30 April 2009

Enlarged Board of Appeal
European Patent Office EPO
Erhardtstr. 27
D-80298 Munich
Germany

Re: Written Statement of Information and Communication Technology SMEs

Case G 3/08: Referral under EPC Art. 112(1)(b) by the President of the EPO (Patentability of Computer Programs) to the Enlarged Board of Appeal

Dear Sirs and Madams

Enclosed please find the written statement of the small and medium enterprises (SMEs) in

the information and communication technology sector that are listed in the attached

statement.

Very truly yours

Allen N Dixon

Encl.

Written Statement of
Information and Communication Technology SMEs

Overview and Summary

The undersigned small and medium enterprises in the information and communication technology (ICT) sector submit the following written statement to the EPO's Enlarged Board of Appeal in Case G 3/08, the Referral by the President of the European Patent Office dated 22 October 2008 concerning the patentability of computer programs. The undersigned wish to make the following principal points to the Enlarged Board:

- ■ **The European Patent Convention (EPC) and international law require that patents be available for inventions in "all fields of technology", including inventions embodied or implemented in computer programs ("software").**

- ■ **The tests for patentability of software-related inventions, as with inventions in other fields, are whether the claimed features and elements a whole have a technical character and the invention meets the requirements of novelty, inventive step and industrial application.**

- ■ **The EPC bars patentability only if the invention is merely a computer program "as such" – not if it is an invention that otherwise meets the tests of patentability and happens to be implemented by a computer program rather than some other technical means.**

- ■ **The exclusion of computer programs "as such" simply means that software is not in itself sufficient to satisfy any of the particular patentability requirements. The mere fact that a computer program involves technical considerations does not necessarily mean that the invention it embodies has a technical character. The mere fact that a computer program is new does not necessarily mean that the invention it embodies is novel and represents a sufficient inventive step. The presence or absence of software thus does not either guarantee or defeat patentability. The crucial question is what the program *does*, and whether *that* subject matter meets the tests for a patentable invention.**

- ■ **Formalities as to whether a computer program or particular hardware implementations are mentioned in a patent claim thus are not controlling. The features and elements of claims as a whole must have a technical character. Case law in this area is consistent, at least with respect to its results, and is converging.**

I. General considerations

■ **The EPC and TRIPs require that inventions implemented by computer programs be patentable.** The EPC 2000 made explicit that patents are available "in all fields of technology"[1], which confirmed existing practice under the EPC and its compliance with the 1994 WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). TRIPs requires that "*patents shall be available for any inventions, whether products or processes, in all fields of technology,* provided that they are new, involve an inventive step and are capable of industrial application.… [P]atents shall be available and patent rights enjoyable *without discrimination as to* the place of invention, *the field of technology* and whether products are imported or locally produced."[2] TRIPs permits no blanket exclusion from patentability for inventions implemented by computer programs, as the Board has confirmed.[3] The Enlarged Board should keep squarely in mind that 34 of the 35 EPC member countries are members of the WTO and bound by the TRIPs Agreement.[4] In responding to the Referral and deciding cases in this area generally, it is vital that the Enlarged Board continue to interpret the EPC consistently with these TRIPs requirements.

■ **The EPC bars patentability only if the invention is merely a computer program "as such" – not if it is an invention that otherwise meets the tests of patentability and happens to be implemented by a computer program.** Inventions that reside in or otherwise are implemented by computer programs are not excluded from protection if they have a technical effect and otherwise meet the tests of patentability. Software-implemented inventions thus have enjoyed patent protection since the 1970s under the EPC 1973.[5] Simply because an invention happens to be implemented by software rather than in hardware or some other technology does not disqualify it from patent protection.

The crucial question is what the program *does*, and whether *that* subject matter meets the tests for a patentable invention.[6] It is only if the claimed *invention* implemented or embodied in the program does not meet the tests of patentability – for example, if it does not have a technical effect (e.g. it is merely an algorithm or "abstract creation" or involves non-technical subject matter), or if it simply represents a software-based way of doing something that is not novel or does not represent a sufficient inventive step over other inventions (e.g. if it is merely a way of doing something previously done manually or through other prior-art means) – that it can be accurately termed software "as such" under EPC Arts. 52(2)(c) and (3)[7] or otherwise excluded from protection.

■ **Computer programs and their treatment under the EPC are not inherently different from other "fields of technology". The Enlarged Board should help to clear up some of the mythology in this area.**

– The term "as such" in the EPC's exclusion of patents on computer programs is not meaningless or superfluous. The EPC does not ban all patents on inventions implemented through computer programs or otherwise related to computer programs, as some have tried to argue.

– The fact that copyright also protects the code and other expression of computer programs from copying does not change the rationale for giving patent protection to the underlying inventions implemented in computer programs.[8]

– There is nothing fundamentally distinctive about the way that computer programs are developed that warrants different patent rules for software-related inventions. In every industry and field of technology, innovators regularly "stand on the shoulder of giants" in producing new inventions. All deserve to have the fruit of their R&D protected by patents from expropriation.

■ **The patentability of inventions in all fields of technology is particularly important for SMEs, in the ICT and other industries.** At least 30,000 computer-implemented (i.e. software-related) patents have been issued since the EPC came into force in 1978.[9] Of these, approximately 20% each year have been issued to SMEs (small-and-medium-sized enterprises).[10] The misinformation sometimes put forward that "software patents are not available in Europe"[11] sometimes discourages SMEs from seeking protection for their inventions through EPO or national patent applications. Any misinformed failure to pursue patent protection can have the effect of putting SMEs at a disadvantage to their larger competitors that have been applying for and securing patent protection for such inventions for years.

II. Responses to specific questions

1. *Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?*

■ **No. It is the substance of the claims "considered as a whole" that determines whether an invention is patentable.** The wording of patent claims is important for accurately defining the subject matter of the invention claimed, but the patentability of a computer-implemented invention ultimately does not rise or fall on the simple use of the terms "computer program", "computer" or "computer storage medium".[12] Patentability depends on the technical character of the invention "considered as a whole",[13] and whether it otherwise meets the requirements of novelty, inventive step and industrial application.

2. *(a) Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(c) and (3) merely by explicitly mentioning the use of a computer or a computer-readable data storage medium?*

■ **No. The correct test is whether the invention has a technical character and meets the other tests of patentability.** Technical character is an implicit requirement for all inventions under EPC 52(1).[14] If the claimed invention implemented in a computer program is merely an abstract creation that has no specific technical character, or if it otherwise fails to meet the tests of patentability (e.g. it is merely a way of doing something that is not novel, or it represents an insufficient inventive step over the prior art), the invention cannot be patented. However, if an invention has a technical character, is novel, has sufficient inventive step and is capable of industrial application, it is patentable regardless how it is

formally styled, and regardless whether it is implemented in computer hardware, computer programs, or any other type of technology.

(b) If question 2(a) is answered in the negative, is a further technical effect necessary to avoid exclusion, said effect going beyond those effects inherent in the use of a computer or data storage medium to respectively execute or store a computer program?

■ **No. The ultimate question here is whether the invention as a whole has a technical character.** Some cases have found that an invention has insufficient technical character where it has no "further technical effect" beyond the mere execution of a computer program or the storage of data.[15] (This might also be characterised as a finding that the mere use of prior art computer and storage elements is insufficient to establish that an invention is novel and has a sufficient inventive step.) But technical character can be established if the claim as a whole establishes a solution to a particular technical problem by technical means, which of course can include execution by a computer or data storage by means of a computer program.

3. *(a) Must a claimed feature cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim?*

■ **No. The features and elements of an invention claimed as a whole must have "technical character". The invention as a whole must have physical (i.e. technical) effects in the "real world", but this includes physical effects in a computer.** While features qualify as technical if they comprise a physical entity or have a technical (i.e. physical) effect, it is not necessary that each feature or element have its own technical effect so long as it makes a contribution to the technical character, and the invention as a whole has a technical character.[16] Physical effects are important so as to ensure that inventions are not mere "abstract" creations, i.e. that they are not merely computer programs "as such".[17] But there is no technical or rational reason to say that the real-world physics taking place within a computer should be treated differently from other physical effects that might take place outside a computer.

(b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?

■ **Yes. If the technical effect involving a physical entity relates to all computers, a description that the technical effect involves an "unspecified computer" is sufficient.** Even if each claimed feature were required to have a technical effect involving a physical entity, this requirement would be met by identifying an "unspecified computer" in such cases. Where the technical effect relates to a specific type of computer or other narrower class of physical entities, this would need to be specified in order to satisfy the disclosure and clarity requirements of Articles 83 and 84 of the EPC.

Respectfully submitted,

The undersigned **Information and Communication Technology SMEs**

> **ECONET AG**
> **Munich, Germany**
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> **FORENSIC PATHWAYS LTD.**
> **Tamworth, England, United Kingdom**
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> **IDE**
> **Stockholm, Sweden**
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> **LOGOTEC ENGINEERING S.A.**
> **Mysłowice, Poland**
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> **TRIBEKA LTD.**
> **London, England, United Kingdom**
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> **UNITECH (The Universal Information Technology Group Ltd.)**
> **Edinburgh, Scotland, United Kingdom**
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> **WYGWAM**
> **Mouscron, Belgium, and Villeneuve d'Ascq, France**

> By:
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> **30 April 2009**

Appendix
List of Participating
Information and Communication Technology SMEs

ECONET AG, Munich, Germany
Munich-based econet AG is a provider of business software in the fields of identity and service management as a service with core strength in the field of authorisation and provisioning, reporting and auditing. Founded in 1994, econet helps globally active enterprises, small and medium businesses and large public administrative bodies set up, operate, administrate and bill their IT services. econet also assists them in the task of safeguarding their IT business processes. Renowned companies in many fields such as IT services, banking, insurance, manufacturing and civic administrations rely on the strengths of econet AG. econet had granted more than 500,000 licenses in over 41 countries by the beginning of 2008.

FORENSIC PATHWAYS LTD., Tamworth, England, United Kingdom
Forensic Pathways is an award winning international company providing advanced data analytics, forensic intelligence, forensic products, training and consultancy. Going beyond conventional analytical techniques, FPL specialises in offering unique data analysis solutions in the area of criminal intelligence, due diligence/risk and business intelligence, and is internationally recognised for taking a lead in the development of forensic products and services.

IDE, Stockholm, Sweden
IDE is a Scandinavian infrastructure outsourcing company specialising in cloud computing for SMEs.   Founded in 1992, IDE grew its Cloud Computing/Software+Services business by 80% in 2008, with a solid number of customers based in Sweden and elsewhere in Northern Europe. IDE's Livingstone Express offering provides outsourced IT support to organisations between 50 and 1,000 PCs. IDE also offers a wide range of consulting and off-site application and hosting services.

LOGOTEC ENGINEERING S.A., Mysłowice, Poland
Logotec provides its award winning Mobile@Connector application generator as well as mobilisation services to help developers and customers make their data and applications available online and on mobile devices. Logotec received the Most Innovative Company award at the Knowledge Intensive Services Forum in Brussels in February 2009.

TRIBEKA LTD., London, England, United Kingdom
Tribeka Ltd. is the innovator behind the SoftWide® platform, a revolutionary approach to the retail selling of digital content through in-store manufacture which eliminates both inventory and logistics. SoftWide produces on demand a full retail version of educational, business and entertainment products such as games, music and video, identical to the mass produced item, on average in 2-3 minutes.

UNITECH (The Universal Information Technology Group Ltd.),
Edinburgh, Scotland, United Kingdom
UniTech is a small IT solution provider founded in 1995 that has grown consistently by delivering bespoke technology solutions and offering high quality service to a broad range of blue chip clients from the private and public sectors. UniTech utilises the latest technology with a policy of putting the business value to the client first in all its solutions, which mandates an open mind to technologies and flexibility to determine how and where it may best invest to underpin its service business with intellectual property (IP) assets. The relevance of IP is a critical part of UniTech's corporate value portfolio; without the tangible substance that comes from IP security UniTech would unquestionably have struggled to attract and secure investment and survive.

WYGWAM, Mouscron, Belgium, and Villeneuve d'Ascq, France
Wygwam is a technology expertise provider launched in France in 2003, which expanded to Belgium in 2006. Wygwam provides technology fundamentals, collaboration and portal services, and online strategies and tactics to customers throughout Europe and internationally. Services include technology coaching, product prototypes and development, and packaged services such as online video, conversational agents, and blog engines.

(c) If question 3(a) is answered in the negative, can features contribute to the technical character of the claim if the only effects to which they contribute are independent of any particular hardware that may be used?

■ **Features can contribute to the technical character of the claim whether they have a technical effect or make a technical contribution. Features can make such a contribution whether they do so with respect to unspecified computers, specified computers or other physical entities.** There is no requirement in either the EPC or the case law for imposing additional requirements of modification of hardware, dependence on particular hardware, or other arbitrary distinctions as to whether a feature has technical effect or the claim as a whole has a technical character.

4. *(a) Does the activity of programming a computer necessarily involve technical considerations?*

■ **Yes. The programming of a computer almost inevitably involves technical considerations as complex and varied as those of the computer itself.** Real-world programming is rarely limited to activities at the level of mere abstraction or algorithms. Indeed, many of the very detailed technical considerations that in earlier times would have been carried out in hardware design – memory usage, logic flows, data storage structures and usage, peripheral calls, and countless other technical choices required to solve particular technical problems – are now routinely carried out by means of software programming.

(b) If question 4(a) is answered in the positive, do all features resulting from programming thus contribute to the technical character of a claim?

■ **No. The technical character of a claim must be determined as a whole, not with respect to each individual feature.** It may be the case that every feature has a technical effect, or that some do and some do not – even features that result from programming.[18] The presence of a feature that does not have a technical effect does not itself disqualify a claim as a whole from having a technical effect.[19] Nor does the presence of features resulting from programming necessarily mean that the invention as a whole has a technical effect or meets the other required elements of patentability.

(c) If question 4(a) is answered in the negative, can features resulting from programming contribute to the technical character of a claim only when they contribute to a further technical effect when the program is executed?

■ **No. The technical character of the subject matter must be determined with respect to the claimed invention as a whole.** At least one feature must contribute to the technical character of the claimed invention, but not all elements or features need do so. The claim as a whole must have a technical character, however, or it is not patentable.

Respectfully submitted,

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References

[1] European Patent Convention (EPC) 2000, Art. 52(1), *http://www.epo.org/patents/law/legal-texts/html/epc/2000/e/ma1.html* :

> "European patents shall be granted for any inventions, *in all fields of technology*, provided that they are new, involve an inventive step and are susceptible of industrial application." (emphasis added)

[2] WTO (World Trade Organisation), Agreement on Trade-Related Aspects of Intellectual Property Rights, Art. 27 (1994), *http://www.wto.org/english/docs_e/legal_e/27-trips.pdf*.

[3] IBM, T 1173/97, at 2.3 (1 July 1998), *http://legal.european-patent-office.org/dg3/pdf/t971173ep1.pdf*:

> "But although TRIPS may not be applied directly to the EPC, the Board thinks it appropriate to take it into consideration, since it is aimed at setting common standards and principles concerning the availability, scope and use of trade-related intellectual property rights, and therefore of patent rights.... [I]it is the clear intention of TRIPS not to exclude from patentability any inventions, whatever field of technology they belong to, and therefore, in particular, not to exclude programs for computers as mentioned in and excluded under Article 52(2)(c) EPC."

Accord Parfums Christian Dior SA v. Tuk Consultancy BV, Case C-300/98, (ECJ 14 December 2009) (European Court of Justice requires EU Member States to apply national rules "as far as possible in the light of the wording and purpose of ... the TRIPs Agreement"), *citing Hermès International v. FHT Marketing Choice BV,* Case C-53/96 (ECJ 16 June 1998).

[4] The member states of the WTO are listed at *http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm*.

[5] *See, e.g.,* VICOM, T 84/0208 (15 July 1986), *http://legal.european-patent-office.org/dg3/biblio/t840208ep1.htm*.

[6] There has been some insufficiently precise reading of Microsoft, T 424/03, (23 February 2006), *http://legal.european-patent-office.org/dg3/pdf/t030424eu1.pdf,* to say that the mere fact that a computer program relates to a computer-readable medium is sufficient to show that a claimed invention has a technical character. The Board made clear, however, that this was not the only element that it considered in determining technical character. Instead, what the invention *did,* i.e. the novel method for a computer "clipboard" to support multiple file formats, was crucial to the Board's decision:

> "The Board also considers the claimed method steps to contribute to the technical character of the invention. These steps solve a technical problem by technical means in that functional data structures (clipboard formats) are used independently of any cognitive content (see T 1194/97 - Data structure product/Philips; OJ EPO 2000, 525) in order to enhance the internal operation of a computer system with a view to facilitating the exchange of data among various application programs. The claimed steps thus provide a general purpose computer with a further functionality: the computer assists the user in transferring non-file data into files."

[7] EPC Arts. 52(2) and 53 provide as follows:

> (2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
>
> > (a) discoveries, scientific theories and mathematical methods;
> >
> > (b) aesthetic creations;
> >
> > (c) schemes, rules and methods for performing mental acts, playing games or doing business, and *programs for computers*;
> >
> > (d) presentations of information.

(3) *Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.*

http://www.epo.org/patents/law/legal-texts/html/epc/2000/e/ar52.html (emphasis added).

[8] As the Board pointed out in IBM, T 1173/97, *supra* note 3, at 2.4, "Copyright and protection by patents constitute two different means of legal protection which may, however, also cover the same subject-matter (e.g. programs for computers), since each of them serves its own purpose."

Copyright protection for software in fact did not become well settled in Europe until the late 1980s and early 1990s after patent protection was already established. Academics and others long continued the arguments of the 1970s that "the patent system, an old and experienced instrument for the protection of technological creations, would seem to be the most adequate form of legal coverage for software creations," or that some sort of sui generis protection was needed. *See, e.g.,* D. Borges Barbosa, Software and Copyright: a Marriage of Inconvenience (1986), *http://denisbarbosa.addr.com/34.rtf*. These questions were settled by the 1994 TRIPs Agreement, which provided for patent *and* copyright protection for computer programs.

[9] European Commission, Proposal for a Directive on the patentability of computer-implemented inventions - frequently asked questions, MEMO/02/32 (20 February 2002), *http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/02/32&format=HTML&aged=0&language=EN;&guiLanguage=en*.

[10] BSA, Study Shows Importance of CII Patents for European Small- and Medium-Sized Companies (8 June 2005), *http://w3.bsa.org/eupolicy/press/newsreleases/Study-Shows-Importance-of-CII-Patents-for-European-Small-And-Medium-Sized-Companies.cfm*.

[11] European Patent Office, *Patents for Software?* (last updated 30 December 2008) ("others complain that patent protection for software is not available at all in Europe – which is not true"), *http://www.epo.org/topics/issues/computer-implemented-inventions/software.html*.

[12] IBM, T 1173/97, *supra* note 3, at 13:

"[T]he Board is of the opinion that with regard to the exclusions under Article 52(2) and (3) EPC, it does not make any difference whether a computer program is claimed by itself or as a record on a carrier...."

[13] Koch & Sterzel, T 26/86, at 3.4 (21 May 1987), *http://legal.european-patent-office.org/dg3/biblio/t860026ep1.htm*:

"The Board holds that an invention must be assessed as a whole. If it makes use of both technical and non-technical means, the use of non-technical means does not detract from the technical character of the overall teaching. The European Patent Convention does not ask that a patentable invention be exclusively or largely of a technical nature; in other words, it does not prohibit the patenting of inventions consisting of a mix of technical and non-technical elements."

[14] *E.g.* Hitachi, T 258/03, at 4.5 (21 April 2004), *http://legal.european-patent-office.org/dg3/pdf/t030258ep1.pdf* :

"What matters having regard to the concept of 'invention' within the meaning of Article 52(1) EPC is the presence of technical character which may be implied by the physical features of an entity or the nature of an activity, or may be conferred to a non-technical activity by the use of technical means."

[15] IBM, T 1173/97, *supra* note 3: ("further technical effect which goes beyond the 'normal' physical interactions between program (software) and computer (hardware)").

[16] Koch & Sterzel, T 26/86, *supra* note 13.

[17] IBM, T 1173/97, *supra* note 3, at 5.2-5.3 :

"5.2   The exclusion from patentability of programs for computers as such (Article 52(2) and (3) EPC) may be construed to mean that such programs are considered to be mere

abstract creations, lacking in technical character. The use of the expression 'shall not be regarded as inventions' seems to confirm this interpretation.

"5.3 This means that programs for computers must be considered as patentable inventions when they have a technical character."

[18] In Hitachi, T 258/03, *supra* note 14 at 5.3, for example, the Board found that several of the claimed features that resulted from programming merely dealt with auction prices and bidders, which had no technical character:

"Features (d) to (l) are conditions using the stored information to arrive at the successful bidder. The conditions concern only prices and have, except possibly for feature (h) (cf point 5.8 below), no technical character. It is true that they are performed in a computer and that the overall state of the computer will change for each instruction performed. This is however not regarded as a technical effect but rather as a mere manifestation of the information contained in the prices and conditions."

[19] Koch & Sterzel, T 26/86, *supra* note 13.