



24 August 2011

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Submitted on-line at

<http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=cloudcomputing&lang=en>

Dear Sir / Madam

Public Consultation on Cloud Computing

ICAEW is pleased to respond to your request for comments on the *Public Consultation on Cloud Computing*.

Please contact me should you wish to discuss any of the points raised in the attached response.

Yours sincerely

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ICAEW REPRESENTATION

PUBLIC CONSULTATION ON CLOUD COMPUTING

Memorandum of comment submitted in August 2011 by ICAEW, in response to European Commission consultation paper Public Consultation on Cloud Computing published in May 2011

Contents	Paragraph
Introduction	1
Who we are	2-4
Major points	5-7
Responses to specific questions	8-42

INTRODUCTION

1. ICAEW welcomes the opportunity to comment on the consultation paper *Public Consultation on Cloud Computing* published by the European Commission on 16 May 2011, a copy of which is available from this [link](#).

WHO WE ARE

2. ICAEW is a world-leading professional accountancy body. We operate under a Royal Charter which obliges us to work in the public interest. ICAEW's regulation of its members, in particular its responsibilities in respect of auditors, is overseen by the UK Financial Reporting Council. We provide leadership and practical support to over 136,000 member chartered accountants in more than 160 countries, working with governments, regulators and industry in order to ensure that the highest standards are maintained.
3. ICAEW members operate across a wide range of areas in business, practice and the public sector. They provide financial expertise and guidance based on the highest professional, technical and ethical standards. They are trained to provide clarity and apply rigour, and so help create long-term sustainable economic value.
4. The ICAEW Europe Region is headquartered in Brussels and brings a pan-European perspective to ICAEW's work through regular interaction with professional bodies, firms, oversight authorities and market participants across Europe. It also engages with approximately 5,000 members in EU member states outside the UK. ICAEW is listed in the Commission's Interest Representative Register (ID number: 7719382720-34).

MAJOR POINTS

Support for the initiative

5. We welcome the Commission's interest in cloud computing and its recognition of the opportunities that this represents for the technology industry in Europe, as well as businesses which adopt this model.
6. We highlight, though, a number of concerns that small and medium size businesses in particular may have about the cloud model, such as security and compliance, portability and interoperability and service standards. By supporting the development of standards in these areas, the EC could encourage greater adoption of cloud models by business. We also highlight concerns from all user groups about the difficulties in transferring data globally and the increasing compliance burden in this area, especially in the context of a cloud model. Any action that can ease the burden should be a priority for the EC.
7. Finally, we suggest that technology-neutrality should remain a key principle in any approach to cloud computing, and therefore any specific regulation around a delivery model such as cloud should be avoided as far as possible.

RESPONSES TO SPECIFIC QUESTIONS/POINTS

Q1: If you are a user, please describe your current use of cloud computing. What kinds of problems do you encounter when using cloud computing solutions in the EU? Elsewhere?

8. We see a range of anecdotal evidence from our members about adoption. Large companies typically have substantial resources to invest in developing the cloud solution most appropriate to their needs and there appears to be growing adoption of the cloud model by this sector. However, in many cases, adoption is focused on infrastructure or office software, rather than mission-critical systems. Large companies may also look to private clouds to avoid some of the risks of public clouds.

9. Feedback from cloud suppliers in accounting and business software would also suggest that micro businesses can be open to early adoption. In particular, business start-ups may find cloud computing a quick, easy and cheap model to adopt in the early stages of their operations. However, the complexity of IT requirements increases dramatically as businesses start to grow and it is the larger small businesses, and medium sized businesses, which appear to struggle most with adoption.
10. A common and significant user problem concerns the transfer of data and compliance with data protection laws. As businesses are increasingly operating at a global level, managing compliance in this area is tremendously complex, expensive and time-consuming. Easing the burden in this area will support further cloud adoption and should be a priority of the EC.

Q2: If you are a potential user but not active yet: What are the main reasons for not (or not yet) using Cloud computing?

11. The barriers to adoption by our members fall into two general areas. First, there is a lack of understanding of what cloud computing means and the benefits that it can bring. While ICAEW has published a range of materials on the topic and run events to raise understanding, there is still a low level of awareness among many smaller businesses and accountancy practices. This is not helped by the range of terms in use and the different types of cloud computing solutions, from infrastructure level to office software to full business applications, which leads to confusion about the topic.
12. Second, there are a range of specific concerns about the cloud model. There continues to be a degree of nervousness about security and a loss of control when the data is handed over to a cloud provider. There are concerns about portability and what happens if a supplier is taken over or goes bankrupt. As we are in the early stages of the industry, and there is likely to be consolidation of suppliers, concerns about interoperability are significant.
13. For smaller and medium sized businesses, there are also concerns around moving from often old, legacy, bespoke systems into a cloud environment. The degree of business change, and the complexity of the migration, could be significant. This can clearly drive up the costs and some businesses in this position may not feel confident enough in these issues to ensure that they are gaining value for money from suppliers.
14. Furthermore, there are concerns about the speed and reliability of network and broadband connections. In many parts of the UK, these remain patchy and therefore this continues to be a significant barrier to adoption.

Q3: If you are a provider of cloud services: please describe your offer. What kind of barriers do you face in providing your cloud computing services with the EU? Elsewhere?

15. No comment

Q4: Do you feel that in the cloud services you are currently using or have been evaluating (or are providing), the rights and responsibilities of both user and provider are clear? Please comment

16. It is not always understood that it is the customer's responsibility, even when cloud computing services are being used, to ensure compliance with data protection regulation, in particular the provisions which control the transfer of data outside the EU. These responsibilities need to be more clearly emphasised in guidance material on cloud computing so that they are more generally understood, both by users and providers.

Q5: Are you aware of the applicable jurisdiction in different types of disputes that could arise during your provision or use (or potential future use) of specific cloud offerings?

17. No comment

Q6: Is there an alternative approach to the determination of jurisdiction that may work better for both users and providers?

18. No comment

Q7: Do you feel that the question of liability in cross-border situations is clear for cloud users and cloud providers? Why?

19. No comment

Q8: Do you think there are updates to the current EU Data Protection Directive that could further facilitate cloud computing while preserving the level of protection? If yes, please describe

- 20.** The EC should resist the temptation to legislate with particular technologies in mind because the technologies are likely to evolve more quickly than the legislation can be enacted and adopted. In particular, the metaphorical term “cloud computing” has no precise definition in ordinary language and, despite (or perhaps in the light of) such semi-technical definitions as that of NIST SP 800-145 [csrc.nist.gov/publications/drafts/800-145/Draft-SP-800-145_cloud-definition.pdf], it might be very difficult to formulate a sufficiently satisfactory legal definition to be included in legislation.
- 21.** Cloud computing is simply a term to describe the particular form in which a variety of information processing services (including the provision of Software-as-a-Service, Platform-as-a-Service and Infrastructure-as-a-Service) can be provided; the particular technical standards and protocols (for example enabling hypervisors and online resource managers) by which this particular form of such services are provided do not identify personal data. They therefore in themselves neither protect personal data, nor render them insecure, to any greater extent than other technical standards and protocols.
- 22.** The main dangers to personal data in cloud computing, as compared with other forms of computing, come from resource pooling, whereby the provider makes the same computing facilities available simultaneously to multiple customers. It may be that the EC ought to give further consideration of the Directive in relation to the specific issue of resource pooling, but this is a narrower issue than that of cloud computing as a whole. In relation to these wider issues, it seems unlikely that updates to the EU Data Protection Directive would have much bearing on the facilitation of cloud computing or the level of protection of data.

Q9: Are you aware of specificities in Member State data protection rules, or other legislation, that prevent you from using / providing cloud services within the EU? If yes, please detail.

23. No comment

Q10: From your perspective, would it be useful if model Service Level Agreements or End User Agreements existed for cloud services so that certain basic terms and conditions could easily be incorporated into the contractual agreement? If no, why not? If yes, further thoughts about how this might / should work.

- 24.** We consider that the EC could provide significant benefit for potential users by developing or encouraging the development of basic terms and conditions for model SLAs or End User Agreements for the provision of cloud services, especially by ensuring that such terms and conditions draw particular attention to:
- the desirability of secure processing in accordance with widely accepted international standards
 - the requirement for the supplier of the service, as well as the user, to adhere to data protection principles incorporating EU data protection law, especially in relation to the permitted locations of processing, even if the service is or may be provided from within other jurisdictions

- the need for contractual provisions to ensure the maintenance and continuity of the service to users in such a way as reasonably to safeguard the continuity of their businesses, as well as the recognition of the user's ownership of the user's data and the provision of arrangements for continuing right of access to the user's data in the event of the cessation of business of the supplier
- the requirement for the supplier of the service, as well as the user, to adhere to any other applicable EU law, such as the E-commerce Directive, for adherence to some aspects of which the supplier of the service, as well as the user, might be at least residually responsible under certain circumstances, even if the service is or may be provided from within other jurisdictions.

25. We note that there is currently a process underway to create an ISO standard around information security in a cloud computing environment (ISO/27015), and we suggest that any efforts to develop such standards are done in a co-ordinated way as far as possible, to avoid a proliferation of standards.

Q11: Please describe interoperability or (data) portability issues you have encountered when using / providing cloud services or are otherwise are of.

26. We consider that the EC should seek to minimise the extent of its intervention in the market by way of direct support or subsidy of particular consortia of participants in the market. We say this not because of any particular belief in the perfect operation of this particular market but because, as mentioned above, the direction of technological progress is likely to continue to change so rapidly that intervention in the market could just as easily have the effect of impeding technical development as encouraging it.

27. We consider that the EC ought to support academic and commercial initiatives that promote genuinely non-proprietary standards for inter-operability. Difficulty in migrating from one cloud service to another is one of the main current shortcomings in the use of cloud computing. According to the IEEE, for example, "many public cloud networks are configured as closed systems and are not designed to interact with each other. The lack of integration between these networks makes it difficult for organizations to consolidate their IT systems in the cloud and realize productivity gains and cost savings". The subjects of inter-operable platforms and data portability were topics addressed at the IEEE Cloud 2011 conference, in July 2011 in Washington DC. [www.ieee.org]

28. Difficulty in migration between cloud services can also lead to a user being concerned about its business continuity in the event of the temporary or permanent discontinuation of a cloud service, whether for technical reasons or otherwise.

29. Achieving inter-operability between different cloud services is therefore an important factor in their long-term success, yet it is a long way from being reached.

Q12: Which existing or emerging standards support interoperability across clouds and portability of data (from one cloud to another)? Please list and describe.

30. No comment

Q13: Which are the most important standards that are currently missing but which you feel are necessary to ensure interoperability and portability? Please describe in detail the aspects they should cover.

31. No comment

Q13: What can the public sector do as a cloud user to support the emergence of best practices?

32. Together with the concern about business continuity mentioned above, concerns about security and reliability constitute the main reservations about the use of cloud services. We

agree with Borenstein and Blake (Cloud Computing Standards: Where's the Beef?) who say that "The biggest need is for evaluative standards that let customers assess the security and reliability of cloud vendors." http://ieee.org/xpl/freeabs_all.jsp?arnumber=5755603). The development of such evaluative standards with a view to the assessment of security and reliability of cloud computing services is something that the EC ought to encourage.

33. We consider that the best approach for the public sector to adopt as a user, in order to support the emergence of best practice and to achieve the most for its own purposes from the potential of this technology, is to promote genuinely non-proprietary standards for inter-operability.

Q14: Please elaborate in particular on public procurement of cloud services. In particular, can the deployment of eGovernment and eScience infrastructures by the public sector act as an example for other sectors?

34. No comment

Q15: Please list Member State initiatives in the area of Cloud Computing that you are aware of.

35. No comment

Q 16: Do you think they are adequate? Go too far? Not far enough? Please elaborate.

36. No comment

Q17: How can Member States best co-operate to create interoperable solutions and share best practices?

37. No comment

Q18: What are the most important technical aspects of cloud computing that researchers are current working on?

38. No comment

Q19: Beyond these, do you see technical problems / limitations of current cloud service offerings that will require further research in the coming years? Please elaborate

39. No comment

Q20: Should public R&I funding be used to establish prototypes of new cloud infrastructures? If yes, please describe types of projects / prototypes you would see as useful and explain why.

40. No comment

Q21: What are the most important Cloud Computing problems that have to be discussed at a global level? Please list and explain

41. No comment

Q22: Which would be the right fora / approaches to tackle them?

42. No comment

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