectual property assets.

<table>
<thead>
<tr>
<th>Chapter 3: Proposed international alignment policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the proposed UK policy compatible with European policies, directives and regulations (existing or planned) such as the European Interoperability Framework version 2.0 and the reform proposal for European Standardisation?</td>
</tr>
</tbody>
</table>

The government has the opportunity to learn key lessons and gather important details about this same debate around the definition of the term open standard, as that debate has only recently concluded in the EU and has resulted in a series of policy documents including the Horizontal Agreement Guidelines, the European Interoperability Framework version 2 and the soon to be finalised Regulation on European Standardisation.

In the case of all three documents, the same arguments were made that for policy reasons patents in standards needed to be available on a mandatory royalty free basis. In the case

\(^{29}\) “Glaxo invests £500m in UK and builds new factory” (available at http://m.bbc.co.uk/news/business-17465090)

\(^{30}\) http://www.ipo.gov.uk/business-sme
of the European Interoperability Framework version 2, the Commission rejected these arguments, concluding that royalty free standards were not required to meet interoperability objectives, instead defining openness as “licensed on FRAND terms or on a royalty free basis in a way that allows implementation in both proprietary and open source software.” Similarly, in Europe the EC Guidelines on Horizontal Cooperation Agreements note that open access to a standard is achieved through FRAND terms since “FRAND commitments are designed to ensure that essential IPR protected technology incorporated in a standard is accessible to the users of that standard on fair, reasonable and non-discriminatory terms and conditions”. Lastly, the pending EU Standardisation Regulation empowers the Commission to identify fora and consortia standards for possible use in public procurement and policymaking where those standards meet certain criteria – criteria that include FRAND licencing of standards essential patents with or without a royalty. (These provisions are of course not binding on Member States until the Regulation is approved by the European Parliament and Council of Ministers).

These three EU policy documents (and the debates that led up to their final forms) provide an important insight into some of the critical issues that the government should consider before finalising its open standards policy. There are at least two levels of enquiry, one being a formal legal compatibility analysis and the other looking more at organisational or policy compatibility. It is clearly a concern if member states create interoperability frameworks which have components (such as open standards definitions) which are not interoperable with each other.

More generally, in considering the compatibility of the proposed policy with the UK’s broader obligations, the following broad principles of EU and international law and policy may merit consideration by the UK:

**European and international regulations define standards as voluntarily implemented.**

The WTO TBT agreement\(^{31}\) defines a standard as a “*document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory.*” This has been highlighted in paragraph 2.2 in the impact assessment\(^{32}\) accompanying the proposed Regulation on European Standardisation “*Standards are not regulations. Standards are voluntary while regulations are obligatory and have the force of law.*”

This is true even when standards are used to support product regulation. Regulated areas\(^{33}\) comprise toy safety, medical devices, explosives, lifts, etc. They are exhaustively defined at EU level. Even in regulated areas, standards are voluntarily implemented. They

---

\(^{31}\) [http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm](http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm)


only provide a presumption of conformity to the relevant product regulation or directive. In non-regulated areas, the implementation of standards is never mandatory. The legal basis for mandating standards in non-regulated areas, such as document formats, is at best unclear.

The EU’s public procurement framework endorses the principles of technology neutrality

Technology neutrality is a fundamental principle of EU law. This principle appears repeatedly in the public procurement directive and the national laws transposing it.

In particular, article 23.3(a) of the public procurement directive 2004/18/EC enables a public entity to reference any existing “national standards transposing European standards, European technical approvals, common technical specifications, international standards [...].”

Hence pursuant to the public procurement directive, public entities in Europe retain significant flexibility to select the standards which best suit their needs from among the large and diverse set of standards available.

Furthermore, because standards can constrain technical choices, the directive specifies that “each reference shall be accompanied by the words ‘or equivalent’” at the end of article 23.3(a), so that suppliers are free to offer a different, potentially better, technical solution to the procuring authority. The directive further states that: “where a contracting authority makes use of the option of referring to the specifications mentioned in paragraph 3(a), it cannot reject a tender on the grounds that the products and services tendered for do not comply with the specifications to which it has referred, once the tenderer proves in his tender to the satisfaction of the contracting authority, by whatever appropriate means, that the solutions which he proposes satisfy in an equivalent manner the requirements defined by the technical specifications.”

Hence pursuant to the public procurement directive, suppliers answering call for tenders are free to select and offer any technical solution which would meet the requirements of a call for tenders, and their offer cannot be rejected on the basis that it does not implement a particular standard.

The technology neutrality principle has been reinforced in the European Interoperability Framework v2.0 published in 2010.

European and international policies endorse competition between standards

34 Pursuant to the proposed Standardisation Regulation, the list of common technical specifications in the ICT domain will be set by the European Commission. This list will include technical specifications developed by fora and consortia such as IEEE, OASIS, ECMA, W3C, IETF, etc. where those specifications meet certain attributes set out in the proposed Regulation (among them, that any standards essential patents be licenced on FRAND terms).
ICT standards should be market-driven. They compete to address stakeholder needs and provide the opportunity for new innovation solutions to surface. The ICT marketplace - and the related needs - change rapidly. As a result, ICT standards must be able to change in response. New standards must be permitted to compete in order to respond to these needs, further new competition, and encourage the development of new, innovative solutions. This is one reason why governments generally do not mandate adherence to one ICT standard over another unless absolutely necessary, as this may distort market-driven outcomes and prevent new, innovative solutions from competing in the marketplace and even becoming the new predominant standard. Standards should be enablers of innovation rather than constricting innovation. Because standards emerge to meet differing customer needs, overlapping standards are common in the industry.

Implementation of ICT standards is voluntary so the most important success factor of any given specification is not whether it becomes a formal standard—or even which organisation develops it—but whether the marketplace finds it useful.

This view was endorsed unanimously by the participating national bodies of ISO/IEC JTC-1 (Information Technology) in Resolution 49 in ISO/IEC JTC 1 N9417 (2008-11-18):

“Resolution 49 - Clarification on Consistency of Standards vs Competing Specifications

JTC 1 notes the nature of standardization is to attract innovative ideas from multiple sources, choose the best ones and codify them in specifications that facilitate widespread use.

Further, consistent with ISO’s and IEC’s ‘one standard’ principle (for example TMB’s policy and principle statement on Global Relevance), there are times when one standard is all that is required to meet the needs of the marketplace, especially in a particular application area, and there are other instances where multiple standards make the most sense to respond to market requirements and to the needs of our society. In reducing the number of alternatives to a reasonable minimum, JTC 1 and other SDOs have demonstrated that it is not necessary and may not be desirable to choose only one alternative or option for standardization.

Further, JTC 1 notes that the cycle of innovation in the ICT sector has resulted in the continuous introduction of new technologies that improve upon existing standards. Any attempt to choose only one standard would ignore and threaten to inhibit the cycle of innovation that continues to fuel this industry. Therefore, JTC 1 recognizes its commitment to ISO’s and IEC’s ‘one standard’ principle; however, it recognizes that neither it nor its SCs are in a position to mandate either the creation or the use of a single standard, and that there are times when multiple standards make the most sense in order to respond to the needs of the marketplace and of society at large. It is not practical to define, a priori, criteria for making these decisions.
Therefore each standard must be judged by the National Bodies, based on their markets, on its own merits.

Unanimous”

This important aspect of competition between standards has been further highlighted in the European Commission’s Horizontal Agreement Guidelines\textsuperscript{35}, defining rules for standardisation which are compliant with a functioning market. As described earlier, the Commission’s Horizontal Agreement Guidelines\textsuperscript{36} highlight in particular that competition between voluntary standards is beneficial and should be encouraged whereas obliging exclusive use of a particular standard in the standard setting context may hinder competition\textsuperscript{37}.

Other EU countries rely on flexible sets of competing standards.

National standards policies often reference a set of market relevant standards which can be used by public entities when defining or procuring ICT systems. However they allow public entities to reference other specifications as best suit their needs. Furthermore they often reference competing or overlapping standards, leaving each public entity with more sophisticated needs the latitude to select the most appropriate ones.

For example, the French interoperability framework (RGI)\textsuperscript{38}, published in 2009, states at page 7:

“The RGI is not exhaustive in its recommendations.
The RGI recommends a number of norms, standards and best practices in meeting the current needs of priority users. No norms or standards are prohibited or discouraged.”

The RGI recommends the use of XML for editable document format, and simply references OASIS ODF and ISO Office Open XML with a status “under observation”.

The German interoperability framework (SAGA)\textsuperscript{39}, published in 2011, recommends the use of TXT as editable document formats, and lists OASIS ODF 1.1 and ISO Office Open XML as “under observation”.

The Spanish interoperability framework\textsuperscript{40}, published in 2012, states:

\textsuperscript{35} http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011XC0114(04):EN:HTML
\textsuperscript{36} http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011XC0114(04):EN:HTML
\textsuperscript{37} See Paragraphs 266 and 277.
\textsuperscript{38} http://references.modernisation.gouv.fr/sites/default/files/RGI_Version1%200.pdf
\textsuperscript{39} http://www.cio.bund.de/DE/Architekturen-und-Standards/SAGA/saga_node.html
\textsuperscript{40} http://www.cio.bund.de/SharedDocs/Publikationen/DE/Architekturen-und-Standards/saga_modul_tech_spez_de_bund_5_0_download.pdf?__blob=publicationFile
\textsuperscript{41} http://administracionelectronica.gob.es/recursos/pae_020003103.pdf
"Use of standards
Each public body or public law entity linked or dependent can:
  a) Select the standard or standards that best meets their needs, based on their
     specificity for the task or function to cover, for documents and services available to
     citizens or other public.
     If a particular feature or need not be covered by any standard those included in
     this standard [catalogue], you can select the most appropriate standard for the
     task."

It lists OASIS ODF 1.0 and ISO Open Office XML as open standards of which use is possible.

**European regulations and policies do not distinguish “software interoperability” standards from information and communication technologies standards**

Standards policy frameworks usually recognise that it is not possible to distinguish
software interoperability standards from other ICT standards.

Because interoperability is a multi-faceted concept and because software is ubiquitous in
all devices and industries, software interoperability is very broad -- as broad as ICT itself.

Moreover, convergence of technologies means that it is not possible to distinguish
information from communication. Standards are now often developed and optimised for
connected use.

In this context, the EU policy makers have drafted the chapter IV, “Standards in the field of
ICT”, of the proposed Standardisation Regulation\(^41\) to enable public entities to reference
for a and consortia ICT standards in calls for tenders to increase interoperability in the
European Union:

> **Public authorities should make best use of the full range of relevant standards when procuring hardware, software and information technology services, for example by selecting standards which can be implemented by all interested suppliers, allowing for more competition and reduced risk of lock-in. [...] Therefore, it is necessary to provide for the possibility that technical specifications for public procurement could refer to standards in the field of information and communication technologies, in order to respond to the fast evolution in the field of information and communication technologies, facilitate the provision of cross-border services, encourage competition and promote interoperability and innovation.**

**European regulations and policies support the use of FRAND standards in public procurement**

The public procurement directive enables public entities to reference, in order of preference, "national standards transposing European standards, European technical approvals, common technical specifications\(^{42}\), [and] international standards", among other specifications. Importantly, the European Standards Organisations (CEN, CENELEC and ETSI\(^{43}\)) and the ISO\(^{44}\), IEC and ITU all have a FRAND based IPR policies, pursuant to which it is not possible to reject a technical contribution when the contributor promises to make patents it controls available on a FRAND basis. By endorsing the use of these standards, the procurement directive effectively embraces FRAND.

The proposed Standardisation Regulation reinforces this approach by requiring that any fora / consortia ICT standards must be FRAND-based before they can be deemed “common technical specifications” by the Commission and be eligible for referencing in public tenders. Amendments that would have required that IPR in these standards be available on a royalty free basis were rejected by the European Parliament, by a very large majority.

This approach is in line with many European standards policies. For example, in the Commission’s 2003 Guidelines for Cooperation between the ESOs\(^{45}\), the Commission and the European Free Trade Association recommend that all ESOs ensure that any patented technology in standards “can be used by market operators on fair, reasonable and non-discriminatory terms.” Similarly, the Commission’s White Paper on modernising standardisation, The Way Forward\(^{46}\) (2009), endorses FRAND, as does the EIF v2.0\(^{47}\) and the European Parliament’s Report on the Future of European Standardisation\(^{48}\) (2010). The Commission’s Horizontal Agreements Guidelines (2011) also support a FRAND approach to standardisation\(^{49}\). In preparing its proposed June 2011 proposal for a Regulation on European Standardisation, the Commission engaged in a multi-year consultation of stakeholders and experts – with the majority of respondents supporting FRAND-based licencing. As a result, the Impact Assessment\(^{50}\), issued on 1 June 2011, endorses FRAND as

\(^{42}\)The list of common technical specifications will be set by the European Commission, in implementation of the standardisation regulation. It will comprise technical specifications set by fora and consortia such as IEEE, OASIS, ECMA, W3C, IETF, etc.

\(^{43}\)http://www.etsi.org/WebSite/AboutETSI/IPRsinETSI/IPRsinETSI.aspx

\(^{44}\)http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx


\(^{46}\)http://ec.europa.eu/enterprise/sectors/ict/files/consultation_standardisation_2009/028_ocarep.pdf - Section 7 “Standardisation must be done on FRAND terms”

\(^{47}\)http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf section 5.2.1

\(^{48}\)http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2010-0276&language=EN paragraph 63 : “[...] stresses the need to ensure that licences for any essential IPRs contained in standards are provided on fair, reasonable and non-discriminatory conditions”

\(^{49}\)http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011XC0114(04):EN:HTML paragraph 285 - “In order to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms ("FRAND commitment")”

the best approach for dealing with patented technology in standards. Finally the CAMSS, a method for assessing standards developed by DG IT in the European Commission, is likely to align its criteria on the standardisation regulation and rely on FRAND for standards.

**FRAND can ensure effective access to IPR in a standard for the widest range of market players**

The European Commission has assessed in the Horizontal Agreement Guidelines which standard–setting rules could create competition concerns and which rules would benefit the market.

In particular the European Commission, as the leading competition authority in Europe, stated paragraph 285 of the Horizontal Agreement Guidelines:

> In order to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms (“FRAND commitment”).

The European Commission reached this conclusion in the face of arguments that FRAND would disadvantage open source implementations. It further stated paragraph 269 that:

> “However, even if the establishment of a standard can create or increase the market power of IPR holders possessing IPR essential to the standard, there is no presumption that holding or exercising IPR essential to a standard equates to the possession or exercise of market power. The question of market power can only be assessed on a case by case basis.”

In short, the European Commission has taken the view that FRAND is in fact pro-competitive. This is confirmed by the numerous examples of open source solutions that have taken FRAND licences, including solutions governed by the GPL.

Ultimately, charging for the use of innovation is not incompatible with openness. As Neelie Kroes recently stated at a conference in Lyon:

> “True openness, true freedom comes from having the freedom to choose between those different [business models].”

---


“In Red Hat’s view, FRAND, which allows rightsholders to charge royalties, still discourages competition by driving up costs for implementers and thus creating barriers for new entrants to the market.”

That doesn’t necessarily mean offering something for nothing. Whatever you’re producing, whether it’s a scientific experiment or a new video mash-up, making it isn’t free. It is legitimate and right to reward and recognise creation and innovation.

But there's more than one way to do that.

Sometimes, sure, creators give their work out for free and get their reward in other ways. Other times, the best way for creators to profit is to charge for access to their work. That’s not a limitation on freedom or openness, any more than paying for a newspaper is.”

2 Will the open standards policy be beneficial or detrimental for innovation and competition in the UK and Europe?

A policy mandating royalty free standards could send the wrong message to innovative companies, scientists and other UK and European innovators regarding their ability to monetise their innovations. This message would be particularly confusing to innovators given that the European Union is trying to finalise the unitary patent reform, an initiative which recognises the importance of patents for the success of Europe.

Furthermore, as competing and overlapping software interoperability standards are very common, a policy mandating one standard per technical area (such as document formats) is likely to exclude many other market relevant standards. This policy may be particularly detrimental to SMEs:

- It may favour SMEs that develop specialised solutions for the UK public sector, but would add development costs for those SMEs who wish to compete in the other markets in the UK and in Europe more broadly;
- It may exclude SMEs which have built their solutions on market relevant standards which happen not be chosen by the UK government;
- It may be inconsistent with public procurement policies of major economies like France or Germany which both list FRAND standards and in general allow public entities to use standards other than those referenced (especially for document formats), just at a time when cross border interoperability is becoming more and more important.

3 Are there any other policy options which would meet the objectives described in this consultation paper more effectively?

Microsoft commends the government for its efforts to address several key objectives related to government purchase and use of ICT, including using policy to drive better
interoperability and reduce vendor lock-in across government departments, ensuring a
level playing field for all business models and more generally driving better value for
money for government ICT. We believe it is important for the government to view
standards as merely one piece of its overall strategy and that it should undertake
additional policy consultations to better understand how it can address the following
important policy objectives: SME participation in the market for government IT;
Interoperability and lock-in;, Value for money; Ensuring a level playing field for all business
models; Continuing to drive pragmatic innovation and SME policies, including strong
support for development and use of IPR.

- **SME participation in the market for government IT:** Microsoft has over 30,000
  partners in the UK, many of whom are SMEs and so we have a keen interest in any
government policy which seeks to reduce barriers to SMEs who would like to do
business with the government. We believe aspects of current procurement
processes make it more difficult for our SME partners to do business with the
government. We would welcome government and industry collaboration to
identify all aspects of procurement process that impair SME participation and
examine the extent to which these impediments can be lowered or removed. By
way example, we know that government procurement cycles can be too lengthy
for SMEs and can require resources or expertise that SMEs often don’t possess in-
house. We also know that the government often procures in “blocks” that are
simply too big for SMEs to bid on and looks to shift risk to vendors. SMEs are
unlikely to be able to take on this risk themselves and as a result SMEs often end
up doing business with the government through a larger system integrator (SI). In
addition to identifying the complete set of barriers, the government should
identify possible solutions and explore whether these possible solutions are, on
balance, preferable to the current state of play. It may be that for some of the
barriers identified, the government may ultimately conclude that SME
participation through a relationship with an SI is optimal. Decreasing the amount
of “red tape” necessary for a public entity to procure ICT solutions and for
suppliers (including SMEs) to participate in public tenders will drive competition
and reduce costs.

- **Interoperability and lock-in:** Governments have been concerned for decades
about challenges related to interoperability of systems across different
departments. Initially, many governments viewed these interoperability
challenges as purely technical problems, and a decade or more ago they frequently
were of a technical nature. As a result, some of the earliest interoperability policy
documents from governments, including the UK’s eGIF in 2000, were focused
almost exclusively on technical aspects of interoperability. The European
Commission considered a number of additional dimensions when it began work on
its European Interoperability Framework. They examined their state of affairs and
realised that the initial technical subject matter identified by the UK eGIF had been
transformed and there were now a host of critical interoperability challenges in the semantic, organisational, political and legal dimensions that needed to be addressed. In fact, the recently updated version 2 of the EIF has gone even further, reducing again the technical content and increasing the focus on semantic and organisational challenges. These changes reflect the massive progress that industry has made in addressing technical interoperability challenges over the last decade, based largely on a core set of standards that are now supported in nearly all products. We believe that a government policy approach to interoperability that highlights the semantic, organisational and legal/political challenges will serve the government well. To that end, we believe the government should identify specific scenarios where government interoperability is still inadequate and examine the specific technical, semantic, organisational and legal/political issues that need to be addressed to improve interoperability. By promoting a flexible standards policy which highlights the market leading standards in the areas of interest, such as document formats, encryption, etc., government can empower government departments and local public entities with the necessary flexibility to select the standards that best suit their needs.

- **Value for money:** We believe the government should continue to focus significant efforts on ensuring it receives best value for money for its ICT purchases through rigorous use of a Total Cost of Ownership (TCO) analysis, by rationalising and simplifying the way that government specifies ICT requirements and by ensuring that its policies are designed to leverage the cloud, Consumerisation of IT (COIT) and Bring Your Own Device (BYOD) trends that are emerging in the broader ICT marketplace. Many respected researchers have made similar recommendations, including Harvard Business School Professor Josh Lerner and London School of Economics Professor Mark Schankerman in their recent book “The CoMingled Code”. They highlight that established models for TCO may be challenging to apply in the government context and urge governments and industry to redouble their efforts to design and utilise robust TCO analysis. Our own experiences around the world also reveal that governments also adversely impact value for money they receive from ICT by over-specifying requirements. We believe that governments can improve the value for money they receive from ICT by being more flexible in how they specify requirements, in some cases taking cues from the private sector so it can take advantage of more commodity based pricing. Lastly, we believe that the success of UK efforts to promote a BYOD strategy (which is closely connected to the government’s G-Cloud strategy) depend in part on the broader procurement policy that embraces standards popular in the consumer marketplace.

- **Ensuring a level playing field for all business models:** One of the key issues raised in the Consultation is “leveling the playing field”, yet the Consultation provides

---

little economic evidence of the current playing field or any economic impact assessment of what the policies in the Consultation would result in if implemented. We believe it is critical that the Government undertake a proper study to specifically identify what evidence there is that the playing field is not level for open source software today. Like the Netherlands Court of Audit Report (discussed in our response to Chapter 1 Question 6 above) we believe that the Government would benefit from analysis by market regulators and competition law experts. Government should encourage software vendors and services providers to focus on market relevant standards, be they FRAND or RF and explain to FOSS developers that most open source licences appear to be compatible with FRAND as demonstrated by the number of FOSS solutions on the market today that implement FRAND-based standards, and that patent royalties are just another cost like network bandwidth, storage, electricity, or software developer time. Government should not exclude FRAND standards as a principle, because this may lead to inefficiencies and may eventually drive higher costs for the government.

- **Continuing to drive pragmatic innovation and SME policies, including strong support for development and use of IPR:** Government innovation and SME policy can have a significant impact on the growth of national economies and we would like to highlight two recent UK policies that we believe positively contribute to that objective. In March 2012, HM Treasury confirmed implementation\(^{54}\) of a policy that will allow companies to pay a lower rate of tax on profits generated from UK-owned patented technology. That policy immediately resulted in a significant boost in domestic investment by pharmaceutical company GlaxoSmithKline. A second illustrative policy is the Intellectual Property Office program “From ideas to growth: Helping SMEs get value from their intellectual property”\(^ {55}\) which outlines how the IPO will support SMEs, in particular by providing SMEs with the knowledge they need to maximise the value of their IP assets. These policies represent pragmatic work by the government to encourage UK companies to invest in and more effectively harness intellectual property assets.

---