

# Should Patents Be Granted For Computer Software or Ways of Doing Business?

## Consultation responses received by the Patent Office from organisations

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## **The Association of Chartered Certified Accountants**

Dear Mr Probert

Thank you for your letter of 10 November, concerning the consultation on the possible extension of the rules on patentability.

I write from the perspective of a professional body which represents accountants in business and public practice.

As I understand the situation, business methods are currently patentable in 17 Europe provided that they can be -presented as new, not obvious and have a technical character. Accordingly, software-facilitated business methods are already patentable here.

The impact that the patentability of business methods generally has had on business in the US will clearly need to be considered during the course of the consultation on this issue. But it appears to me that to allow the patentability of a business method per se, separate from any means by which that particular business method is facilitated, would be significant and far-reaching. It would, conceivably, create a situation in which, for example, professional advisers could seek to patent particular niche services which they offer to clients, such as credit management systems or financial health checks. In my view, the law should not be used to restrict the use and development of techniques of this kind. If firms are concerned to ensure that former employees do not take business 'secrets' with them when they leave, there are already means by which they can try to place restrictions on what information they take with them. The effect on fair competition of a situation in which other businesses could be prevented from taking advantage of advances in governance, management and administrative arrangements appear to me to be in principle undesirable.

There would, in any case, seem to be an obvious problem of enforceability with respect to the patenting of non-computer-related business methods. When software or other mechanical means are devised to carry out a particular management or administrative task, the system will be sold by the seller to the buyer; the patent holder can take action to prevent a copier from selling a similar system on the market. In the case of a simple technique, some means would have to be devised so that use or intended use of a reserved business method was monitored and restricted. The regulatory implications for business would seem to be very substantial.

I hope these brief comments will be of help.

## **Association of Unit Trusts and Investment Funds**

Dear Mr Watson

### **UK Patent Office Consultation on the Patentability of Software/ Ways of doing business**

The Association of Unit Trusts & Investment Funds (AUTIF) welcomes the opportunity to respond to this consultation.

Our member firms are operators of authorised collective investment schemes in the UK. (Member firms of AUTIF account for 99% of funds under management in IL authorised collective investment schemes - a total of 267bn at the end of last month.)

Our members are very interested in the question of patentability of software and ways of doing business. Their interest arises because of the following:

1. As operators of authorised collective investment schemes, our members have a variety of responsibilities. They have to deal with orders from investors in respect of purchases and sales of units in the schemes which they manage. They have many responsibilities in respect of the assets in which the scheme is invested such as daily valuation of the total fund holdings and the completion of yearly and half-yearly accounts. They have also to arrange for income to be distributed from the scheme to unit holders.

Our members use software extensively in order to manage these various responsibilities. This software is frequently designed and built by our members themselves.

2. Our members also, more generally, structure their business according to business plans and models. They work to such models in respect of administration of the collective investment schemes themselves and also in respect of more specific applications such as the administration of savings plans and ISAs.

For the above reasons, we believe our members could potentially be greatly affected by any extension of the patent system in respect of software and ways of doing business. We would therefore wish to make the following comments in response to your consultation:

1. We are concerned that at the suggestion that ways of doing business could be patentable. It is unclear precisely what a “way of doing business” is and, in our view, in the collective investment schemes industry, could include many matters. As we have referred to above, at the very least it could include ways of administering an ISA, a unit trust or a type of savings plan. We see little to be gained in extending patentability to such matters and believe that the lack of clarity as to what a “way of doing business” is extremely confusing.

2. That having been said, we would wish to say that in our industry, as with the financial services industry generally, ways of doing business are usually dictated by regulation. Software is merely a means by which such ways of doing business are implemented. We therefore believe that in the context of collective investment schemes, because the influence of regulation is so extensive, it would be very difficult to establish that a way of doing business or software was in fact “new and non-obvious” in order to meet the criterion for grant of patent. It must seriously be questioned therefore whether the extension of patentability would in fact encourage innovation in this area.

3. Whilst we believe that in our industry it may in fact be difficult to establish patent because of the role regulation, we are concerned that there could be variation in the manner in which the criterion of “new and non-obvious” are applied. In the United States, patent has been granted recently to a software application in mutual funds that as far as the industry was concerned had no element of innovation at all. Whilst the grant

of patent was actually appealed successfully, our concern is that the extension of the ability to patent could lead to varying (and lower) standards being applied in the actual grant of patent.

We would be happy to discuss any of the above points with you further if required. Please do not hesitate to contact me if you would like any further details, particularly in relation to the US case to which I have referred

## **British & Irish Law, Education & Technology Services**

### **BILETA Response to:**

### **The Patentability of Computer-implemented Inventions (Consultation Paper by the Services of the Directorate General for the Internal Market)**

#### **BILETA**

The British and Irish Law, Education and Technology Association (BILETA) was formed in 1986 and represents law schools – some 100 institutions in total – and their interests in law, technology and education. BILETA interest in intellectual property matters has been increasing for some years and the annual conference now demonstrates that law teachers have substantial expertise and understanding of IPRs in the new technological environment. It is in this light that we wish to contribute to the debate on software patenting.

#### **General Position**

We are supportive of the idea of patents, and while we understand that the argument from economics for the value of the patent system is not totally persuasive, the general argument that some kinds of inventive activity deserve special support and reward is one with which we agree.

We accept that digitisation changed the nature of technology and that protection should be awarded for technical inventions whether comprising a computer-related aspect or not.

We are aware of the general tenor of the debate in the US over software protection and do not believe that importing the US position to Europe will provide a stable and consensual European patent system.

#### **The Nature of IPRs**

*While we are supportive of reward for inventive activity, we are also aware that monopoly rights are problematic. It is very difficult to remove an intellectual property right once it has been awarded – as the history of copyright demonstrates – and, further, there is always a tendency for those rights to be developed and to become stronger monopoly rights. For example, the development of ownership rights over domain names which been developed within a context of trademark rights has significantly extended the nature of a trademark right.*

These developments and extensions can occur both within the legislative context and within the judicial (i.e. national courts) and/or administrative (EPO Boards of Appeal) contexts, and having been so developed are difficult to undo.

It is in this light that we believe any developments of IPRs should be carefully considered and only created or extended after proper study and debate. **We do not believe that such careful consideration has been undertaken with regard to software patenting, and thus do not believe that the time has yet come to further extend those rights which presently exist.**

#### **The Lack of Legally-oriented Research**

It is clear that most of the research which has been undertaken into IPRs has been within the context of economics. Little funding has been made available either for substantive law study (i.e. in developing discussion between academic lawyers in a European context) or in socio-legal study of the patent system in practice (e.g. litigation). We believe that this lack of support for legal study is one of the main reasons for

the current lack of insight as to how to proceed in this area. There is simply an insufficiently developed body of theoretical legal knowledge upon which to base action.

Such knowledge collection should revisit – for example - the question of whether software is a special object which requires rethinking of the nature of protection. This is especially important since removing the ‘technical requirement’ in patenting will reduce the barrier between software protection and copyright protection, and it is not clear to us what the result of this may be. It may well become a monopoly right which provides ‘look and feel’ protection for software – which does not appear to be a currently desired outcome.

There are many aspects which require study. For example, we can suggest:

those related to litigation – particularly with the debate on the future of the Community Patent; collection of evidence of patent infringement in a situation where reverse engineering has become a contentious form of investigation; the proposal to provide lower level protection in the form of utility models and how this interacts with patent protection for software; the proper format of claim expression in a situation where code can be described in a multitude of ways and at a multitude of detailed or abstract levels; the nature of protection awarded to products produced by differing claim types; the proper length of protection for software invention.

*And there are, of course, other areas which we feel to be extremely important which need investigation but which – though not properly ‘legal’ – relate to examination practice and procedure such as the difficulty of prior art searching*

### **The Role of Patent Offices**

While we understand that Patent Offices have been taking a substantial part in the debate over software patenting (and that this is correctly a part of their role) we believe that this role should be viewed in a slightly critical light: that is, that their desire to expand their ‘business’ should not affect the debate. Instead, we believe that the national patent offices should be increasing their support for independently produced research.

### **Conclusion**

We are concerned that there is a desire to significantly develop patent rights without proper study and without a clear consensus on where any development should end. We suspect that there is a willingness to jump after the US, rather than paying attention to the current problems in the US over software, and ensuring that – should Europe extend software rights – it is done with a full understanding of where Europe wants to go and how best to get there.

We therefore urge that a significant programme of legally-based research study is put in place urgently. This programme should investigate as fully as possible all relevant aspects of software protection in a European context.

## **British Bankers Association**

### **Patents for Software or Business Methods**

The British Bankers' Association (BBA) is the principal trade association for banks operating in the United Kingdom, with over 300 members. We are grateful to the Patent Office for drawing our attention to the developments in the United States and the consultation by the European Commission and would like to make some general comments about the proposals. Unfortunately we have not had sufficient time to undertake any detailed analysis of the effects of US developments nor of the likely effects of changes to European patent law, and we may wish to comment further if specific proposals are made.

The banks' response to the proposals looks at them from two points of view – the banks as innovators themselves, and banks as providers of finance for other innovators.

#### **The banks themselves**

Innovation in financial services frequently consists of a change in delivery mechanism or a restructuring of the way a service is provided. This will typically involve both software and business process change.

Another major area of innovation is in the structuring of deals, using novel corporate structures, or combining derivative products, or both. These may again involve software or business methods or both.

Such is the level of competition, however, that to determine whether a particular product, process or structure is actually new will be very difficult. To allow the possibility of patenting will mean a significant diversion of resource into checking pending patent applications to ensure that an individual institution's products and services are not threatened and opposing the grant of such patents. On balance, our view is that the benefit to be gained through the patenting of financial service inventions will be more than matched by the cost of patent actions and defences. The financial services sector has thrived in the UK by being both inventive and fleet of foot, making money before familiarity drives down returns. It is not clear that patents would significantly change the return profile of a new financial product and so the commercial effect is likely to be small and the practical effect likely to be irritant rather than stimulant.

#### **The banks as lenders, particularly to the SME sector**

In the banks' experience, the value of a patent to a small inventor is less than the theory suggests it should be because of the cost and effort involved in actions against infringement. Whilst its presence for software is likely to be a positive factor, the deciding factors are more often speed to market and getting the commercial basis of production and sales right.

There are, however, venture capital operations specialising in investing in patents and these may be in a better position to exploit software opportunities.

Again, on balance, we do not see a pressing need to extend patent protection beyond its current limits.

I hope you find these comments helpful and I would, of course, be happy to talk to you about them.

## **BT**

Dear Jeff

BT has filed a response to the Commission's consultation document and a copy of that response has been forwarded to you by e-mail.

BT here provides answers to the specific questions raised in the Patent Office pamphlet, insofar as these are not dealt with in our response to the Commission.

Question 1: How does what you do involve using software?

BT runs the UK's largest telecommunications network, the bulk of the functionality of which is controlled by software. Much of this software is created in-house, but much is also bought in. BT employs more than 5,000 software engineers and will invest £345M in R&D this year, at least 90% of which is in respect of software and software related research.

Question 2: Do you think software should be protectable by patents?

Yes. BT has more than 12,000 patents and protects new inventions at a rate in excess of 150 per year. Reflecting the focus the research done by BT, which itself reflects the commercial realities of the telecommunications world, at least 90% of the patent applications filed in recent years have been in respect of software-related inventions. Moreover, everything from consumer electronics equipment such as DVD players and washing machines, through motor vehicles to medical equipment such as X-ray machines and whole body scanners, as well as all elements of telecommunications systems from mobile phones, to the network itself and the billing operations are controlled by software. So, denying patent protection for software-related inventions would have an impact on huge swathes of industry. Moreover, when inventions are made in these technologies, the novel and inventive features of the invention are often only present in the software and the bulk of all inventions in these fields would potentially be unpatentable if software -patents were banned.

To decide that software-related inventions were no longer patentable would be to deprive the UK electronics and software industries of protection which they desperately need for their economic survival.

It is unfortunate that the Patent Office's own leaflet goes some way towards reinforcing some of the misconceptions about software patentability by suggesting that if a new program is for a computer game it would not currently be patentable because it has no technical effect. This is of course over simplistic. There is a great deal of patentable technology residing in the software which is present in games played on PCs, playstations and the like. Many of the inventions have applications in fields far beyond simple gaming, again for example in medical imaging and technical applications of virtual reality.

So, BT does not accept that "this degree of patent protection" is about right, since the suggestion is that there is less protection available than can currently be obtained. While the fact that the UK Patent Office issued a practice directive following the announcement of decision T1173/97, to the effect that programs on disk and programs per se could be claimed in patents is to be applauded, the approach of the English courts has been too restrictive and too harsh.

On the other hand, we do not believe that patents should be available for non-technical business methods even when these are implemented on a computer. We agree with the consensus of the tri-lateral report on project B3b, to the effect that the "mere automation" of a known business method on a conventional computer is not patentable, since mere automation is obvious. We believe that to be patentable an invention must make some technical contribution.

Question 3: Why do you say that? How do you think maintaining the current position, or changing from it, would affect you or your business - positively or negatively?

It depends what is meant by the current position. The practice of the European Patent Office in this area is generally acceptable. If the English courts could apply the reasoning of the European Patent Office appropriately, in particular allowing the patenting of programs per se and on a data carrier, this would be acceptable. However, the reality is that the English courts are, as indicated above, still unable to identify technical effect in any case before them. So, it seems that some change in the legislation will be necessary in order to bring the approach of the English courts into line with the practice of the European Patent Office.

As indicated in our answer to the Commission, BT is currently incubating several start-up companies which are to be spun out, and all of which are working in the internet/computer/ software-related fields and all of whom will rely on patent protection in this area in order to fend off competition. Strengthening the protection available for software-related inventions would improve the chance of success of those companies and others like them.

Conversely, if it were to be decided that software-related inventions were not a suitable subject for patent protection, then BT would not be able to protect adequately its huge investment in R&D. There is also the question of what would happen to patents already granted - it is not clear that if they were to be rendered unenforceable, there would be any source of compensation for BT. Of course, the logic of the patent system is that the applicant discloses his invention in return for a monopoly of limited duration. BT and other patentees in this technology have of course met their side of the bargain, by what right would the patent monopolies be expropriated following a reduction in the scope of the law?

On the other hand, if patent protection were to be available for non-technical business methods, it is unclear what the effect would be on BT and other businesses. The patent system has historically evolved as a means of promoting innovation and encouraging disclosure in exchange for limited term monopolies. It is not evident that there is any lack of investment in innovation in new business methods in the absence of patent protection. Moreover, most non-technical business methods are disclosed to the public through their use and hence it is not clear that either of the usual reasons for providing patent protection exists.

Affect SMEs, or other sectors of UK business and commerce?

Clarification of the true situation concerning the patentability of software and computer-related inventions would certainly benefit SMEs. As indicated in our response to the Commission, we firmly believe that SMEs have a lot to gain from using the patent system to protect their significant innovations, and this is particularly true in the software-related technologies. If the regime is made more strict, so that fewer things can be patented, this will only disadvantage European SMEs compared to those from the US and other parts of the world which have a more liberal approach to patenting.

Again, it is uncertain how making possible the patenting of non-technical business methods would affect SMEs, and this is not something that we advocate. Conversely, clarifying the situation on software patentability and making software-related inventions patentable would benefit SMEs as they would be more likely to protect their more valuable inventions. This would give them bargaining power against larger companies and help in attracting investment.

Affect Consumers?

Reducing the protection available for software-related inventions would be likely to have a harmful affect on consumers. It would tend to reduce consumer choice, since SMEs would find it more difficult to continue in business. Large software enterprises would find it easier to appropriate the innovative ideas of SMEs and offer these bundled as part of their large software packages. The clarification and slight increase in facility of obtaining patents for software-related inventions which we advocate would, we believe, increase

consumer choice and enable innovative products to be offered in competition to the offerings of large software houses.

Promote or stifle innovation and enterprise?

We have seen no believable evidence that patents in any technical sector are likely to stifle innovation and enterprise. We firmly believe that in all technical sectors patents are a benefit to the promotion of innovation and enterprise. There is no plausible evidence to the contrary in software or other electronics fields. While the open source movement can produce excellent computer programs for topics that interest them, in general, the creation of software products is an expensive and time consuming process. If the full range of software is to be produced, somebody has to pay for the research and development that is required. As in other fields of technology, the incentive for a company to make the necessary investment will be reduced, possibly to the extent that it will not be made at all, if adequate patent protection is not available. Again, we do not believe that there are any advantages to be had from permitting the patenting of non-technical business methods.

Encourage or inhibit competition?

Again, we have seen no plausible evidence that patents inhibit competition. The only caveat here is that it is important that, in all fields of technology, patent grants are commensurate in scope with the actual technical contribution which the invention has provided. Provided this is the case, then we believe that patents encourage competition, since they give an incentive to innovators to spend money to innovate, as the patent will secure an opportunity for the investor to recoup their investment. A properly operating patent system will prevent competitors appropriating the teaching of the patent, while it is in force, so that to provide a competing product competitors themselves will need to innovate. We believe that there is no firm evidence that the patent system in the UK fails to do this. However, it could be argued that the approach of the UK courts, which seem to result in a surprisingly high proportion of patents which come before them being found invalid for obviousness, is a limiting factor. The German patent system seems to provide rather stronger incentives to patentees, as patents are less often found invalid and more often found infringed. Whether there is in fact a connection between this approach and the generally good long term performance of German industry is perhaps a suitable subject for study by economists.

Question 4: Does what you do involve trade in services rather than in products?

The bulk of BT's trade is through the provision of telecommunication services and only a minor part is through the supply of products.

Question 5: Do you think ways of doing business should be protectable by patents?

We believe that a way of doing business, without any technical component, should not be patentable.

However, where a technical contribution is made by an invention which has application in business, for example in connection with e-commerce or the internet, we believe that the invention should be patentable if, taken as a whole, it satisfies the usual patentability requirements of novelty and non-obviousness. In particular, we believe that the correct approach to the analysis of patent claims is not to split them into technical and non-technical parts and to ignore the non-technical parts. Rather, we believe that the approach set out in the EPO board of appeal case T26/86 (Koch and Sterzel) is the correct one.

Question 6: Why do you say that?

We do not know how the patenting of non-technical business methods would affect us: it could be positive or negative. But we do not believe that non-technical business methods are suitable subject matter for patent

protection. If the US experiment continues for long enough, perhaps we in Europe can learn from their experience, be it positive or negative. It is clear, however, that we should not be rushing in to emulate the US.

Question 7 If you have any experience of the US position on patenting software or business methods, how would you assess it?

We file patent applications in the US for most of the inventions, which we patent. Sometimes, because an invention is only likely to be patentable there, we will file only in the US (although nowadays this is rare).

So far, we have not been adversely affected by patents in this field in the US. In recent years we have received grant of some patents which others might describe as business method patents, but all of them have had clear technical character and we believe that most would also be patentable before the EPO. So, we have no direct experience of the more contentious business method patents. As already mentioned, most of our more recent patent applications (and many of our older ones) concern software related inventions. We have felt it to be important to seek patent protection for these inventions in the US because it is the most important market in the world and many of our competitors are based there or operate there. If we are to protect our significant investment in R&D, we need patents on software-related inventions.

As a user, it is clear that the approach of the USPTO to patent prosecution is quite different to that of the UK patent office, the EPO and the JPO. Obviously differences in law must be taken into account. However, there is clearly more to it than that. While not wanting to criticise the USPTO, pressure of time on the examiners is obvious (they must meet very high productivity measures) and while some examiners do an excellent job many are clearly somewhat inexperienced (often they are just passing through en route to becoming attorneys). The natural consequence is that the standard of examination, in all technologies (confirmed by talking to patent attorneys from other industrial departments and private practice ) is hugely variable. Sometimes meritorious inventions and well drafted claims are difficult to prosecute and at other times the examination can seem cursory at best. Often more attention seems to be focussed on purely formal matters of claim wording than seems to be focussed on substantive issues. In general, the standard of examination in the USPTO seems less good now than it was ten years ago.

Our practice before all patent offices is never to accept grant of something, which we do not believe clearly to be patentable, but this is clearly not the approach taken by all applicants.

One of the factors for the performance of the USPTO is likely to be the fact that prosecution in the USPTO is not open to public scrutiny as it is in the other patent offices mentioned above. The fact that third parties cannot make observations on the progress of applications means that an important safeguard is lacking. The recent Inventor Protection Act seems unlikely to remedy this, although the publication of US applications at 18 months is a step in the right direction. (It may also be that there is a connection between the US Treasury's increasing extraction of money from USPTO and the apparent decline in the standard of the USPTO's day-to-day operations.)

We believe that it is important that the UK Patent Office learns from the experience of the USPTO in this regard: there must be a proper career structure for Patent Office examiners and they must be sufficiently well rewarded. We have recently heard that the more senior examiner posts have been downgraded: if true, it is exactly the opposite of what should be happening. Intellectual property is clearly of increasing importance to the UK economy. The UK Patent Office is, we believe, self financing and could easily turn in a surplus. It is nonsensical to cut back on resources and salaries of examiners under these circumstances. By the same token, it is also important that the EPO be put under pressure not to "streamline" examination of European applications. While the EPO suggests that standards will be maintained the experience of users over the past few years shows that this is not the case. Pressure of work from PCT applications is driving

down the standard of examination in all technologies. This is a major concern to all industries, whatever is decided regarding software and business method patents.

## **BT's Response to the European Commission's Consultation Paper on "The Patentability of Computer Implemented Inventions"**

To Jeff Watson,

This is a copy of the response, filed today by BT, to the Commission's Consultation exercise. I am sending BT's response to the UK Patent Office consultation separately.

### I. Introduction

BT welcomes the opportunity to be able to contribute to the debate on this subject which is of importance to the economic well being of the European Union. This is also a subject which is of considerable importance to BT:

BT employs more than 5,000 software engineers and will invest £345M in R&D this year, at least 90% of which is in respect of software and software related research. BT has more **than 12,000 patents and protects new** inventions at a rate in excess of 150 per year. Reflecting the focus of the research done by BT, which itself reflects the commercial realities of the telecommunications world, at least 90% of the patent applications filed in recent years have been in respect of software related inventions.

BT is also aware of the value and usefulness of the open source model, having released its prize winning software agent technology as open source code with a view to accelerating its adoption and development. BT also patented key elements of this technology with a view to encouraging the development of the technology along open source lines.

In 2000, BT started an internal "incubation" scheme, known as Brightstar which aims to spin out new companies, each typically with a handful of employees, to exploit inventions and new technologies devised within BT.

Venture capitalists provide some of the funding, BT providing the technology, people, IP investment and other resources in exchange for an equity stake in the new company. For the companies currently being spun out, as with the one already spun out, venture capitalists have placed a significant emphasis on the existence of relevant patents/patent applications and on their strength. It is clear that without strong, relevant patents, venture capitalists would not in the current climate be interested in investing in such start-ups.

BT also has internal "venture capital" to be invested in new companies in Europe, the US and elsewhere. Extensive experience in California's silicon valley makes it clear that, in order to interest US venture capitalists firms in new start ups in the telecoms, electronics and internet arenas, relevant patents are essential. Necessarily, in this industrial sector, the relevant patents will be for software related inventions. BT believes strongly that if Europe is to compete effectively in the global market for software- related technologies (which includes, but is not limited to, communications, computing and entertainment) then it is vital that Europe offers the same funding model for inventors and companies as is offered in the US.

Whatever happens with business model patents, there is no likelihood that patents will not continue to be granted in the US for software - related inventions. If such patents are not also available in Europe, investment will flow preferentially to the US, with the consequence that Europe will suffer.

### II. Comments on the Consultation Paper Itself

Answers **to the express questions raised in the paper** are provided in Section III. Here we comment on some of the general issues raised by the paper.

(i) "Some consider that patents in this field tend to stifle fair competition and hinder innovation". There is no solid evidence to support this contention. We are aware that some individuals, purportedly speaking on behalf of the open source movement, have made such assertions, but the arguments which they advance can be seen to be attacks on the existence of the patent system in general and not only an attack on patents for software related inventions.

The rather curious study often cited by those supporting this argument "sequential innovation, patents and implementation" by Bessen and Maskin, treats the electronics sector in general in the same way as it treats software related inventions. It is true that in these sectors, new inventions are generally built on and from pre existing technology. This means that a new patent will typically be dependent on earlier patents. The holder of the new patent will thus need licences from the holders of the relevant existing patents to exploit the new invention, while the holders of the earlier relevant patents will need licences under the new patent if they want to exploit the new invention.

It is thus more difficult in such technologies to use a patent to get true exclusivity. This contrasts most strongly with the pharmaceutical sector.

Here it is usual for companies, before undertaking research, to identify classes of chemicals which are not subject to patent protection and hence in respect of which it may be possible to find an active pharmaceutical compound for which strong patent protection may be obtained, without earlier patent holders having rights covering the new pharmaceutical. Because of the huge cost of identifying, developing and getting to market a new and useful pharmaceutical, pharma companies are not prepared to embark on this path unless they can be certain of establishing strong and effective patent protection for the new pharmaceutical. This difference between the patent landscapes for the pharma industry and electronic/software and most other industries suggests no tendency on either side for patents to stifle fair competition or to hinder innovation. **While it is clear that the pharma industries see patent protection as a sine qua non for the development of new active compounds, other industries equally rely on patents to protect investment in R&D, albeit that the protection available is generally less strong, effectively, than in the pharma sector. It seems odd, at best, to suggest that the industry sectors where patent protection is effectively less strong are those where patents tend to stifle fair competition!**

Similarly, if the relatively weaker patent protection hinders innovation, why will yet weaker protection or possibly no protection encourage innovation, as opposed to mere replication and copying?

(ii) "Computer programs "as such" are excluded from patentability by the provisions of Article 52(2) and (3) of the EPC yet, thousands of patents for technical inventions using a computer program have been granted".

We believe that this statement, while factually accurate, is sufficiently misleading to warrant comment. European industry has been handicapped because of the popular misconception, which has existed since the introduction of the EPC in 1978, that computer > related inventions and those in which the inventive ingenuity resides in a computer program are not patentable. This misconception has meant that European industry has filed disproportionately few patent applications for such inventions, even in territories such as the US where it has more generally been understood that such inventions are protectable by patents. Meanwhile, while the more aware European companies have been obtaining, legitimately, patent protection for such inventions in Europe, the US and elsewhere, US and Japanese companies have taken advantage of the possibilities to a far greater extent than have European companies. The consequence is that the competitiveness of European electronics and software companies has been reduced compared to that of their US and Japanese trading partners.

It has long been understood from the wording of Article 52(1) and 52(3) EPC, that the exclusions specified in Article 52(2) and 52(4) are to be construed narrowly. Consequently, despite the assertions of the open source lobby that computer > related inventions have been patented "illegally" by the European Patent Office and others, there is no substance in these allegations. It is unfortunate that the consultation document did not make this distinction clear. Thus, it is felt that the consultation document could be read to suggest that software related invention cannot currently be patented legally and that what was open for debate was whether the law should be changed to "make software patentable".

(iii) "Greater transparency for European companies, especially for SMEs"

It is evident that the current legal situation is unclear, especially as understood by typical SMEs. A large number of SMEs rely for legal advice on general lawyers, rather than consulting patent and other relevant legal experts. As such, many have no doubt been told that software - related inventions are unpatentable. The same legal advisors can be expected to be ignorant of the realities of contributory infringement as affecting, for example, the supply of a computer program, the operation of which infringes a European patent. It is unfortunate that following behind - the - scenes intervention by the Commission, the delegations of the contracting states felt obliged to vote against the amendment proposed to Article 52(2) in the recent revision conference of the EPC. From talking with members of national delegations it is clear that the vast majority of national delegations wanted to get rid of the "programs for computers" exception specified in Article 52(2), in which they were in complete conformity to the users groups who spoke after the nation and all delegation who universally agreed that the restriction should go. It is, of course, understandable that the contracting states who are EU members felt obliged to let the consultation process finish before Article 52(2) to EPC is amended, but this is exactly contrary to the interests of greater transparency for European companies.

(iv) "Improve the competitive position of the European software industry in relation to its major trading partners".

Europe's major trading partners, the USA and Japan and others all provide clear patent protection for software related inventions. The software and electronics industries from those trading partners benefit from this clear situation and file patent applications in their home territories as well as in Europe. If, for example, it were to be decided to end the practice of granting patents for computer related inventions in Europe, this could only damage the competitiveness of the European software industry in relation to its major trading partners. Of course, without such patent protection in Europe, those operating in Europe will be free to copy the ideas of their competitors, but simply being able to copy the ideas of competitors would hardly be likely to improve the competitive position of the European industry in relation to its major trading partners. **Rather, it** could be expected to reduce the amount of investment in innovation, because copying the ideas of others is generally cheaper and the copyist can choose to copy only those ideas that work and which are commercially valuable. The lowered spur to innovation for the European industry would of course mean that European products would tend to be derivative rather than innovative, with a consequent reduction in the competitiveness of the European industry.

(v) "Strike the right balance between promoting innovations through the possibility of obtaining patents for computer> implemented inventions, and ensuring adequate competition in the marketplace".

One of the perceived benefits of SMEs is that they produce **innovative ideas**. **If this** is true, then depriving SMEs of patent protection for their computer > implemented inventions does them a serious disservice. Large software enterprises, such as those based on the west coast of the US, tend to have excellent marketing and distribution systems, a large established user base and large and skilled development teams. Without patents to protect the innovative ideas produced by SMEs there is nothing to stop large software houses taking the functionality from the **SMEs' innovations** and incorporating them into improved products which are then sold quickly and efficiently, at high margins, to the established customer base. Therefore, under such a regime, while SMEs may continue to have some niche existence or a short term success, their

continued existence would rely on a continual stream of innovative ideas. Each of which would be picked up quickly by larger, more established competitors. The long - term future of individual SMEs under such a regime would appear doubtful. So, if anything, worthwhile competition would seem to be more likely to arise where patents for computer- related inventions do exist, rather than where they don't. In a regime where SMEs can patent their innovative technologies, they immediately have something to licence or trade with the larger enterprises, with a possibility of large royalty streams back from the large enterprise to fund further development or expansion of the firm, The experience of Stac Electronics a small US firm is a good example here. Stac successfully sued Microsoft for patent infringement in respect of a compression algorithm which Microsoft built into one of their packages.

### III. The Questions Raised

#### (a) Scope of Harmonisation

BT is strongly in favour of granting patents for inventions involving software where there is a technical contribution to the state of the art. So, BT's position is that a more restrictive approach should not be adopted. At the same time, we believe that the proposals set out in the paper do not go far enough, in key areas, in general where they do not accord with what we understand to be the status quo, and hence we cannot agree that harmonisation should take place on the basis of the elements contained in the consultation document.

#### Claims to Computer Programs

If, as we believe, computer related inventions which provide a technical contribution are to be patentable, then it is anomalous to say that one should not be able to claim the computer program per se or on a data carrier. The paper makes it clear that the Commission is interested in improving clarity, particularly with regard to SMEs. As already indicated, SMEs are likely to receive advice from general lawyers and such lawyers cannot be expected to appreciate that a patent which contains claims to an apparatus and a method which involve the use of a computer - related invention can be infringed, albeit as contributory infringement, by the supply of the program. **So, under the existing** regime, even ignoring the decisions in T1 173/97 and T935/97, then SMEs are at risk of infringing software - related patents even when they only supply programs on disk.

Moreover, the national law provisions relating to contributory infringement all derive from the Community Patent Convention, so that supply of means relating to an essential element of the invention in any contracting state would be an infringement if they were suitable and intended for putting the invention into effect within any contracting state. Yet, the national law provisions limit contributory infringement to supply within a state for putting the invention into effect in the same state, So, supply within the UK for putting the invention into effect in Germany is not actionable either in the UK or in Germany under current legislation. While it is hoped that the Commission's efforts on the **Community Patent produce** a workable piece of legislation that will be used, such legislation is still some way off and will anyway not affect the situation of European and national patents. So, in the interest of harmonisation in the internal market, it is necessary to make computer programs per se patentable.

We are aware of the paper by Wolfgang Tauchert (IIC Vol.31, page 812) which would seem to accord with the Commission's views on this point. However, we believe that Dr Tauchert is wrong in his views concerning programs on disks and programs per se. Analogies can be drawn with inventive keys and locks, with new keys being cut from blanks, the blank being analogous to a data carrier. A key of course has no utility or usefulness when it is not associated with a lock. However, if one has a new invention concerning keys and locks, it is common practice to claim the keys and locks separately, A data carrier carrying a program is analogous to the blank key after it has been cut with a pattern for the key. Once the data carrier is read by a computer, the computer is capable of performing the new and inventive technical method. Dr

Tauchert is happy that the programmed computer is patentable. Presumably he does not want the claims limited to the computer in use, because this would mean that the supply of the computer would only be actionable as indirect infringement. But, how does a programmed computer which is powered down differ from an un-programmed computer which is powered down and which is supplied with a CID ROM containing the programs? In each case, there is a processor with an associated memory storing a program. They only become useful when the computer is powered up and the program moves to an active part of the memory. Analogies are sometimes drawn between computer programs on a data carrier and musical or cinematic programs on a data carrier, the argument being that in each case you have a data carrier which is carrying information and as such in neither case should the loaded data carrier be patentable. However, this ignores the fact that the data carrier loaded with a program is functionally different from the sound or cinematic recording since when loaded onto a suitable computer the new program will cause the computer to perform a new and inventive method or operation. Whereas, the sound or cinematic recording when read by the computer will simply be reproduced and the sound or cinematic performance will differ from other such performances only in non-technical ways.

### The Complementary Nature of Patent and Copyright Protection.

Here we have to disagree to the statement which appears in bold type. As written, this would seem to suggest that if a patent is granted based on an invention embodied in a computer program, then use of an unauthorised copy of the program would **infringe the copyright in the program** but not the patent. This is unacceptable. It is also not clear why such a position is advocated (if that is indeed the intention). There seems to be no good reason for determining that a pirate computer program which copies the expression of an embodiment of a patented computer-related invention should not infringe both the copyright in the expression of the computer program and the patent of which the program is an embodiment. In other fields of intellectual property overlapping protection is not uncommon- so in countries where utility model protection exists there can be protection by both patent and utility model for the same item, in other territories design right may protect the physical appearance of a device which is also the subject of patent protection. It is not clear that anyone is disadvantaged by this overlapping of protection and it is very clear that right holders could be disadvantaged if the statement in the consultation document is reproduced in any directive or legislation springing from this consultation exercise.

### Business Methods

We agree that a technical contribution is required for an invention to be patentable. This means that business methods per se, without any technical element should not be patentable. Moreover, merely implementing a known business method on a conventional computer or other known hardware should also not be patentable- such cases should be rejected for obviousness. We also agree that when considering the patentability of the subject matter of patent claims, the patent claims should not be split into technical and non-technical parts and the non-technical parts ignored. Thus, we believe that the long standing practice of the European Patent Office, following T26/86, is correct. Conversely, we believe that the recent Board of Appeal decision, T931/95, was incorrectly reasoned by the Board of Appeal, albeit that we believe they ultimately came to the right conclusion- i.e. that none of the claims related to subject matter which was novel, inventive and patentable.

We believe that the requirement for a "non-obvious technical contribution" is not consistent with current EPO case law and that it would be preferable to replace this by a requirement that there be a technical effect or technical character in the invention as a whole. For the avoidance of doubt, simply doing something on a computer should not be enough to give technical character in this regard. We note that the US Patent Office, as part of the tri-lateral initiative with the Japanese Patent Office and the European Patent Office, agreed in June of this year that "a technical aspect is necessary for a computer-implemented business method to be eligible for **patenting, and to merely automate a known human transaction process** using well known automation techniques is not patentable", yet the practice of the US Patent Office would not seem to accord with this position.

## The Assessment of Technical and Non Technical Features

We disagree with the suggestion that "where the contribution lies merely in non technical features, the invention will not be considered as involving an inventive step". While this approach is consistent with the decision T931/95, we do not believe that it is the appropriate test.

### (b) Impact of Harmonisation

#### Effect on Innovation in Software and Underlying Knowledge and Techniques

As already argued, it is believed that removing patent protection in Europe for software related inventions would reduce the amount of innovation in software, underlying knowledge and techniques.

Whereas confirming that software related inventions are patentable in **Europe and harmonising this would be likely** to lead to increased innovation in software. Moreover, as more software related inventions are made the subject of patent applications, more information about the underlying techniques would become available in a clear form through the publication of the patent applications. This could help to improve significantly the flow of knowledge.

The ability of SMEs to enter the market of innovative software tools and services and the market of innovative applications of software.

As already argued, if SMEs are able to get patent protection for their innovative software tools and services, will be in a better position to continue in business. Moreover, it is easier for them to attract investment funding if they have suitable patent protection than if they do not. In all other industries, SMEs are able to cope with the existence of third party patents without spending excessive amounts on clearance searches. There is no reason why the situation should be any different in the software related fields. Moreover, the profit margins on software are higher than they are on mechanical and engineering products and in those other technical fields the expense of obtaining patents and of doing any required clearance is not sufficient to dissuade SMEs from seeking patent protection. There is no reason why the situation should be any different in the software arena. With regard to the marketing of innovative applications of software, again the existence of patents will help rather than hinder this. The existence of patents will, however, be expected to cut down on the number of derivative and non innovative applications sold.

The creation and dissemination of free/open source software.

There is no conflict between the existence of patents on software related inventions and the creation and dissemination of free/open source software. The tremendous intellectual power of those working in the open source world means that, in practice, the existence of patents is no particular bar to the dissemination of open source software.

For example, experience with patents on the Lempel - Ziv compression technology in the US was that the open source community quickly devised an alternative, non- infringing, technology (PNG). This ability of the open source community to quickly devise elegant alternative solutions shows that software patents can be expected to encourage further innovation in this area. Moreover, unless a)] software - related inventions, in all **fields of technology, were unpatentable**, there is no guarantee that **releasing an open source software** product would not constitute contributory infringement of a system or apparatus patent.

The position of the European software industry in global competition.

A large proportion of all the software enterprises in the world are based in North America. In the US inventors are able to protect their software related inventions with patents and this is an important part of the model for reward within the US. It helps the growth of start- up companies and makes this area of

technology a more attractive one in which to invest and fund. If Europe has a very different funding model, in which patents are not available for software- related inventions, then there is less incentive to invest in European enterprises and much less incentive for the creation of innovative software companies in Europe as against the US. This can only be bad for Europe in what is after all a very important global market. If it were decided that no patents should be available for software - related inventions, Europe would quickly acquire the status of a third- world economy in this market sector.

The general development of the information society.

It is widely believed that SMEs can play a large part in the development of the information society. The internet provides a convenient and cheap means of distribution as well as an arena within which innovative software products can be deployed. This must be good for **SMEs, but as already argued, the** continuing long - term existence of individual SMEs is severely at risk if they cannot obtain satisfactory protection for their investment and hence reward on it. Moreover, it is important for Europe that European SMEs be involved in developing products and services for the information society, rather than Europe having to accept the products from, in particular, American SMEs. Not only are language considerations completely different within Europe, but there are strong cultural elements to be considered and it is clear that indigenous European SMEs must be best placed, if they can survive, to meet the demands of European consumers within the information society. To this end, it is imperative that harmonisation takes place to ensure that software related inventions are patentable.

## **Business Software Alliance**

### **BSA Comments to the European Commission Consultation Paper on the Patentability of Computer-Implemented Inventions**

The software industry depends on intellectual property laws for the indispensable legal protections and incentives to innovate and invest. The intellectual property rights most important to software innovation include copyrights, patents and trademarks. A sound and predictable legal framework is required for the continued growth of the industry as a key enabler of, and to ensure its continued contribution to, the Information Society. In recent years, patent protection has grown in importance as advances in technology allow many kinds of inventions to be implemented either in software or in hardware (including an integrated circuit).

BSA welcomes the European Commission's Consultation Paper and **supports harmonisation by the European Union on the basis of current European Patent Office practice** regarding computer-implemented inventions. BSA believes the approach articulated in the Consultation Paper will provide for continued innovation, investment and competition that have long been the hallmarks of software development.

#### **1. BSA welcomes European Union action to clarify and harmonise patent law affecting computer-implemented inventions.**

There currently is a lack of harmonisation within the European Union regarding the patentability of computer-implemented inventions. The European Patent Office and some EU Member State authorities are applying different standards, and the criteria for patent protection of software-related and computer-implemented inventions are frequently misunderstood.

**BSA supports** the European Commission's efforts to achieve a **clarification and harmonisation** of the law on patents for computer-related inventions. Such efforts can further the important goals of **predictability and consistency** in the internal market.

#### **2. Current EPO practice, as articulated by the Commission's Consultation Paper, is a suitable benchmark for harmonisation by the European Union.**

BSA does not seek any change in the standards for patentability of computer-related inventions in Europe. We believe the **current practice** of the European Patent Office (EPO) and its Technical Board of Appeals, as explained by the Consultation Paper, provides a **suitable benchmark** for EU harmonization efforts.

This includes continued application of the **technical effect** and **technical contribution** criteria for patentability, as reflected in current EPO practice and as explained in the Consultation Paper. These criteria are useful and appropriate in distinguishing patentable and non-patentable inventions, in compliance with the TRIPS Agreement and the European Patent Convention (as recently amended), and without unwarranted discrimination between different fields of technology.

#### **3. BSA calls for the stringent application of the prerequisites for patentability for computer-implemented inventions.**

BSA supports a stringent application of patent law standards to **ensure that patents granted** for computer-implemented inventions have the **appropriate scope**. Investment in the patent system, including careful training of patent law examiners and improved databases for computer-related inventions, can yield considerable benefits and should be a high priority.

#### **4. BSA can support the Commission's explanation of the complementary, but fundamentally different, nature of copyright and patent protection.**

BSA joins the European Commission in calling for **no "double banking"** of intellectual property protection for computer programs:

Article 1 of the Software Directive 91/250 extends **copyright protection** to the **expression** of a computer program in any form, including object and source code. At the same time, Article 1 also makes clear that copyright protection does **not** extend to **ideas and principles** which underlie any element of a computer program.

Patent protection covers inventions. **Patent protection** for a computer-related **inventions** shall **not** extend to the **expression**, in source code or object code or any other form, of a computer program based on such inventions.

BSA welcomes this explanation in the Consultation Paper regarding the complementary nature of copyright for software and patent protection for computer-related inventions.

In any legislation to be proposed by the European Commission on the patentability of computer-implemented inventions, BSA would welcome a further express clarification that patent rules are **without prejudice to copyright** rules for computer programs under the Software Directive 91/250.

#### **5. Innovation and competition in the software industry is the goal.**

Innovation and competition are the motors that have driven rapid advances in computer program development, and BSA shares the European Commission's goal of **fostering innovation, investment and competition, regardless of the development or business model** under which it takes place.

BSA members work under a variety of different development and business models. These include writing code, joining in the work of standards bodies around the world, and participating in a variety of open source initiatives. BSA believes the approach articulated by the Consultation Paper, setting forth **clear and harmonized standards** based on **sound criteria** for distinguishing patentable and non-patentable inventions, provides a strong legal framework for further investment, innovation and competition in software, without favoring any particular development or business model that an individual programmer or software company chooses to pursue.

## **British Music Rights**

Dear Mr Watson

### **Consultation paper on the Patentability of Computer-Implemented Inventions and Ways of doing Business**

British Music Rights is pleased to respond to the Patent Office consultation on the above.

British Music Rights was established to promote greater awareness of the interests and concerns of British music composers, songwriters and publishers to policymakers and the wider public. Our member organisations are the British Academy of Composers and Songwriters, the Music Publishers Association, the Performing Right Society and the Mechanical-Copyright Protection Society who between them represent over 33,000 writers and 200 music publishers, who together represent over 3,000 associated companies and catalogues. The majority of these individuals and companies are SMEs.

We agree that a review of both European and domestic policy on the patentability of software and business methods is required in order to decide on an appropriate level of protection which encourages innovation but does not inhibit e-commerce either. We have previously commented on the potential distortion which may result from incompatible European and US approaches.

#### **Introduction**

British Music Rights is actively engaged in representing the views of music creators on the wide-ranging initiatives and consultations being introduced by the various EU and UK institutions involved in e-commerce policy development.

Music has a key role to play in accelerating e-commerce and is driving the formation of new business models for the on-line environment. There have already been many patent applications made and patents granted in the US to protect the technology, software and business methods which underpin the new trading, distribution and communication models of music on-line. Secure devices, copy-prevention technology, encryption, watermarking, rights management technology and licensing models are all the subject of applications for protection. Some of these are based on software technology; some applications relate only to business **methods**.

#### **Computer related software and Business Methods**

Composers, songwriters, music publishers and the collecting societies all have a strong interest in the outcome of the DTI consultation since it will affect the way each of them does business in the future. However, the issues raised by the consultation are complex and affect members of the creative community in different ways. The following points reflect how patent protection could affect different parts of the music industry.

1. Music creators and publishers are both innovators and users of technology. They are investing in the development of new ways of communicating musical works to an audience, whether by downloads, streaming, broadcast or other means. This is done either internally or undertaken in partnership with software and technology companies who can supply watermarks, encryption, security and copy-protection devices. The use of technology is essential to prevent and eliminate music piracy. The importance of technological protection measures to assist in the protection of copyright is underlined by the debate on Article 6 of the draft Directive on Copyright and Related Rights in the Information Society. It is appropriate for software companies developing, investing in and supplying such technology to have patent protection for their investment.

2. The MCPS-PRS Alliance, the UK collecting societies for administration of mechanical, performing and broadcasting rights in musical works, are at the forefront of global

development of modernised systems for collective licensing of rights. These developments - the benefit of creators world-wide - have traditionally been based on open standards in order to encourage the widest participation. The patent system, if extendable to business methods, could be used by competitors to interfere with such development and investment.

- > In 1997 the MCPS-PRS Alliance participated in a project known as Music Trial with

Liquid Audio, a leading US digital music distribution company, to develop an integrated Web based licence application system. The system was designed to be used by

businesses to obtain clearance for copyright musical works used in sound recordings being traded across the Internet. Further information can be found on

<http://www.musictrial.com>.

- > A second venture by the MCPS-PRS Alliance has been as a founder member of a joint venture to design, build and operate a back office for some of the major international collecting societies known as International Music Joint Venture (IMJV). IMJV will undertake data management and processing such as registration of works, agreement and analysis of music usage information, both for traditional and on-line uses.

3. The development of new music services on-line is by definition global and therefore the compatibility of US and European approaches is not only important but already impacting. There is a perception of inconsistency between the US and European system for award of patents for business methods which is leading to competitive disadvantage to European companies. Small businesses lack the resources to challenge US patent claims on business methods and innovation may be adversely affected as a result. Even a business without a US base or operation is vulnerable to an asserted patent since US companies are extending US jurisdiction by taking action on local servers thus extending liability to them.

#### **4. Other concerns about the award** of patents for business methods include the following points:

- a) Even if there were a retreat from the current US policy of awarding patents for business methods, it would take time to reduce the number of claims already being asserted.
- b) there is still a fundamental difference between US and European systems as regards first-to-file and first-to-invent which makes the differences between the two systems even more acute.
- c) the need for safeguards to minimise the risk that patents are awarded even though there is insufficient novelty and inventiveness. This arises because of the lack of a back catalogue of prior art.
- d) the potential importance of the prior secret user defence.
- e) The need for appropriate transitional provisions if a change to European policy was intended to attempt to stem an unfair advantage of registrations from US companies.

### **Conclusions**

Insofar as the Commission proposal will lead simply to a codification of the current practice and case law of the EPC and a harmonisation of national approaches to the award of patents for software with technical effect we support it.

Beyond that, we are not in a position to reach a firm conclusion on the proposals. We would, however, like to be kept informed about developments and the conclusions of the consultation.

I look forward to hearing about the outcome of the consultation. first-lto-file

## **British Broadcasting Corporation**

### **Consultation Paper: "The Patentability of Computer-Implemented Inventions"**

The BBC welcomes the Commission's consultations on the patentability of computer-implemented inventions. The need to promote innovation in this field through the possibility of obtaining patents must clearly be balanced with the need to ensure fair competition in the market place. The proposals set out in the Commission's consultation document seem likely to achieve a favourable general balance in this respect. However, the BBC would be concerned if, as a consequence of patents on software used in digital TV set-top boxes, integrated digital TVs or personal digital recorders, access to information essential to interface and/or interoperate with such software were denied or were available only on payment of excessive licensing fees and/or acceptance of unduly restrictive terms.

Interoperability (the general issue of which is referred to in paragraph (vii) of the Commission's Consultation Document) between digital TV products and between digital TV services is important in allowing the development of competitive markets (and thus consumer choice) in these areas. An important consideration in determining the interoperability of digital TV products and digital TV services is the software and methods used to decode the received digital broadcasts and to allow the users to interact with the same. Key parts of this "software" include the programme/channel navigation system (e.g. the Electronic Programme Guide (EPG) and the "Application Programming Interface" (API) which is used in the delivery and decoding of enhanced and/or interactive digital TV services. Taking the latter as an example, (the issues raised in the example set out below also apply more generally to digital TV set-top box software), to ensure full interoperability sufficient information must be disclosed by the creator/owner of the API software to allow:

- a) The creation, download and operation of applications (e.g. to allow pages of text and graphics to be displayed and the end-users to interact with the same) which run above the API;
- b) The integration of the API into set-top boxes, integrated digital TV sets and other consumer electronics products produced by a wide range of manufacturers.

The current generation of digital TV set-top boxes in Europe use a multiplicity of proprietary standards for the API: interoperability has consequently been rather poor with resultant fragmentation of the market. The Digital Video Broadcasting (DVB) Project's Multimedia Home Platform (MHP) offers an open interoperable standard and thus improved interoperability. However, it should be noted that proprietary solutions will exist in the market alongside the DVB MHP solution for many years to come. With both the existing proprietary standards and the DVB MHP, licences are already needed by developers/system integrators in order to access and use the API. However, if the API software were patented there seems to be a risk that the licensing terms would be more stringent and restrictive. This would be of concern.

Although, the Consultation Document notes that: "If the patent holder does not want to grant a license, compulsory licensing and competition law may force him/her to do so and competition law can also be used to put curbs on abusive license conditions" timescales of actions under competition law may be rather too long to meet the needs of such a fast moving environment. Hence the BBC would suggest, in order to mitigate this risk that consideration be given to circumstances in which licensing on fair, reasonable and non-discriminatory terms might be mandated to ensure access to essential patented software. This approach is consistent with the objectives of Article 6 of the Proposed Directive Com(2000)384 on Access to, and Interconnection of, Electronic Communications Networks and Associated Facilities. I can confirm that the BBC is willing for its comments, as set out above, to be published on the Commission's website.

## **Berwin Leighton Solicitors**

### **Introduction**

Berwin Leighton is a major City law firm, comprising over 270 lawyers working from a City of London office and an office in Brussels. The firm is particularly focused on fast growing and entrepreneurial businesses and has a growing reputation in the technology sector. Legal directory *The Legal 500* has noted Berwin Leighton's profile in Internet-related matters and New City Media Insider's Guide 'E-commerce incorporating Digital Media 2000' ranked Berwin Leighton in the highest categories for 'Start-ups' and 'Corporate Finance'. The firm acts for funders and corporate venturers investing in technology and Internet businesses, Internet start-ups, large corporations in relation to their e-commerce operations, IT suppliers, and central and local government on IT matters. Berwin Leighton is active in a number of new economy networking organisations. The Firm was the most referred-to law firm in the Trade & Industry Select Committee report on the E-commerce Bill and was named in the Parliamentary Debate.

Berwin Leighton is a sponsor of the Sunday Times Fast Track 100, the league table of the fastest growing unquoted companies in the UK. Participation in The Patent Office Consultation Process Berwin Leighton's participation in the consultation process was co-ordinated through its Public Affairs Department which managed a team from our Corporate Department and Technology Group. The team was composed of Berwin Leighton lawyers who have specific expertise in the areas relevant to the consultation process (the "Berwin Leighton Team"). Process The Berwin Leighton Team determined that the most effective way to obtain our clients' views on the issues raised in the Patent Office's consultation paper (the "Consultation Paper"), was to conduct a survey amongst our clients (the "Berwin Leighton Survey"). The Berwin Leighton Survey was based on the questions and underlying principles which were contained in the Consultation Paper, but which were remodelled to facilitate the participation of our clients. A copy of the Berwin Leighton survey is attached to this paper at Annexure A. Participants

The Berwin Leighton Survey was e-mailed to over 600 companies who constitute our e-commerce and intellectual property client base. The Berwin Leighton Survey was available in pdf format and was also accessible via our website to facilitate on-line participation. In addition, subscribers to the First Tuesday newsletter were able to participate on-line through a hyperlink to the Berwin Leighton website.

The companies surveyed have a particular interest in e-commerce and/or computer software and business methods. They are either actively commercially involved in the industry or connected to the practice of e-commerce via other commercial channels. The respondents represent a cross section of the industry, ranging from small dot coms to software developers, e-commerce solution providers to venture capitalists, and included major IT and service businesses. Media reach Berwin Leighton is a sponsor of First Tuesday, a networking organisation focused on the digital community. The First Tuesday newsletter is e-mailed to over 8,000 subscribers. The Berwin Leighton Survey was included in the First Tuesday newsletter.

The Berwin Leighton Survey was also referred to in an article on the Netimperative.com website.

### **The Berwin Leighton Survey - Results and Responses**

#### **(A) Software**

	<i>Question</i>	<i>Response</i>
1	Does your business currently use patents to protect its software?	Yes 50% No 50%
2	Do you think that software should be protected by patents?	Yes 68% No 32%

**Comment** A trend noted in the results, and which was supported by comments from various participants, was that many smaller internet companies regard the ownership of proprietary rights as an important factor in securing initial or future funding. It was contended by a number of

participants that it would “.... become increasingly difficult to raise venture capital in the e-commerce arena without patent protection”. This view is endorsed by those respondents who are active in the e-commerce sector as incubators or fulfil a related investment role. The position in the US in this regard was singled out by a number of respondents as noteworthy in the protection and “asset value” that the patenting of software and the ownership of patents over software can provide to start-ups and businesses in the e-commerce arena. **“Protectable intellectual property is an important element in the value of an early stage business from the investor’s perspective”**

*Sussex Place Investment Management Limited* In addition, a small number of respondents focused on the question of the process rather than the software being patentable. The view was that an entire program may contain many standard programming techniques, and therefore granting patents only over the novel elements of a program would protect the intended innovation and prevent a monopoly of obvious techniques. **“If the underlying process is innovative and is describable in words, then a process patent and not a software patent... should only apply to discreet definable aspects”**  
*Dr Greg Duncan, Kenebec Software Limited*

3 Do you think that your business would be encouraged to innovate and research if it was easier to get patent protection for software? Yes 59% No 41%

**Comment** Unsurprisingly, companies whose business was either, selling software or whose services were heavily dependent upon software developed in-house, were most in favour of making it easier to patent software. The majority of those surveyed were clearly in favour of relaxing the requirements of registerability to enable software to be patented in the same way as other technologies. A large percentage of companies who wanted it to be more difficult to patent software are in the “traditional” sectors of the economy which do not create or sell software and are not significant providers of on-line goods and services. Interestingly, a small, but significant, percentage of respondents were against making it easier to patent software for reasons which included the fact that respondents felt that a lot of the software which would be patented would constitute standard programming techniques. Furthermore, a small percentage of respondents felt that the current legal frameworks, both in the UK and in Europe, are an obstacle to entrepreneurial ambitions and frustrate innovation. One of the reasons put forward by respondents in rejecting easier registerability of patents is that this could create an unjustified monopoly and restrict markets as companies rushed to file patents on every conceivable software design, whether innovative or not. It was felt that one way of minimising the creation of a monopoly, in what is such a cutting edge and dynamic commercial field, is to limit the life of the patent granted. Effectively, instead of granting patents for the traditional 20 years, patents should be limited to a five year time period. It was felt that this would provide sufficient protection for innovation and allow companies time to recoup research and development costs.

4 If it becomes easier to get patent protection for software, do you think that your business is likely to file patents to protect its software inventions? Yes 77% No 23%

**Comment** Some of the reasons for the seemingly contradictory position having regard to the statistical breakdown of the responses in Question 3 above, are that respondents were in favour of easier patenting of software because they felt that it was important to protect their investment in software development from exploitation by others, particularly rival companies. There was a recurring view that the laws of copyright and protection of confidential information as presently constituted are inadequate to prevent copying by other businesses, possibly owing to the difficulty of proving direct or indirect copying. Many of the companies who thought that software should not be patentable were concerned that such patents would inhibit legitimate competition. They are concerned that an easing of the rules will open the floodgates to huge numbers of applications for software “inventions” which are trivial or obvious to those active in the industry. Some respondents

fear that many such applications will be granted by over-stretched examiners searching against inadequate databases of prior applications. We have set out, in the section headed 'Berwin Leighton's Views', our position and recommendations in respect of this issue.

- 5 If it becomes easier to get patent protection for software, do you think that your business will have to spend money ensuring that it does not infringe third party patents? Yes 86% No 14%

**Comment** It remains a major concern to respondents that, notwithstanding that applications for patents which do not meet the requirements of the law and pass the scrutiny of the examiners will be rejected, the cost of analysing the applications and assessing the risks of infringement will be an ineffective and costly use of limited financial resources. This is particularly true for start-ups and other early stage companies. From a commercial perspective, these costs may very well end up being passed on to customers and consumers, thereby adversely affecting the ability of these companies to compete with more financially secure and resource-rich companies. Furthermore if these costs are to be borne by the companies and built into the cost of their products, it may very well undermine their ability to penetrate certain markets, particularly the US market and other major global markets.

- 6 Weighing up the possible consequences of making it easier to get patents for software do you think that the overall effect would be positive or negative for your business? Positive 59% Negative 41%

**(B) Business Methods Patents**

- 7 Does your business currently use patents to protect its business methods? Yes 28% No 72%

- 8 Do you think that business methods should be protected by patents? Yes 45.4% No 54.5%

- 9 Do you think that your business would be encouraged to innovate and research if it was easier to get patent protection for business methods? Yes 50% No 50%

- 10 If it becomes easier to get patent protection for business methods, do you think that your business is likely to file such patents? Yes 68% No 32%

**Comment** Those who were in favour of granting patents for business methods emphasised the importance of ring-fencing areas of genuine innovation, perhaps fearing their competitors arriving late on the scene could copy inventive business methods without incurring the cost of developing and market testing these ideas. It was also apparent that many respondents feared that UK based businesses will be at a disadvantage compared to US companies who are able to get patent protection for new business methods. The global accessibility of many internet companies' services means that they run the risk of unintentionally infringing US patents, even if the US is not an intended market.

- 11 If it becomes easier to get patent protection for business methods, do you think that your business will have to spend more money ensuring that it does not infringe third parties patents? Yes 73% No 27%

**Comment** The responses in this section reflect the same trend in respect of software. It is our view, and our analysis of this issue, that while businesses may themselves decide not to apply for patents because of considerations of either cost, time delay, disclosure of information to an already competitive market, or a variety of other commercial and/or invention related issues, they are sensitive to the fact that they would have to incur costs to make sure that they themselves are not

infringing third party's patents rights for new business methods.

- 12 Weighing up the possible consequences of making it easier to get patents for business methods, do you think that the overall effect would be positive or negative for your business? Positive 55% Negative 45%

**Comment** In respect of Question 7 of the Patent Office's Consultation Paper relating to experience of the US position on patenting software and/or business methods and respondents' assessment of the process, a small percentage of respondents advised that they were in fact patenting their business methods and software in the US. This was a costly exercise but they felt that it gave them much better protection than the current UK and/or EU legislation did. **"I felt that in Europe I would simply be easy prey for the large incumbent developers"**. *Software Development Company* As previously mentioned, many respondents also felt that the US gave much better protection to software and business methods as business assets which effectively protected investment in these businesses. Interestingly, and in a departure from legal principle, many of the entrepreneurs amongst the respondents felt that the concept of "ideas" should be protected by patents, whether those ideas were in the form of software and/or business methods. The motivation for this position seems to be that these ideas form the assets of the company. Many respondents said that they found it difficult to understand the current law on patentability of software and/or business methods. This view is supported by Berwin Leighton's own experience of advising would-be patentees as to the costs and prospects of success of UK or EU patent applications in these sectors. In particular, companies cannot reconcile the strictures that software is not patentable "as such" with the UK Patent Office's position that claims will be granted for computer programmes whether they are expressed as a computer running the software. Anecdotal evidence from our clients suggests that companies believe that the unavailability of patents does not discourage companies from investing their own resources in the development of innovative software and/or business methods. The reason being is that because it is felt it is crucial to a companies' success to use the best available business methods, these will be developed in any event, regardless of the availability of patent protections. The obstacle seems to be that these companies are finding it increasingly difficult to attract the funding necessary to pay for this investment unless funders can see tangible results, i.e. patent protection for the fruits of such development work. There seems to be a feeling amongst respondents that the monopolisation of business methods has the potential to affect a wider range of companies, not just those who use or develop software. A number of respondents are of the view that many of the business methods patented in the US would not stand up to legal scrutiny if challenged in the judicial system. Those in the business areas concerned regard these proposed inventions as business methods which are obvious, particularly given the enabling technology for example, the Internet, which facilitates their practical implementation.

### **Berwin Leighton's Views**

The indications are that the European Commission will favour making it easier to obtain patents for software and will eventually relax the rules for business methods as well. It is our view that part of this motivation stems from a desire that the European position should be in synch with the US position. It is a personal view of the experts at Berwin Leighton that the US position is in fact not the ideal position from a commercial and legal perspective. Whilst there may be a feeling that it make commercial sense to harmonise with US practice, and while the US position in respect of protection of patents may offer more comfort to owners of patents, it is our view that this does not necessarily promote innovation and research - which are the principal policy objectives of The Patent Office.

It is important not to lose sight of the fact that a patent gives a powerful monopoly which should only be granted if the would-be patentee can prove that the invention is novel and not obvious. If these standards are rigorously enforced during the application process, the fears of many that the flood gates will be opened to a torrent of applications will be significantly reduced, if not eradicated, in total. In the case of these particular

types of patents, it may be appropriate to require the applicant to do their own searches of certain commercial databases (e.g. software development and industry sector). An onus would then be placed on the applicant to place any potentially invalidating prior art to the Examiner.

It is not clear that the UK and EU Patent Offices have the resources to devote to the examination of software and/or business process patent applications. This situation is exacerbated by the fact that the databases of patents publications in these areas, which patentees are required to search to determine whether their proposed patents are new and not obvious, will take time to build up and are inadequate as they exist at present. The risk therefore of protection being granted for obvious inventions may be unacceptably high. It is our view that this risk could be reduced with the appropriate allocation of resources to the respective Patent Offices, coupled with the proposal above that a more rigorous initial application process be implemented. Challenging the validity of patents during infringement proceedings is generally too expensive an option for most small and medium sized entities and would be an unjustifiable drain on the resources of even the largest companies. Indeed it was noted by certain of the respondents that a significant proportion of development capital was spent on the patent application process.

Lack of adequate resources for examination has already led to long delays in examining patents at the European level. Despite the fact that once patents are granted, the possibility exists of post-grant opposition at the European Patent Office. This means that third party companies wishing to use similar software and/or businesses processes may be left with a situation of uncertainty as to the scope of claims for an unlimited period of time. This position is highly unsatisfactory from the point of view of those trying to advise patentees and potential infringers. It is a source of considerable frustration to the Technology Team at Berwin Leighton that we are unable to advise clients with any sort of certainty. In effect, the situation becomes one of advising the client to file an application, even if the invention is of dubious patentability, on the off chance it is granted or, even less satisfactorily, because others in the industry sector have done so and so investors and clients expect the application to be made. This results in an increase in the number of applications being filed, applications which might otherwise not have been made were we able to provide our clients with more certain advice.

In effect, clients who are worried about infringing other people's patents incur greater expense in order to obtain what we would term "the comfort factor", rather than any proper commercial advantage, in determining the existence of a competing patent. It is, as is well known, a costly process to determine if other patents exist. It is also a time consuming process if the enquiry is to be comprehensive. It is our view that this process could be radically streamlined by a legislative amendment and that the 'legal limbo' which our clients currently find themselves in because they are being treated differently from other kinds of technologies, could be removed.

## **Conclusion**

In summary, Berwin Leighton's recommendations are that:

(i) the relevant legislation should be amended to allow genuinely innovative computer software and business methods to be patented in the same way as other inventions. The confusing stipulation that computer programmes and methods of doing business are not patentable "as such" should be eliminated. This would be most easily achieved by a legislative amendment removing these inventions from the list of excluded subject matter in the UK Patents Act; and

(ii) this extension of patentability must be accompanied by an adequate increase in resources to allow the relevant examining bodies to apply the rules as to novelty and obviousness with the necessary rigour.

## **Cardiff University**

Dear Mr Hayward

Thank you for your letter of 23 November 2000.

With regard to the debate on patent law to which you refer, this is not an issue on which Cardiff University has strong views. Our main concern, as a “provider” of intellectual property rights (mainly to industry) is to ensure that we are able to provide up to date advice for our academic staff and potential licensee companies in order to facilitate commercial relationships with industry. With this in mind the following information would be helpful:

clear guidelines about what is permissible in the UK, and bulletins regarding any changes or new case law; standardisation of requirements across countries, particularly those signed up to the PCT; advice on “allowability” of any applications submitted to the UKPO at an early stage, preferably in the form of an opinion when the claims are filed. This advice might include information regarding patent protection which could be sought in other countries, e.g. “although this subject matter is probably not patentable in the UK, you may wish to consider filing for a US patent”.

The advice described in (I) and (ii) above would at least allow us to better identify patentable subject matter in various countries and reduce the number of speculative patent filings.

## CGNU Plc

### **Should patents be granted for computer software or ways of doing business ?**

#### **Response to The Patent Office Background**

The Patent Office has released a consultation questionnaire on the potential need for patents to protect computer programs and Internet trading methods. With the e-commerce sector becoming increasingly significant to the UK economy a debate on the need for patents in this area is thought to be essential.

This is the CGNU plc response.

There are 7 questions to be considered:

#### Software

Q1. How does what you do involve using software?

CGNU plc is an Insurance company that uses computer software in all aspects of its business operations.

Q2. Do you think software should be protectable by patents?

Yes, reluctantly, given that some software is already being protected under the current patent system. It would be impractical to turn the clock back to a pre-computer age. The patent law should be clarified and updated to reflect modern ways of using software e.g. via the internet. The requirement that the invention should be new, not obvious and useful appears to be a reasonable constraint on what can be patented.

Q3. Why do you say that?

The patent law should be consistent across all member countries of the European Community so that the same innovation is protected in the same way in the various member states. Also, with companies such as CGNU operating internationally, it is important that European patent law does not diverge significantly from the laws of other major trading blocks such as USA and Japan. The reluctance stems from the way that software patenting appears to be developing in the United States. The Patent and Trademark Office (PTO) has seen a rapid growth in software related patent applications: - 1992: 1,600 (approx.) - 1997: 13,000 (approx.) - 1999: 22,500 (estimated) A recent feature article in Personal Computer World ("Patently Absurd", July 2000), and research articles by Gartner Group, allege that the staff of the PTO are not appropriately qualified to review software-related patent applications. It is also alleged that instances of 'prior art' are poorly documented, and that the majority of applications are filed as intimidatory devices, to raise barriers to market entry.

As a company, CGNU is unlikely to seek revenue from the patenting of any of its own software innovations. It would, though, have to be wary of inadvertently infringing patents held by others, and this would be likely to introduce legal cost overheads and a more cautious approach.

The original philosophy behind patenting (to reward innovators by protecting investment in R&D) seems to have much less relevance to software than to, for example, pharmaceutical products, where the high cost of R&D programmes must be recouped if novel products are to be produced.

#### Ways of doing business

Q4. Does what you do involve trade in services rather than products? Yes, CGNU is concerned with selling financial services and products.

Q5. Do you think ways of doing business should be protectable by patents?

No, a novel way of doing business (which otherwise meets patenting criteria of being new and non-obvious) should not be protectable by patents.

Q6. Why do you say that?

It is harder to envisage a "way of doing business" as an engineering construct. It seems more akin to a concept than to a product that can be bought and deployed. It seems unlikely that CGNU (as a representative insurer) would patent novel "ways of doing business", in that: It is hard to imagine that CGNU would seek to increase revenue or limit competition by licensing or restricting the performance of certain "ways of doing business". The root of CGNU's competitive advantage is likely to be centred in other areas such as flexibility and speed to market. Who decides what is an 'obvious' idea? An idea could have been 'obvious' for many years without the technical infrastructure being there to support it. Given the pace of change in the information age, a novel "way of doing business" may be past its commercial lifetime long before the 20-year patent limit has expired. Should the patenting of "ways of doing business" ever be approved, it may be appropriate to limit the lifetime of the patent significantly (e.g. to 1 to 2 years, commensurate with the initial level of investment and likely commercial life). The patenting of "ways of doing business" is likely to lead to a more wary and litigious business climate.

The Position in the United States

Q7. If you have any experience of the US position on patenting software or business methods, how would you assess it?

No experience of the US position is available.

## The Chartered Institute Of Management Accountants

Dear Mr Probert,

### CONSULTATION ON PATENTS

Thank you for your letter of 13th November 2000 to the Director of Technical Services, Gillian Lees, regarding the consultation exercise on patenting business methods and software in the UK and Europe. I have been asked to respond on behalf of the Institute.

Unfortunately, I will not be able to submit our response by 15th December. I will endeavour, however, to send you our views before the Christmas break.

Dear Mr Probert

### CONSULTATION ON PATENTS

Further to my letter of 13 th December, please find below our comments on the suitability of patenting business methods and software in the UK and Europe.

On Friday 8 th December, I attended the roudtable discussion at the Chartered Institute of Patent Agents, at which there was a full debate on the implications of business methods patenting with representatives from both the United States and Europe. Parts of our response reflect some of the points made at this meeting, attended also by your colleagues Stuart Booth and Peter Hayward.

The granting of business method patents is a highly contentious issue which raises a number of different views. It was clear at the roundtable meeting from the number of various opinions that it is not possible at this time to allow the patenting of business method patents in the UK and Europe. The primary reason for not going ahead at this time is because it is unclear what the impact on the business community would be and the subsequent market distortions that would occur if twenty year monopolies in the form of business method patents were handed out. It would be misguided to go forward with any proposals for a new type of patenting unless we could be sure whether it was good for business and for consumers. In terms of being good for business, there is still no clear argument that non-technical business method patents will add value to businesses by encouraging further innovation. If the policy objective is to protect businesses in order to provide incentives to encourage further innovation, there must be strong evidence, arguably in the form of some empirical evidence, which has explored whether innovation would happen anyway without the need for the issuing of patents.

There are two particular problems with business method patents. The first is that given patents should only be granted where there will be real advancements in knowledge, our immediate feeling is that new ways of carrying out more traditional business operations, using the Internet trading for example, are ideas that nobody should own. Secondly, it is likely that the patenting of business methods could lead to defensive patenting, which enables companies to build patent walls around a way of doing business that perhaps dampens competition in a way that ultimately harms consumers.

It may be useful to monitor closely the progress in the US and whether they continue to have problems with their patenting system which has opened up in recent years to include non-technical patents. The claim from the US that there will be increased flows of investment into the US due to their liberal patenting laws may need to be **investigated** more closely.

Our comments on the patenting of software are:

The levels of protection required by the software industry to that of the pharmaceutical industry to enable return on investment and stimulate further innovation are not equal. One view is that the nature of demand for software in the market and the structure of the software industry is such that innovation has not been stifled in this field. However, this is a highly contentious area. On the one hand the open-source software movement vehemently oppose patenting of software, but on the other, some software **developers believe that they should** have a choice as to whether they give their **product away free or wish to apply for patent** protection. Views tend to be based on the interests of the parties.

If it is decided that there is not an issue of allowing software patenting per se, there needs to be robust statutory criteria which are implemented consistently. We would prefer that the requirement for a technical effect should remain at present with further clarity on how it can arise (see next point). The test of '9 usefulness' used in the USA is probably too weak. Patenting non-technical innovations will also increase pressure on ensuring procedures are robust which will mean that patent officers will require a range of advisers from various disciplines to help them ensure that 'bad' patents are not being issued.

Patenting software that gives rise to a 'technical effect' is fine in theory but in reality businesses are often not clear on the meaning of 'technical effect' and what kind of technical contribution is acceptable or not.

Regarding software patenting in general, it is crucial to develop sources of previous work in the same area so that a patent examiner knows what has occurred in a particular technology. This will obviously require patent offices working closely with the software industry but good 'prior art' will help ensure that the Patent Office can identify an innovative step as opposed to an economic one. The problems that have occurred in the US on software patenting appear to be due to both a lack of information on prior art and systems in place to support patent officers apply the statutory criteria.

- The scope of protection of a patent may be reduced if it is very narrowly defined or if protection is for shorter time period. We have no view on this issue as such but limiting the scope of protection of software patents, may be a possible way forward although it could make an already complex system more unwieldy. I hope this information is of use. Please do not hesitate to contact me if I can be of further assistance. There are two particular problems with business method patents. The first is that given patents should only be granted where there will be real advancements in knowledge, our immediate feeling is that new ways of carrying out more traditional business operations, using the Internet trading for example, are ideas that nobody should own. Secondly, it is likely that the patenting of business methods could lead to defensive patenting, which enables companies to build patent walls around a way of doing business that perhaps dampens competition in a way that ultimately harms consumers.

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## **Chartered Institute of Patent Agents**

### **The Patentability of Computer-Implemented Inventions**

#### **Comment of the Chartered Institute of Patent Agents On the EU Commission Consultation Paper**

The Chartered Institute of Patent Agents is the professional body representing patent attorneys in the UK. We set out below the responses to the points on which the Commission has requested feedback.

#### **(a) Scope of harmonisation**

We believe that harmonisation should take place on the basis of the current position at the European Patent Office. We believe that the jurisprudence in the United States is not yet settled and we believe that the situation in Europe is best evolved, hereafter, by the decisions of the EPO Technical Board of Appeals and Member States Courts as long as these forms of jurisprudence are kept in alignment. We would want to endorse, however, the importance of deleting *programs for computers* from Article 52(2) and the basing of Article 52(1) on Article 27(1) first sentence of TRIPs. We believe that the European Software industry has been largely ignorant of the existence and relevance of patents in this field and we would support the amendment of Article 52 for the public awareness such an amendment will bring. We note that the Possible key elements for a harmonised approach to the patentability of computer implemented inventions in the European Community does not mirror fully the current position at the European Patent Office in that, under vi, claims to a computer program, capable of performing the process claimed, are permissible at the EPO and should also be so under European Community harmonisation. Also we do not fully agree with the analysis in v in that the technical implementation of non-technical features should and currently does contribute to patentability.

#### **(b) Impact of Harmonisation**

##### **• innovation in software and underlying knowledge and techniques**

We do not consider software technology to be any different from other technologies. As long as the patent system is correctly administered, we believe that innovation will be stimulated by the granting, and consequent publication, of patentable inventions in the software field. To rely wholly on copyright we consider is likely to have an inhibiting effect on innovation as many inventive techniques that are embodied in a computer program can be kept hidden by maintaining source code as a trade secret. The publication of a patented invention stimulates either licensing of that technology or the creation of alternative technology thereby stimulating the evolution of the technology itself.

##### **• the ability of SMEs to enter the market of innovative software tools and service and the market of innovative applications of software**

We consider that the software market is no different from any other technology based market except that the product development may not be as capital intensive as other technologies such as electronic products and semi-conductor products. However, we consider that the ability to protect by patent innovative software tools and applications enhances the possibility for obtaining venture capital particularly that which is sourced from the US.

##### **• the creation and dissemination of free/open source software**

We consider that there are three legitimate but different business models that operate in the software industry. The first is based on proprietary rights where software is distributed as object code only (Source

code being kept as an unpublished trade secret) with a restricted end user licence under copyright and patents, usually for a licence fee. The second is based on Standards, both formal and *de facto*, where intellectual property rights are pooled and licensed by the contributors to the Standard to users of the standard on fair, reasonable and non-discriminatory terms. The third is open source, where source code is made freely available for development by third parties as long as the so created intellectual property rights are licensed on to other developers. Clearly the latter requires that any patents applicable to a development be freely licensed to other source code developers. We believe that these three business models can and do co-exist. Equally we are of the opinion that each of these business models should be allowed to continue to co-exist. We do not see why any one of these business models should be encouraged to the detriment of the others in Europe and we consider that it is of advantage to European SMEs to be able to select the appropriate business model for their products in this technology.

- **the position of the European software industry in global competition**

The maintenance of the current situation on the patentability of inventions implemented by computer programs in Europe, in our opinion, puts the European Software industry at a disadvantage with respect to the United States. Firstly, because of ignorance, more patents on computer program implemented inventions are being granted in Europe to US inventors than to European SME inventors with the consequential increase in potential infringement liability for European SMEs. Secondly, the more liberal position in the US is leading to more patents for computer program implemented inventions, particularly in the on-line business method fields, which further increases the patent infringement liability in the US for **all** European enterprises in that field regardless of the patentability of such inventions in Europe. We do not advocate alignment with the US in these matters, rather we urge action to ensure US alignment with Europe.

- **the general development of the Information Society**

We recognised in the above response, particularly in the on-line environment, that international harmonisation is very important. We have identified that we support the concept that patents should only be granted for new, inventive and industrially applied inventions that provide a technical contribution, be that in the implementation of technical or non-technical features. We do not support the granting of patents purely based on utility defined as the production of a *useful, concrete and tangible result*. We consider that the general development of the Information Society is best served by adopting the European Patent Office's approach to patents in this field.

## **Cobbetts Solicitors**

Dear Sir

### **Request for Consultation regarding Patents for Software and for Business Models**

The enclosed paper is in response to the consultation exercise being undertaken by the Patent Office as to whether patents should be granted for computer software or ways of doing business.

#### **Cobbetts**

Cobbetts is a commercial law firm based in the City of Manchester. The firm has a total staff of approximately 270 and is one of the largest firms in the city which is purely Manchester based (as opposed to being a Manchester branch of a national firm).

The firm has a strong owner-managed business client base, supplemented with numerous multi-national plcs and public sector organisation, and retains very strong links with Manchester based institutions of various sorts. It has a number of US clients including 2 Fortune 500 clients.

Further details about the firm can be found at [www.cobbetts.co.uk](http://www.cobbetts.co.uk).

The writer, Susan Hall, is a Partner within the Commercial Team and in overall charge of the IT law practice of Cobbetts. The Commercial Team is also the umbrella under which the firm's strong Intellectual Property practice, headed by Partner Robert Roper, operates and both Ms Hall and Mr Roper are experienced in both contentious and non-contentious patent litigation.

In particular, Ms Hall writes and lectures extensively on the Internet business, and advises a wide range of business including software companies, internet start-ups and e-commerce businesses, and existing commercial clients obtaining or engaging in disputes relating to IT. She has a first in law from the University of Oxford, an LLM from the University of Toronto and has been practising continuously in the intellectual and information technology fields since 1988.

The subject for her Masters thesis was "Patents and the Public Interest" – an examination of compulsory licensing, which was a comparative study of aspects of UK, Canadian and US patent practice<sup>1</sup>. Ms Hall is a board member of IRSI, the Inter-Regional Information Society Initiative, an initiative of the North West Development Agency. Earlier drafts of this paper have been circulated for comment among IRSI members and among Cobbetts partners.

Yours faithfully

**COBBETTS**

**"Response to Request for Consultation on the Proposed Extension of Patent Protection to Software and Business Model Inventions"**

#### **Executive Summary**

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<sup>1</sup> Hall, Susan  
1985 Patents and The Public Interest  
Unpublished University of Toronto

This paper concludes that extending the scope of patentability of software and, still worse, extending patentability to business methods would be a highly retrograde step and would impose unnecessary and unacceptable entry level costs for SMEs in the e-business sector. It goes further, and indicates that the present differences between the EU and US on patenting in this field are imposing an unnecessarily high level of strain upon the international patent system, and that the strain is being primarily felt by innovative UK and EU based businesses, in particular SMEs who are, as a result, suffering from a significant disadvantage in their efforts to export to the US market and that this is capable of causing job losses and loss of income within the EU.

It is further contended that the way to ease the strain should not be by approximating the EU system to that of the US, but should be primarily by increased public education within EU businesses of the nature of the issues coupled with concerted action by the EU Member States (possibly through the World Trade Organisation or GATT) to persuade the US to address problems with its own patent system. In particular, one of the major problems that needs tackling is the likelihood that owing to inexperience with software and business method patents within the US Patent Office examination system a large number of patents for essentially obvious inventions are being granted, contrary to internationally accepted patent conventions. Furthermore, exploration of alternative methods of expanding innovation in the e-business sector and of discovering and lowering existing barriers to entry would be a more effective use of the considerable resources that would otherwise have to be devoted to making sure any change in the EU patent system was effective in increasing innovation.

## **Detailed Commentary**

### Historical background to software patenting and comparisons with copyright

As is generally known a patent is granted for inventions which are new, useful and not obvious and which do not consist of unpatentable subject matter. It is the specific definition of “patentable subject matter” within the European Patent Convention<sup>2</sup> which excludes patents for computer software programs as such, and which excludes patents for business methods.

It should be noted that although the relevant provisions of, for example, the Canadian Patent Act contain no such explicit restriction (it does refuse patentability to a “scientific principle or abstract theorem”) that nonetheless business method or software (as such) patenting is not accepted as a matter of Canadian patent law<sup>3</sup>.

Furthermore, within the US the origins of software patenting also began with a not wholly dissimilar approach to how the effects of patentability on software should be considered<sup>4</sup>. US commentators have suggested that current procedure is based on an internal patent office decision to widen the scope of patentability and is not fairly based on Diamond v Diehr and that the extension to business methods in State Street v Signature Financial<sup>5</sup> was a misreading of the latter case, which was actually based on a process patent claim incorporating hardware and software elements<sup>6</sup>

It should also be noted that US law has historically been far less willing to allow copyright as the appropriate means of protection for functional items than the UK and the EU, and that there is no specifically US

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<sup>2</sup> Article 52, paragraph 2

<sup>3</sup> Schlumberger Canada Ltd v Canada (Commissioner of Patents) [1982] IFC 485

<sup>4</sup> Diamond v Diehr 450 US (1981)

<sup>5</sup> 149F.3d 1368

<sup>6</sup> See [www.patentusa.com/business.html](http://www.patentusa.com/business.html); [www.patentusa.com/software.html](http://www.patentusa.com/software.html)

equivalent to the Copyright Directive.<sup>7</sup> Any consideration of extending the patent system to cover software programs “as such” should consider whether there are in fact disincentives to innovate by having a copyright based method of protection as opposed to a patent based, and when comparing the US position to the EU the absence of equivalent copyright protection in the US needs to be borne in mind.

The critical differences between a copyright based system for protecting software and a patent based system are as follows:-

1. Copyright arises by operation of law not by registration; it is therefore low cost and imposes insignificant entry barriers for businesses in the field;
2. Copyright is infringed by copying of the whole, or of a substantial part, substantial part being in general terms measured in accordance with its importance to the overall end result rather than on a quantitative test.<sup>8</sup> Patents are infringed by infringing all integers of a valid patent.
3. Copyright protects the expression of an idea, not the idea itself; this somewhat simplistic formula, though hallowed, is in the software field subject to the point that at a particular level of abstraction<sup>9</sup> there may well be a considerable control over further developments being exercised by copyright, for example, where there has been copyright of an algorithm.
4. Equivalent protection for copyright in the countries can be obtained automatically by virtue of the Berne and Universal Copyright Conventions: as corresponding protection for patents has to be filed within 12 months of the original filing date, at a time when commercial success may still be considerably in the future.

It may therefore be seen that the use by the US of the patent system is to correct a gap which may already have been addressed within the EU by the Software Directive.

#### Disadvantage of the proposal for SMEs and Start-up businesses

Increasing the scope of patent protection is something that should only be done for a good reason. The basic question that should be asked is:-

What activity do we wish to encourage and will increasing patent coverage achieve that at the lowest cost compared with the alternative strategies? If innovative activity is what we intend to increase, is there in fact a shortage?

Most SMEs and startups in the innovative field whom we meet as clients are primarily concerned about funding shortages, the regulatory burden imposed on e-business by measures such as the distance selling directive and getting and keeping staff. Software and business method patentability rarely appears as a significant issue.

One of the biggest concerns with patent protection is that it prevents independent derivation. This may lead to blanket patenting by large organisations which leads to a heavily deterrent effect on actual

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<sup>7</sup> 91/250/EEC on the legal protection of Computer Programs

<sup>8</sup> Waterlow Directories Ltd v Reed Information Services Limited [1992] FSR 409

<sup>9</sup> See discussion in IBCOS Corporation Limited v Barclays Mercantile Highland Finance [1994] FSR 275 and compare discussion in John Richardson Computers v Flanders & Chentek [1993] FSR 497 as to whether this is an appropriate way of approaching the copyright question.

experimentation by others where blanket patenting has occurred<sup>10</sup> in the areas covered by the patent portfolio, since not only is the expense of getting it wrong and infringing a patent highly deterrent, but the actual costs of searching and carrying out the sophisticated analysis to see whether infringement may occur is also highly expensive. The field of CDs and of photographic copiers are examples.

Reckless patent infringement in the US carries a treble damages penalty which increases patent power significantly. “Reckless” effectively means infringement incurred otherwise than after obtaining the opinion of Counsel experienced in the field to the effect that the proposed conduct is not infringing.

The argument which is generally put forward in favour of patentability is that it encourages innovation. The US embassy in Canada, representing the official US submission to the Eastman Committee on the Pharmaceutical Industry in 1984 made their position clear:

“Inadequate [patent] protection drives up the supply of new technology and stifles local research, development and manufacture .... a low rate of return [from compulsory licences] effectively amounts to an appropriation of the invention....”

However, very little serious study has, in fact, been carried out as to whether and, if so, to what effect the existence of patentability in any given field, and at any given “level of abstraction” (used here to refer to the point on the spectrum between detailed design and basic theorem/algorithm) encourages innovation.

For example (once again taken from the Eastman Commission on Pharmaceutical Industry, Submission of the Medical Reform Group of Ontario):

“Drug companies do not readily undertake research on relatively uncommon diseases because drugs for them would generate insufficient profits..... A key influence on the direction, or mis-direction, of pharmaceutical research is whether or not the product can be patented. New uses of already existing chemicals cannot be patented, and therefore industry research tends to ignore these substances. This was illustrated within the brief on the basis that the drugs Lithium and L-Dopa (useful in the treatment of manic depressive conditions and Parkinson’s Disease respectively) were known to have therapeutically valuable effects for 30 or more years, but were not manufactured commercially until artificial (and hence patentable) forms were developed for these naturally occurring substances.”

Chief Justice Berger in Diamond –v- Chakrabarty (1980) 206 USPQ 193 at page 200 indicated that he did not regard it as proper or possible to discourage research in potentially lethal areas by dint of refusal of patentability [the patent concerned related to bio technological inventions and genetic research].

“It is argued that the Court should weigh ... potential hazards in considering whether respondent’s invention is patentable subject matter.... We disagree. The grant or denial of patents on micro-organisms is not likely to put an end to genetic research or its attendant risks. The large amount of research that has already occurred when no researcher had sure knowledge that patent protection would be available suggests that legislative or judicial fight as to patentability will not deter the scientific mind from probing into the unknown, any more than Canute could command the tides....”

The indication is that refusal of patentability does not, in fact, deter innovation provided other factors making innovation profitable are present. The converse is that increasing patentability will not encourage invention if other restraining factors are present.

Finally, to allow a patent on a basic discovery would prevent the mere beginning of research on a whole host

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<sup>10</sup> See *SCM v Xerox* (1978) 463 F. Supp 483 for a consideration of the issues relating to patent conventions and competition theory

of potentially useful fields where that theorem would be needed. It would act to cut invention off at its source. This area is explained more thoroughly under business method patentability.

The danger in expanding the concept of patentability, therefore, may well be that it increases the burdens on industry (especially the burdens on industry required to carry out patent searches) and encourages blanket patenting by larger corporations to deter innovative effort, and specifically impact negatively on the small inventor/business.

As will be noted, the need to apply for patent protection before an invention is publicised and to seek corresponding overseas protection within the 12 months following the priority date means that this is an up-front cost which has to be incurred before it is established whether or not the invention is going to be a success. The up-front costs (which can extend to many thousands of pounds) to secure protection and possibly almost as importantly to check that economic activity carried out by a business does not infringe third party patents need to be taken out of the same funding pot which might otherwise be spent on salaries, marketing, research prototyping and the grants available to start up businesses often specifically exclude patent fees.

The doctrine of technical effect does provide a way (not necessarily the only way but one which has been tested) of distinguishing between inventive and uninventive software and thus lessening this burden. Because of the way software is written it is likely that the sheer volume of software which might be patentable would otherwise overwhelm the relevant patent offices. It is in line with other countries in the EU and elsewhere except in US. Canadian law, for example, has granted patents to software having a specific and technical remit.

### Criticism of Current US Position

A major criticism of the US Patent Office in relation to its software and business method patent policy (for example, 1,390 internet related patents were issued in the first half of 1999), is that the examination procedures allow patents to be granted which already exist in prior art and do not allow patents covering the mere mechanisation of known processes to be effectively eliminated.

One of the principal driving forces behind the current enquiry is a fear that EU practice is somehow “falling behind” that of the US. It has already been indicated above that existing EU law provides protection for innovative software that does not exist in US law. Secondly, there is a growing backlash in the US against the current position; the proposed Business Method Patent Improvement Act of 2000 introduced in Congress seeks to introduce a presumption that “the computer assisted implementation of an analog world business method is obvious and thus is not patentable” (Richard Boucher, sponsoring congressman).

This has been good law in the UK for many years<sup>11</sup> and the writer is not aware that any proposal to change the law on business method patentability would be expected to change this position. The implication of the need in the US for the above Act is clear: business method patenting has led to a significantly high number of patents being granted which are essentially void for obviousness.

The writer has, on occasion, been required to consider with clients the costs of obtaining revocation of an invalid US patent. Her experiences indicate that the costs of doing so (in legal and expert expenses alone irrespective of management time) are likely to be not less than £50,000, and that the average cost is likely to

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<sup>11</sup> Submarine Signal Co v Henry Hughes & Son Ltd (1931) loc.cit [1971] RPC 44 at p53

be significantly higher<sup>12</sup>. An award of costs is not generally available to the successful party in such proceedings.

Accordingly, the economic harm caused to business by the existence of such patents is significant. In some cases it can prevent businesses exporting to the US at all.

There is further (albeit anecdotal) evidence to suggest that the US Patent Bar is ill supplied with the expertise successfully fight revocation actions in the software and business method field. To qualify for the US Patent Bar a first degree in a science subject is required. The writer is aware of at least one case where computer science has been rejected as a suitable pre-qualification discipline. Clearly “business method” expertise is also likely to be omitted from prior degrees.

The classic case in the business method field is Amazon.com’s successful action against Barnes and Noble.com for patent infringement in relation to the one-click shopping technology. On 9<sup>th</sup> March 2000, Jeff Bezos, the Amazon founder and Chief Executive Officer, posted on his website at [www.amazon.com/patent](http://www.amazon.com/patent) suggestions for restructuring the patent system. This was in response to the high level criticism of the one-click decision in favour of Amazon. His suggestions were a reduction of the patent term to 3 to 5 years for software and business method patents, a one month public comment period before a patent could issue and an application of the shorter term retroactively to those patents still in existence. The above proposals are highly problematical. It is worth commenting that if the victor in a business method patent claim feels that the balance needs to be redressed to mitigate the consequences of victory there is clearly something wrong with the system.

He also (very valuably) offered significant assistance to the US Patent Office in the question of prior art. One major problem in granting a patents for software without restriction and business method patents is the danger that relevant prior art will simply not be available to patent officers at the relevant time.

The principle sources of prior art drawn upon by patent examiners typically tend to be earlier filed patents and therefore this particular source will not be available as at present. The US Patent Office have also been notable for taking a rather narrow line as to what they consider to be relevant prior art which has exacerbated the problem and which appears to discriminate against foreign sourced non-patent prior art.

One major difficulty in citing prior art for issues that appear to be well known within the industry is that it is often taken as read that they are part of the common general knowledge of a particular industry body and it is often difficult to find one single document embodying all the elements of the claimed invention, however obvious. Such documents emerge in revocation or invalidity proceedings – rarely in application and examination.

The US position on software and business method patenting has, of course, caused stresses and strains in the international patenting system. A suggestion to reduce the patent term for particular classes of invention would almost inevitably feel the similar argument which are being generated within sub-Saharan Africa as a results of the AIDS crisis to have very short patent terms within those countries for pharmaceuticals. One crack in the idea of one term for all inventions would be likely to lead to a fragmentation within the overall system and to damage the already delicate consensus for international patent protection to proceed. It would require all international patent conventions to be modified and signatory countries to accept this.

If, on the other hand, the suggestion would be for software (other than that having a technical effect) to be not capable of enjoying full patent protection, but for there to be a short term utility model sui generis rights,

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<sup>12</sup> The costs referred to are for “pure” revocation actions in the US Patent Office. An obvious tactic for the patentee in such circumstances would be to commence infringement proceedings against the attacker, pushing costs into another league altogether.

then the Bezos procedures might have significant merit in creating such a system; however the upfront costs of creating it would be very great and probably prohibitive.

However, it is noteworthy that even one of the main beneficiaries of a US software patent is acknowledging major injustices in the systems (one of the other restrictions which he proposed was a self denying ordinance as to how such patents could be used, which would clearly only be enforceable on a consensus rather than as law, because it would otherwise fall foul of constitutional safeguards against ex-appropriation).

There is clearly uneasiness within the US as to the position which their patent protection has reached and Europe should exercise extreme caution when modelling their own revisions to their patent system, since we are probably witnessing the furthest point of the pendulum swing which is already beginning to swing back.

It is, however, conceded that the doctrine of technical effect is both little understood and highly complex to apply. It is often the case that software businesses do not believe that they are in a position to patent at all. Furthermore, the distinction between different forms of technical effect are not obvious to the untutored eye. It may well be the case that patents are being allowed on an inconsistent basis because of the uncertainties of this rule.

The answer here may be to clarify, by education, by training for patent examiners, and by formulating a code of practice what precisely can be thought of as technical effect.

**Cobbetts 24 November 2000**

## **Computing Services and Software Association**

Jeff, Steve

This is to provide you formally with CSSA's views regarding both the consultation of The Patent Office and of the European Commission concerning whether patents ought to be granted for computer software or for ways of doing business.

CSSA is the trade association of the UK computer software and IT services industry, representing and promoting the interests of almost 700 member companies in this fast growing, dynamic market sector. Turnover of members is around £18 billion, representing over 85 per cent of the UK market. It is broadly accepted that the overall UK market will grow to around £35bn by 2003.

In developing its views, CSSA has promoted the current consultation widely, has held a number of discussions with members and has circulated draft views extensively. In particular, we circulated electronically details of the consultation process and web links, details of discussions with The Patent Office, and draft views to over 4,000 recipients. We also actively sought to identify and encourage dissenting views from among our membership.

Following this process, we put forward the following views:

from the European Patents Convention, and support the granting of patent protection for software, provided the software concerned is a new and non-obvious idea which produces a technical effect. This clarifies the law and provides software developers with enhanced IP rights, enabling them to licence their technology more easily, and will also more readily support financing;

business methods that have, as their basis, software with a technical effect although we believe extreme care needs to be exercised in relation to such applications;

especially the behaviour of those awarded patents to avoid any 'bad' patent processes arising; additional resources need to be allocated to patent offices to recruit and train examiners with appropriate skills, and to support an extensive industry education programme

I trust these views are helpful to you. Please do not hesitate to contact me if you have any questions.

Best regards

Tim Conway

## **Confederation of British Industry**

Dear Mr Watson

### **Commission and Patent Office consultations on Patentability of computer- implemented inventions**

I enclose a copy of the CBI's response to the European Commission consultation, which I hope can also act as a response to the Patent Office's separate consultation.

I shall be pleased to discuss any aspect further with you.

#### **European Commission consultation**

#### **The patentability of computer - implemented inventions**

#### **CBI RESPONSE**

1. The CBI is pleased to have the opportunity to respond to the Commission's consultation.
2. The CBI can give qualified support to harmonisation on the basis proposed by the Commission, with support for some, but not all, the key elements put forward in the consultation document.
3. We support the first key element (i) and the principle that patents should 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. In this context, a computer - implemented invention is considered to belong to a field of technology. This reflects Article 27(1) of the TRIPs Agreement, which we support. Accordingly, software inventions which provide a technical effect should be patentable.
4. However, further extension of patentability to embrace business methods is a much more complex issue. Most of our members agree that "pure" business methods should not be patentable and that no patent should be granted for the mere transfer of an existing business method to a computer system, because that does not involve an inventive step under any criteria. Beyond that there is no consensus of view. The consultation paper proposes a solution based on a requirement for a technical solution to a technical problem. Another approach is that inventions should be protectable by patents if they embody a technical solution when taken as a whole. Our members' view is that these issues require much more comprehensive investigation and analysis before any extension of patentability to business methods with a technical effect, and the conditions to be satisfied, can be considered or taken forward.
5. Nor is a more restrictive approach supported. This would significantly reduce the scope of patent protection not only in IT, but also in much of industry which relies on software innovation.
6. On key element (ii), we also broadly support the relationship between patent and copyright law, but we would express the principle differently. If a patent is granted based on an invention embodied in a computer program, then if the program is copied, the acts of reproduction, installation and use of the resultant copy will infringe both the copyright in the original program and the patent. On the other hand, if the expression of the program is not copied, and instead an independent program is devised which falls within the claims of the patent, then there will be the infringement of the patent, but not of the copyright.
7. Both these necessary results flow from the Commission's statements in the consultation about what is patentable and the normal rule that copyright protects the expression, not the underlying ideas and principles.

8. However the negative statement in the key element is not necessary and confuses the issue since it appears to rule out patent infringement in the case of a program which copies the expression of a patented program.

9. On key elements (iii) (iv) and (v), we do not 'agree that there should be a requirement of a non-obvious technical contribution. This is inconsistent with current EPO practice, and we support their approach. The requirement should be *for* the need *for* a technical effect or technical character in the invention as a whole. The regulatory obligation should be based on Article 27 of TRIPs.

10. On key element (vi), Claims to a computer program per se should be permitted, where a patentable invention is involved, since restricting claims to computer systems typically introduces considerations of contributory infringement, and reduces legal certainty.

11. We support key element (vii).

12. Current experience of EPO practice demonstrates that the patent system can successfully accommodate software inventions without the need for any special provisions or procedures, and following this consultation we hope that Articles 52 (2) and (3) of the European Patent Convention can be made consistent with Article 27 (1) of the TRIPs Agreement.

13. The advantages of such harmonisation by the EU will be to satisfy the requirements of TRIPs for patents to be granted in any field of technology. It will also improve legal certainty and transparency by clearly aligning the law with current EPO practice. It will also provide a reasonable degree of harmonisation with major trading partners, in particular the US and Japan, It should also stimulate investment in software research, and be **positive for the further development of the information society**.

14. Worldwide TRIPs conformity is very important for European business. If European patent law is not in line with TRIPs, it will reduce the ability of the EU **to press** other countries to **conform** to TRIPs.

15. SMEs, in particular, will benefit from further legal certainty in this area. It should also enable SMEs to attract more venture capital funding in support of their inventions, and to compete in the market place.

16. As regards Open Source software, CBI members support its development and use, but consider that this should not preclude software patents. In simple terms, companies should be free to adopt whichever business model is most appropriate to their own particular situation, whether this be an Open Source distribution, a conventional distribution with retention of IP rights (including patents), or some other policy. We therefore support a continuation of the present coexistence of **software patents and Open Source**.

17. We also support efforts to lower patent costs, for the benefit of SMEs and business generally. We support the outcome of the recent London Agreement on the application of Article 65 of the EPC, and the cost reduction aspects of the draft Community Patent Regulation.

## **Consumers Association**

### **Consumers' Association Comments on the Patent Office Consultation on Software Patenting**

#### **Software**

*Q1. How does what you do involve using software?*

- *For example, are you a programmer, a systems analyst, a business person, an investor in e-commerce, or a home user?*

#### **Comment**

We are a non-profit independent consumer organisation. We are a charitable organisation whose aim is to promote the interests of the consumer. As such as seek to represent consumers in their purchase and use of software.

*Q2. Do you think software should be protectable by patents?*

- *A lot of software already is: 15% of UK patents being granted now are software-based. Any invention has to be new, not obvious, and useful if it is to be patented. In Europe, a software-based invention not only has to meet these criteria, it also has to give rise to a technical effect. For example, a new and non-obvious program which gave a computer more efficient memory usage and so enabled it to run faster would be patentable because of the technical effect it has on the operation of the computer. But a new program for a computer game would not currently be patentable because it has no technical effect.*
- *Do you think that this degree of patent protection for software is about right?*
- *Or does it go too far, even with the requirement that there should be some technical effect?*
- *Or do you think that any software (that is new and non-obvious but regardless of any technical effect) should be patentable?*

#### **Comment**

In some ways we think that this is the wrong way to ask this question. We think that the first questions to ask involve finding the appropriate intellectual property regime for software. This would help to identify those elements of software that are worthy of protection and then the most appropriate manner of achieving this aim. As is noted in the first bullet point software is already patentable, providing that it leads to a technical effect. It is thus not a question of if software should be patentable, but if there is anything about changing the current situation that would lead to a benefit. We think that the current arrangement is beneficial because it recognises that potential for software to contribute to a process that is worthy of patenting. In the majority of cases, however, software is protected by other intellectual property rights, mainly copyright.

The granting of a patent provides for a public interest benefit in the publication of some information on the product in question. In the case of software such a publication benefit is severely limited as software, by its very nature, is capable of dissembling. The public interest benefit of extending patent protection to software is thus negated. The only benefit that should thus be contemplated is the benefit to the private enterprises that seek a patent and the potential disbenefits of extension to competition, innovation and consumer welfare.

In summary we think that the current situation appears to be beneficial as it allows software to be the subject of a patent, as long as it has some form of technical effect. We do not think that software should be able to be patented *as such*.

*Q3. Why do you say that? How do you think maintaining the current position, or changing from it, would –*

- *affect you or your business - positively or negatively?*
- *affect SMEs, or other sectors of UK business and commerce?*
- *affect consumers?*
- *promote or stifle innovation and enterprise?*
- *encourage or inhibit competition?*

### **Comment**

Those seeking to change the current position need to prove either that their interests are being hampered by the absence of wider patenting or that we will hamper the development of an industry if we do not offer such protection. We see absolutely no evidence that the absence of patents has limited the development of the software industry in Europe. Nor do we think that the industry is likely to be hampered by the absence of *as such* software patents in the future. Conversely, we think that the granting of wider patent rights for software will severely inhibit the development of the industry and dampen innovation and restrict competition. The current system of intellectual property right protection for software appears to be well balanced and broadly appropriate. The recognition that software cannot be patented without some form of technical effect replicates the real operation of the economy. Until such time that we operate an entirely virtual economic model (which may be never) we see no reason to create a system of patent protection that does not fit the real world of economic behaviour. We further think that the argument that simply because the USA has chosen to offer patents in this way that the EU should follow suit is very weak. Such an argument would appear to ignore the warnings we give to our children (and our parents gave to us) - just because your friend chooses to put their hand in the fire does not mean that you should.

In short, extending patent protection to software would hamper innovation, restrict competition, discourage SMEs and damage the short and long term interests of consumers.

### **Ways of doing business**

*Q4. Does what you do involve trade in services rather than products?*

- *For example, are you concerned with market strategy, selling airline tickets, in financial services, or a consumer of such things?*

### **Comment**

Our commercial arm (the publishers of the Which? stable of products and Whichonline) sells and markets services. However, we are writing this response from the stand point of the charitable organisation established to represent the interests of all UK consumers.

*Q5. Do you think ways of doing business should be protectable by patents?*

- *A "way of doing business" might be a method for selling airline tickets, a way of administering a pension scheme, or a way of organising a staffing rota, for example. In the United Kingdom you cannot get a patent for such things.*
- *Do you think that this is the right position?*
- *Or do you think that a way of doing business (which otherwise meets patenting criteria of being new and non-obvious) should be patentable?*

## **Comment**

We do not think that 'ways of doing business' should be patentable. There is very little evidence that 'ways of doing business' can meet the criteria needed for patenting in any real and robust sense. The process of doing business does not involve paradigm shifts in the manner possible in scientific inquiry. Business methods are entirely arrived at from an accrual of experience and analytical ability. The granting of patents for business methods in the USA indicates the degree to which patents can be attached to standard procedures (such as fast ordering systems in electronic commerce).

*Q6. Why do you say that? How do you think maintaining the current position, or changing from it, would –*

- *affect you or your business - positively or negatively?*
- *affect SMEs, or other sectors of UK business and commerce?*
- *affect consumers?*
- *promote or stifle innovation and enterprise?*
- *encourage or inhibit competition?*

## **Comment**

It would be an act of folly to allow innovation in business methods to be patentable. It would hamper competition, restrict innovation and harm the short and long term interests of consumers. The negative implication of allowing such patenting are obvious. If such patents were allowed we would replicate the position in the USA where patents can be granted for standard practices, simply if someone manages to file quickly, or spot the fact that no-one has managed to apply for a patent on something as obvious as a fast electronic check-out counter. This is simply a recipe to enrich patent lawyers and impoverish genuine competition and innovation.

## **The Position in the United States**

*Q7. If you have any experience of the US position on patenting software or business methods, how would you assess it?*

- *In the United States, computer software and ways of doing business are in general terms patentable.*
- *How has that impacted on you or your business, and how has it shaped your views on what is best in this area?*
- *How do you think the difference between the current US and European positions affects the factors listed under Q6?*

## **Comment**

Our experience of the position in the USA comes from a constant dialogue on the issue with US counterparts in the TransAtlantic Consumer Dialogue. Our colleagues in the USA have considerably more experience in dealing with the iniquities of granting patents on software and on business methods. Rather than repeat the arguments put forward about the US position we recommend that you visit <http://www.cptech.org/ip/business/>. Here you will find a wealth of information and articles on the experience of US consumer and public interest organisations in the area.

## **Consumers' Association**

December 2000

## **Two members of Coventry University Intellectual Property Rights Committee**

Q1 A - As a consultant and researcher I use software for the preparation of articles and to help in research into physical science subjects.

B - I am a home user of a variety of software.

Q2 A - Software should be patentable if it protects novel concepts regardless of the form in which it is reduced to in practice and the field of application. It should not depend upon its ability to cause a technical effect. Copyright protection should still apply in its current limited role. It is already apparent that some software developed to produce a technical effect could probably be used in other non technical fields and vice versa eg. simulation software.

B - Yes - It is a novel, virtual machine. If one can patent a novel, mechanical adding machine then one must be able to patent novel software.

Q3 A - Keeping the restricted use of patents for software is likely to stifle innovation, enterprise and time competition because it enables copying to be carried out without protection for the inventors.

B - Software innovation would be stimulated - protection would encourage investment in new software. General innovation and enterprise would be encouraged as it is in other sections where patent protection is commonplace.

Q4 A - As I am retired I am no longer involved in trade in services or products however in the past I have been involved mainly in the latter.

B - (no answer)

Q5 A - Novel forms of business management should be patentable if they involve new concepts and represent an inventive step over existing systems. This is because management of a business and organisation of systems in general have many things in common eg. control structure, information handling, etc... therefore similar concepts may apply to both. This situation is likely to intensify in the future.

B - Yes to all above

Q6 A- Lack of protection for new ways of doing business invites copying. This will tend to a lack of disclosure of good practice to the detriment of UK business and commerce. Broadening the scope of patents to include business systems will this promote innovation and enterprise.

B - No new comments.

Q7 A - I have no direct experience of the US positioning on patenting software or business methods but it seems obvious that the more restrictive use of patents in these fields will put Europe at a disadvantage compared with the US. This seems to (be) one of the reasons why the US economy has consistently out performed that of Europe over the last decade or so.

**B - No comment.**

## **FANS Information Services Ltd**

We are a small company but one that has rapidly established itself in the global market of Air Traffic Control (ATC) datalink. We have used the Internet to maximum advantage in this process and are also in the process of bringing a software product to the general training market. We thus have a very strong view on this subject.

We are very concerned about any extension of the scope of Software Patents or patents on business methods. We see these as anti-competitive and against innovation. They are potentially a serious threat to our business. The attachment outlines our reasons for this view and answers the questions posed.

We strongly urge the UK Government to support UK Industry and oppose this dangerous proposal.

### *1. How does what you do involve using Software?*

Software is central to our business. We use software products both bought in and developed in house for all our business activities. We also develop bespoke software and market software products.

### *2. Do you think software should be protectable by patents?*

No. We have outlined our reasons above. They will not give us any additional protection for our products and will put up our costs. End Users will be substantially disadvantaged by any extension of the scope of software patents.

### *3. Why do you say that? How do you think maintaining the current position, changing from it, would –*

- *Affect you or your business – positively or negative.*

The effect is negative and will increase business risk and costs.

- *Affect SMEs, or other sectors of the UK business and commerce*

We do not believe it is to anyone's advantage other than to established companies seeking to protect their markets through means other than by providing competitively priced quality products and services.

- *Affect consumers.*

Consumers will be disadvantaged by the increased cost of being locked into older and less performant products and through higher prices resulting from reduced competition and increased costs.

- *Promote or stifle innovation and enterprise*

The effect will be negative reducing innovation and increasing the cost of new product development. Increasingly vendors will play safe and become more protective of existing products and less innovative in creating new products.

- *Encourage or inhibit competition*

Software patents will inhibit competition and encourage anti-competitive behaviour.

### *4. Does what you do involve trade in services rather than products?*

Services including training and consultancy do form a large part of our business. Our most important software development supports our own training activities and helps ensure a quality product.

**1. Do you think ways of doing business should be protectable by patents?**

No. One of the most dangerous aspects of such a possibility is that it may prevent best industry practice from being adopted. This is not in the public interest. The great advantage of the capitalist system is that good business practice is quickly spread throughout an industry. Patenting business methods will all too likely prevent this happening.

**6. Why do you say that? How do you think maintaining the current position or changing from it would:**

- *Affect you or your business – positively or negative.*

The effect is less than with software patents but it is not obvious where we would gain an advantage. It could result in increased costs again through the risk of non-deliberate use of a patented business method and divert attention from focusing on customers. Patents on use of the Internet for business marketing may have prevented us from establishing our company.

- *Affect SMEs, or other sectors of the UK business and commerce*

We foresee a risk that by being unable to adopt patented but otherwise good practice, UK business could suffer competitive disadvantage. New companies could be especially disadvantaged by not having their own patents to trade against those of others.

- *Affect consumers.*

There is no advantage to consumers from preventing the adoption of best industry practice. Services will be poorer or more expensive and business methods patents can be used to limit competition and especially price competition through licence conditions and fees.

- *Promote or stifle innovation and enterprise*

As the impact will be disproportionately felt by smaller companies, such patents are unlikely to help innovation or enterprise.

- *Encourage or inhibit competition*

Just as with software patents our opinion is that business methods patents will inhibit competition and encourage anti-competitive behaviour.

**7. If you have any experience of the US position on patenting software or business methods, how would you assess it?**

- *In the United States, computer software and ways of doing business are in general terms patentable?*

The examples of which we are familiar have had a negative impact. For example, the various patents that were allowed on crypto-graphic techniques (e.g. the RSA public key cryptography patents) have limited the adoption of such technologies **and have dis-advantaged US industry compared with the rest of the world.**

- *How has this impacted on you or your business, and how has it shaped your views on what is best in this area?*

It is certainly a known risk when and if we start marketing our training support software in the US. At present we have the advantage that we can establish ourselves in Europe before taking on this risk. This advantage will be lost if the scope of patents is extended.

- *How do you think the difference between the current US and European positions affects the factors listed under Q6?*

Currently European industry enjoys an advantage over US industry as it is not inhibited by such measures and can adopt good US industry practice even when it has been patented there. US Industry would no doubt like to see European **Industry lose this advantage**.

## Federation of the Electronics Industry

### PATENTABILITY OF COMPUTER-IMPLEMENTED INVENTIONS

#### Response to the Consultation Paper by the Services of the Directorate General for the Internal Market.

The Federation of the Electronics Industry (FEI) is the association representing the United Kingdom's electronics industry. It includes both large and small companies that have a business as developers of software. Some are suppliers of software to customers to run on their own equipment. Others supply complete hardware products that depend for their innovative characteristics on software included in the products they sell. Our members are also users of software and suppliers of third-party software for use in, for example, a systems-integration context. In other words, we are involved with all aspects of the software business.

We welcome the opportunity to take part in the Commission's consultation exercise. What is absolutely clear is that there is a lack of clarity about the current position that cannot be in the general interest of the economy of the European Union. There is also a lack of consistency in the current practice of member states. We believe urgent action is needed to make sure that the scope of patent protection available in this area is clear and comprehensible to all sectors of industry and is applied in a consistent manner throughout the European Union. We therefore welcome the intention announced in the Commission's paper to introduce a harmonising directive.

We turn to the questions set out in Section 1 of the Commission's paper.

#### *SCOPE OF HARMONISATION*

- *Should harmonisation take place on the basis of the elements contained in this document? Or..*
- *Should a more restrictive approach be adopted? Or, conversely:*
- *Should more liberal conditions coming closer to the practice in the United States of America prevail in the future?*

The FEI is strongly in favour of granting patents for inventions involving software where there is a technical contribution to the state of the art. Consequently, we agree that everything that the paper suggests should be patentable should indeed be so, and to give a formal answer to the question in the second bullet - a more restrictive approach should not be adopted.

However, despite our generally positive reaction to the paper, there are points where we have reservations. That means we cannot give whole-hearted support to the proposition in the first bullet, since we do not completely agree that harmonisation should take place on the basis of the elements **contained in the Commission paper**.

#### **Claims to computer programs**

We interpret No (vi) of the "Possible Key Elements":

*"A computer-implemented invention may be claimed as a product, namely as the programmed computer, or as a process, namely as the process carried out by the programmed computer. "*

as implying that these are the only forms of claim that would be permitted for a software-related invention. We believe that to be too restricted. The EPO's jurisprudence has already acknowledged that computer programs may be claimed by themselves, as footnote 21 to the paper itself acknowledges. We believe that where an invention derives from the steps carried out by a program, it is artificial to restrict the coverage of the patent to the resultant programmed computer. That solution has the effect of putting the onus of being the primary infringer on the user, who in general has no control over, or even knowledge of, whether a particular program will cause him to infringe a patent. We believe that where it is accepted that a programmed computer meets the criteria for patentability - however those criteria are defined - then if the corresponding computer program embodies the inventive concept, the supply of that computer program in a commercial context should be a directly infringing act. That would include both the program recorded on a carrier and the program when supplied for instance by transmission over a network as a set of signals. That in turn requires that it should be possible to include claims for computer programs, subject to the same tests of patentability as apply to the resultant system. The alternative simply compounds the present lack of clarity about commercial responsibilities.

### **Relationship between patents and copyright**

We are concerned about the apparent effect of the proposed Key Element (ii) which states that

*"Patent protection ... does not extend to the expression of a computer program..."*

If a patent is granted based on an invention embodied in a computer program, then if the program is copied, the appropriate acts of reproduction, installation and use of the resultant copy will infringe both the copyright in the original program and the patent. If on the other hand the expression of the program is not copied and instead an independent program is devised which falls within the claims of the patent then there will be infringement of the patent but not of the copyright. Both these necessary results already flow automatically from the positive statements in the paper about what is patentable and the normal rule that copyright protects the expression not the underlying ideas and principles. The negative statement in this key element is not necessary and simply confuses the issue since it appears to rule out patent infringement in the case of a program which copies the expression of a patented program. We believe this key element should not be included in the eventual directive.

The crucial point is that patent and copyright protection are, in the words of the paper, complementary, since they apply to different aspects of the program. Hence both forms of protection may apply to the same program. We are pleased to see that this principle appears to be confirmed in the comments on this section, and we believe that they could form the basis for a helpful recital in the eventual directive.

### **Business methods**

The consultation paper proposes a solution based on a requirement for a technical solution to a technical problem. The consequence is that, as set out in the proposed Key Element (v), business methods where the advance is in the business steps would not be patentable. This is not a solution which represents the consensus of our members. We have a diversity of views.

One view among **our members would hold that the boundary is drawn correctly in the** consultation paper. According to this view, investment in research of a technical kind warrants the incentive of patent protection, but developments of a purely business nature, even if implemented by computer, do not because they lack the consideration of disclosure of a technical advance and implementation which has always been the quid pro quo for the grant of patents. Extending patents beyond the field of technology into the field of

pure commerce would be an unjustifiably broad step which would hinder the adoption of e-commerce without any matching benefit to society.

Another view is that inventions should be protectable by patents if they embody a technical solution when taken as a whole. When assessing inventive step the invention should not be dissected into technical and non-technical features. If a company invests in the development of a new computer program, and the program is novel and inventive, it would be artificial to permit patenting for one type of novelty but not another. The argument that a patent is justified as an incentive for investing in the development of a product is as sound when the novelty is in the business steps that the program carries out as it is when the novelty is in any other feature of the program.

The third view is that there is no reason to restrict the patenting of **business methods** to a technological environment, and if they meet the criteria of novelty and nonobviousness they should always be patentable.

We are all agreed that no patent should be granted for the mere transfer of an existing business method to a computer system, because that clearly does not involve an inventive step under any criteria. It is important that patent offices should be robust in rejecting applications in such cases.

### *IMPACT OF HARMONISATION*

*What would be the impact of the preferred option on..*

*innovation in software and underlying knowledge and techniques; the ability of SMEs to enter the market for innovative software tools and services and the market of innovative applications of software;*

*the creation and dissemination of free/open source software; the position of the European software industry in global competition; and the general development of the Information Society?*

### **Preliminary points**

Some characterisations we have seen about the current consultation treat the subject as being whether software should be subject to patents at all. Thus it has been said by one organisation that "the European Patent Office is proposing to allow the patenting of software". That seriously misrepresents the situation, but is a fairly widespread view which misleads some individual programmers and small software companies into **believing that the** debate is about whether those who write software should, or should not, be entirely free to ignore patents and their effect on the customers who install and run their software. They believe they are defending a position where software is, or can be, a **patent-free enclave**.

The current situation is, of course, entirely different. All software developers are already operating in a world where patents can impinge on their operations. Thus many patents have been granted for decades on, for instance, data compression and communications techniques involving encryption. These are well recognised subjects for patenting and cannot be open to challenge. The traditional subject of such a patent will be the complete system, or a process involving its use. However, while the system might be implemented wholly in hardware, it will frequently - this is merely an implementation choice - have the patented characteristics purely because of the computer program that controls its operations, which will have been developed and supplied for the express purpose of causing the system to operate in the desired manner. The customer will be the direct infringer, because he creates the infringing system by installing and running the software, but the supplier of the program will have a liability as a contributory infringer. Therefore, software suppliers are already exposed to the possibility that what they do may lead them into questions of patent infringement, and it is far better that they should realise that fact than believe that patents are

something they can ignore. Then they can move on to understanding the opportunities as well as the exposures that the patent system offers them. One of the most damaging effects of the current specific exclusion for computer programs is the lack of clarity it engenders about the current position.

It is essentially small European companies who suffer under the present confusion. Large European companies understand the current possibilities and exploit them. Foreign companies, especially from the United States, come from an environment where the expectations are in any event different, and they too are active in acquiring software-based patents. The only ones not to take advantage of the present possibilities are the small companies who think that "software is not patentable". Therefore part of our preferred option is the deletion of the present exclusion for computer programs as such. We note that member states did not feel the time was right to support this step at the recent Diplomatic Conference to revise the EPC, but we welcome the decision in the final Conference Resolution MR/22/00 e to make it a priority to prepare for a further Diplomatic Conference that would address the matter in the light of the consultations now taking place.

We have been disturbed by the public comment from some quarters which welcomed the reluctance of the EPC member states to remove the exclusion for computer programs as such at this stage and treated it as a decision on the merits of the issue. These same quarters publicly suggest that many existing software-based patents are wrongly or even fraudulently granted and apparently seek to put their validity into question. Many of the existing software-based patents are granted to innovative European-based companies active in the telecommunications and professional and consumer electronics fields. There must be no room for doubt that the fruits of their research and development activities - past as well as present - will continue to enjoy the intellectual property protection they have shown, by their patenting activities, they **need**. Otherwise their chances of technical leadership on a global scale will be put at risk..

## **Questions in the paper**

### **Innovation in software and underlying *knowledge and* techniques**

Innovation in new products requires investment, and that investment can only be justified if it is likely to lead to a commercial return. It is true that computer programs already have a measure of protection in copyright, but, as is well recognised, copyright is limited to protecting a program against being copied. The protection a patent gives extends to preventing others producing (or, rather, exploiting commercially) a program implementing the same functionality but otherwise written independently. We believe that this greater extent of protection is a correspondingly greater incentive for investment in innovation and the introduction of that innovation into the market.

We believe that the justification for patent protection is no less in this field of research and development than in any other. It is sometimes suggested that one special characteristic of software development is that it is "incremental" and that consequently patents are inappropriate to it. We do not think that the ratio of major departures to small improvements is essentially different in this field from any other. There are always more of the latter than the former and the fact that some people are not inventive does not mean we should not encourage those who are.

One of the benefits of the patent system is that it requires inventions to be described in a way allowing others to understand how to carry them out. Therefore patents inherently further the object of wide dissemination of the underlying knowledge. In this respect patents are a better form of intellectual property protection for computer programs than copyright. It is a paradox of copyright protection for programs that the normal proprietary computer program is distributed in object-code form, which cloaks the very expression the copyright is designed to protect and therefore withholds knowledge of how the program functions.

It is significant that those of our members who are familiar with the patent system from their hardware activities have no doubt about the advantages of patents for all their activities, including the development of software.

*The ability of SMEs to enter the market for innovative software tools and services and the market of innovative applications of software*

We do not consider there is any significant difference, **for the purposes of this** consultation, between software products of one kind or another, be they tools, applications or (a category not mentioned in the question) system software.

We believe the advantages to SMEs who produce innovative software of a ready availability of patents are if anything greater than they are for a large company. While the opposite view is sometimes expressed, the arguments against are in reality no different from those not infrequently heard from SMEs in any other field who are unfamiliar with the opportunities patents offer them. Our reasons for believing that patents offer advantages to small SMEs include the following.

- Large companies developing and launching a new product can fund the

investment required from their existing business. A small company or start-up is much more dependent on outside finance. The investment required is, of course, much greater than that merely required for the research and development activity. It is also required to cover the launching of the product and – especially for a start-up - the establishment of the entire marketing, support and distribution infrastructure. All these are necessary if the general economy is to benefit from the greatest possible availability of innovative new products, and that, we believe, is the essential object of this entire consultation.

A patent helps attract investment in two ways. First, it **forms a separate, clearly** identifiable asset that helps justify the investment. Secondly, it gives the investor added confidence in the viability of the business. Finance will be available to a new company or start-up only if the investor, normally a venture capitalist, evaluates the risks involved and decides on balance that the chance of adequate returns outweighs the chance that the business will fail and he will lose his investment. Success is never guaranteed, and venture capitalists are always looking for factors that limit their exposure. They are therefore encouraged when the new business has patent protection, because the rights it gives provide a better barrier against **competition which might sink the new business than does** copyright. Those of our members who have **been involved in spinning off** businesses with innovative software products are only too aware of how important investors consider patent protection to be for the products concerned.

A patent may be the only weapon a small company possesses that prevents a large company from marching into its territory. Without the small company's patent protection, the large company may well be prepared to invest in developing a competing product that has the same functionality but does not infringe the copyright in the original program. That this is a real danger is shown by the way we have seen successive versions of widely used operating systems absorbing more and more functionality that had previously been provided by separate add-ons from small companies.

**If, rather than** aiming for exclusivity, the small company chooses to exploit its patent by licensing, the economics are all on its side, because the scale of activity of the large company means that the returns to the small company from licensing are much greater than they would be if the licence was granted by the large company to the small. Fears are sometimes expressed that small companies cannot enforce patents against the resources of large companies. In our experience, large companies will subject the patent to

rigorous scrutiny but once convinced it embodies a genuine invention will be prepared to respect it. In fact, there is a well-recognised advantage to being the first large company prepared to take a licence, because the patent at that stage is still untested and the company may well get more favourable terms than would be available once the patent has the added credibility of a licence from a substantial company. That in turn can give the small company added resources to enforce the patent against other.

### *The creation and dissemination of free/open source software*

We are certainly not opposed to free and open-source software, and our members are themselves producers of such software. But it is a part only of the overall software market and on no realistic model could it ever entirely replace revenue-earning software - indeed, it frequently presupposes the existence of both additional proprietary software which works in conjunction with it and a prior product for which it sets out to provide an alternative. We must be careful to avoid choosing a solution purely because of its perceived effects on this one section of the market, however much it may be worth encouraging.

Provided the product is innovative, the developer of free or open-source software would be able to obtain a patent and make use of it as an additional intellectual property right. The patent could be included in the licence for the product, giving added force to the licence terms that enforce the open nature of the software. And it can be used in the same way as is often done for open standards in the electronics field, where those proposing the standard grant licences for compliant products under their own essential patents underlying the standard that are free of charge but are on the condition that licensees and their affiliates grant a reciprocal free licence under any of their own patents that may be essential to the standard. That has the dual advantage of helping keep the standard free of third-party problems and channelling development into compliant products, thus discouraging the development of noncompliant variants.

If one assumes that the sole object of open-source software is to replicate the functionality of an already existing product, then it cannot be denied that the possibility that the prior product was subject to a patent would be an impediment to the release of the software. We cannot say it would be a complete barrier, because we do not know what considerations might apply when the time came which might lead to the grant of acceptable licences. But we must not assume that the prior product would be some dominant program that deserves to be faced by an open alternative. It might be the sole product of a small company, who would see its crown jewels snatched away from it because it would be much less likely to survive the competitive threat of an open alternative. It cannot be right to withhold an intellectual property right from an entire industry to meet objectives that apply to one **particular section, and then under** one hypothesis about the market situation that is in any case better seen as a competition-law issue.

### *General development of the Information Society*

Many innovative European companies seek to operate on a global scale. We believe that it is very much in the interests of the European economy to foster this development. Differences in the level of intellectual property protection in different territories cause difficulties for these companies and the European Union can best help them by encouraging global harmonisation. If other countries can be persuaded to adopt the European solution, so much the better. But the patent protection given in the United States to software is so well established that in all reality it is unlikely to be possible for the European Union to achieve a reduction in the level of that protection. Therefore, if Europe decides on a lesser level of protection it will cause its industry to be faced with a patent barrier to entering the US market. We believe that the best help Europe can give its industry is to take the opposite course and ensure that in their home territories European companies have the ability to build up their own intellectual property protection for **their software-based inventions, both to enhance** their position in their home markets and to give them bargaining power in seeking access to the foreign territories.

We are seeking the best solution for all those sections of the European industry that develop software, both the conventional software businesses and those who produce electronic products with software at their heart. If we believe that the **future for these** sections is merely to produce non-innovative products that replicate the functionality of products from other countries, and in particular the United States, then it might well be that they would be better served by a regime where there would be no patents that could affect their products. That would make copying easier. Such a regime does not exist at present, of course, because as we have pointed out many patents that exist at present may be infringed directly and indirectly by the supply and installation of a computer program. It could only be achieved by extinguishing existing protection, which would constitute an unacceptable expropriation of existing rights.

But we are not so pessimistic. We believe that the European **software-developing** industry is innovative and would be best served by giving it a strong intellectual property backing. That is the best way to help it flourish and ensure that European influences play their full part in the development of the Information Society.

11 December 2000

## **Financial Law Panel**

### **PATENT OFFICE CONSULTATION ON PATENTING OF BUSINESS METHODS AND SOFTWARE**

I hope that the consultation process by the Patent Office has been successful and that you have been able to submit a suitable response to the European Commission on the matter. Might we be able to have a copy of the response? I was also wondering if it might be possible for you to keep us updated on developments in this matter; as you can imagine, the City is slowly becoming more aware of this very pressing issue.

With best wishes for this New Year.

Dear Peter,

I attach our response to the Patent Office Consultation; I am also sending you the response by post.

Kind regards,

Leonard NG

Dear Mr Hayward

### **PATENT OFFICE BUSINESSES AND SOFTWARE - PATENT OFFICE CONSULTATION**

You approached us a few weeks ago to voice your concern that the City might not be aware of some of the commercial ramifications of possible changes to the patenting regime in Europe.

We have spoken to some of our sponsors with a view to determining first, the level of awareness of the issues, and secondly, the views of those who are aware of the issues.

From informal and formal discussions held, it seems clear that, although the issues are well known, at a technical level, comparatively little attention has yet been paid to the commercial ramifications of the matter. However, among those who are aware of the issues, there is a strong feeling that the widening of the patents regime to include, in particular, business methods, would have an adverse effect on competition, innovation and the dynamic nature of the City. It would also probably generate excessive litigation and lead to the defensive filing of patents, which raises costs and leads to inefficiency.

Given the tight timetable, there has not been any opportunity for a detailed or deep analysis of the issues by the City. However, the message that we feel the UK Patent Office should send to the European Commission is that, from the perspective of the City, the patenting of business methods and software is highly undesirable.

Please let us know if you would like us to pursue the matter further in the New Year while the Commission considers the responses from the Member States.

Kind regards.

Yours sincerely

COLIN BAMFORD  
Chief Executive

**Fryer Chandler & Company**

Dear Mr Watson

Thank you for your letter of the 23<sup>rd</sup> of November. We think Patent should be extended to business methods to encourage people to consider different and better ways of using the continually increasing technology available.

# **GE Global Exchange Service**

## **The Patentability of Computer-Implemented Inventions**

### Position Paper

as a response to the Consultation Process of the  
UK Patent Office  
entitled:  
“Should Patents be granted for Computer Software  
or ways of doing business?”

### ***Foreword***

This Position Paper -structured on the basis of the Consultation Paper issued by the Commission of the European Communities- is being submitted to the UK Patent Office by GE Global eXchange Services, a business of GE Information Services S.A., whose registered address is 19, Avenue Léon Gambetta, 92120 Montrouge, France.

Should the UK Patent Office wish to discuss further any aspect of the present submission, which is not intended to be confidential, we would gladly welcome its feedback; in the meantime we are at complete disposal for any further detail.

*Catherine Horrigan - Massimiliano Gorret (GE Global eXchange Services, Legal Department-EMEA)*

### ***Introduction***

The General Electric Company currently employs about 82,000 people in Europe, in a number of businesses present in more than 75 locations. All of our businesses -small, medium and large- increasingly rely on computer-implemented innovations. Consequently, the issue of an appropriate protection for such innovations is of paramount importance.

We therefore welcome the consultation launched by the UK Patent Office with a view to defining the scope and contents of a legislative action to harmonise and increase the transparency of the patentability criteria for computer-implemented inventions in Europe.

### ***The need for harmonisation***

We share the Commission's view that the differences in the interpretation of the various European patent laws, necessitate some form of harmonisation. The differences can be seen in the widely diverging practices of the various patent offices in Europe, and the discrepancies in court decisions. Such inconsistencies render it difficult to obtain appropriate patent protection for innovators in general. This difficulty is most felt by small and medium size companies who do not always have access to the excessively complex legal advice imposed by the current situation.

### ***The scope of harmonisation***

We believe that the elements contained in the consultation paper generally provide the appropriate basis for the needed harmonisation. They are consistent with the general criteria applicable to determine the patentability of any invention and fully meet the requirements of the TRIPS agreement.

Nothing would justify a more restrictive approach, which would discriminate against the particular type of invention referred to as "computer-implemented". In such a field, designers have two choices: either implementing a special purpose machine or other instrumentality to perform a particular task, or programming a general purpose computer to perform the same task. We see no justification to treat one type of innovation differently from the other.

In the same way, we do not support a more liberal approach. Namely, the lifting of the traditional requirement of a technical effect or contribution. The absence of such requirements would result in the possible granting of patents on purely theoretical concepts.

Therefore, a balanced approach regarding the patentability of computer-implemented innovations is required, i.e. allowing patents for computer-implemented innovations which demonstrate a technical effect.

### ***The impact of the preferred approach***

#### *a) on innovation in software and underlying knowledge and techniques*

In software applications, as in any other field of business, a sustained level of innovation requires some form of protection for the innovators. The patent system has, for more than a hundred years, provided the most adequate form of protection for innovations in all fields of technology. One major advantage of the patent system, is that while it rewards the innovator for what he has contributed to the society's welfare, it ensures that the knowledge and techniques at the basis of the innovation, are made publicly available. Once publicly disclosed further research can be conducted towards greater innovations. In fact, this reward for public disclosure is sometimes presented as the very reason for the patent system's existence. The approach retained by the Commission in the consultation paper ensures that the mentioned benefits will also accrue in the field of computer-implemented inventions.

#### *b) on the ability of SMEs to enter the market of innovative software tools and services and the market of innovative applications of software*

On this point we fully subscribe to the conclusions of the independent study conducted by the Intellectual Property Institute upon request of the Commission. Possession of intellectual property rights in general, and more particularly patents, helps independent developers and SMEs to raise finance to develop and market their innovations. In addition, it empowers SMEs when entering a field where major players are active (cf. study report, section I, page 2, last paragraph). In that context, the need for a clear and consistent approach to the issue of patentability is even stronger for SMEs as the expert advice which large companies have, SMEs often do not have at their disposal. The balanced approach proposed by the Commission, which we support, is of particular interest to SMEs as a more restrictive approach might prevent them from getting access to the protection they need, while a more liberal approach might expose them to a flood of patents of excessively broad and ill-defined scope.

It should be added here that the excessive costs currently incurred when obtaining European patents and the difficulties encountered in their consistent and predictable enforcement, are other major obstacles for SMEs. In this respect, the Commission's proposal for a Community patent is a quite welcome step forward, as are the other current efforts to reduce translation and to establish a common European patent court.

#### *c) on the creation and dissemination of free/open source software*

Open source software is a business model in which software developers make the source code of their programs available to others, generally against an undertaking of reciprocity. By doing so, they obtain the advantage of a very fast and effective dissemination and enhancement of their software platforms. Due to different market and competitive environments, other developers rely on a business model which is based on a proprietary rights. Both business models are perfectly legitimate and every player needs to be able to use one or the other depending on the particular circumstances at a given time. In both models, however, there is no reason whatsoever why a player should be allowed to use other players' innovations free of charge. In that respect, open source software developers are in exactly the same position as proprietary software developers; neither are authorised to exploit patented innovations of others without permission.

*d) on the position of the European software industry in global competition*

The European software industry has been suffering from the legal uncertainties surrounding the patentability of computer-implemented inventions. Unless a strong effort is made towards a clearer and more consistent definition of the criteria for their patentability, the current trends are likely to augment and the gap between Europe and its major business partners to widen. The problem, however, is not limited to the software industry in the strict sense. All industries suffer from the same lack of understanding of the exact status of computer-implemented inventions. In many of our businesses in Europe, we find that engineers refrain from disclosing their software related innovations because they have been taught that such innovations were not eligible to patent protection. On this point too, we share the view expressed in the independent study that the deletion of the outdated exclusion of "computer programs as such" in Art. 52 (2) and (3) of the European Patent Convention would be a major step towards a more transparent system, consistent with the proposal made by the Commission.

*e) on the general development of the information society*

There are two aspects in the relationship between software developments and the information society. Firstly, continued innovation in software applications is an essential condition for the further development of the information society. As already discussed above, a sustained level of innovation can only be achieved if patent protection is available for the relevant innovations. Secondly, computer-implemented innovations in many fields of technology are more and more often distributed through telecommunications networks, such as the Internet. If innovators cannot rely on intellectual property rights, particularly on patent rights, to prevent their innovations from being pirated, it is quite likely that the electronic commerce in software goods and services will be severely limited. The approach proposed by the consultation paper, which we support, strikes the right balance between the need to offer sufficient protection for true innovations (i.e., those that embody an inventive step) and the necessary freedom to make use of ideas and concepts that lack the inventive step, for developing further the information society knowledge and techniques.

***Additional comments on the Commission's approach***

*1. With respect to section ii. of the consultation paper "The complementary nature of patent and copyright protection"*

While we share the Commission's view that the literary aspects of a computer program (the "expression" of the program) must be carefully distinguished from the technical aspects of the corresponding computer-implemented invention, we would like to point out that it is not quite appropriate to express the distinction as "Patent protection for a computer-implemented invention does not extend to the expression of a computer program based on that invention ..." Any computer program, meeting all the features or steps of a validly patentable computer-implemented invention, as claimed, comes within the protection afforded by the patent,

whatever the particular form of expression retained for the program code. The explanatory comments make this point fairly clear. We believe that section ii. should preferably state that the literary aspects of a computer program cannot provide the basis for a patent infringement claim. Claims of infringement based on copying the expression of the program should be treated under the copyright law. This is the same concept as for aesthetic aspects of products, which cannot be the subject of a valid patent claim but must be treated under the industrial design law.

*2. With respect to section vi. of the consultation paper "The possible claims"*

The list of possible claims in this section is unduly restrictive. In particular, it should be possible to claim a computer-implemented invention as a computer program intended for use in conjunction with a computer, whether it is recorded on a tangible medium, such as a floppy disk, a CDROM or any other form of storage medium, or as available for downloading from a telecommunications network. Restricting the possible product claim to the programmed computer would in many cases deprive the patent of any value. Often it is only the end user who performs the actual combination of the software with the hardware, the latter coming from a different source. Requiring the inventor to claim the computer-implemented invention only as the general purpose computer as programmed would mean that the inventor would have recourse only against end users. As such the true infringer, the supplier of the software product, would avoid responsibility. This issue is a major requirement for an efficient protection, which the EPO Board of Appeal has recognised in the Computer program I and II cases.

## **IBM Europe**

IBM Europe has responded to the European Commission's initiative to solicit the views of interested parties with respect to the patentability of computer-implemented inventions. We understand that representatives of all EU Member States will meet with the Commission on 21 December to discuss Member State positions with respect to the Commission's consultation document.

As a key player in the IT industry in Europe and elsewhere and a leader in innovation, research and development in the IT industry, IBM takes a keen interest in the patentability of computer-implemented inventions. We welcome the Commission's intention to issue a directive harmonising national laws in this area.

We believe that harmonisation within Europe should proceed in a manner consistent with the European Patent Convention and with the international obligations imposed by the TRIPS Agreement. IBM believes that the interests of industry (both within the ICT sector and in other sectors such as the automotive and services sectors which increasingly rely on computer-implemented inventions to enhance their competitive position) are best served if harmonisation would occur along lines which endorse the current practice and case law of the European Patent Office. We oppose either a more restrictive or a more liberal approach to patenting.

IBM Europe Response to the Services of the Directorate General for the Internal Market The Patentability of Computer-Implemented Inventions Consultation Paper of 19.10.2000

### **Executive Summary**

The consultation paper is structured to include a number of elements (i) to (vii) with associated comments on patentability of computer-implemented inventions and invites a response to two issues. The first issue is whether harmonisation should proceed on the basis of the elements (i) to (vii), or whether it should take a more restrictive approach, or whether it should take a more liberal approach. The second issue is the impact that harmonisation would have.

Harmonisation of national patent laws must proceed in a manner consistent with the European Patent Convention and with the international obligations imposed by the TRIPS Agreement. IBM believes **harmonisation should occur along lines which endorse the current practice and case law of the European Patent Office**. We oppose either a more restrictive or a more liberal approach to patenting.

In regard to the impact of harmonisation this approach would, Have a **positive impact on innovation in software and underlying knowledge and techniques because it would provide more certainty** as to the standards and practices in granting and evaluating patents. Endorse the present practice of the European Patent Office and consequently **avoid any dramatic change in the extent of patentable subject matter**. Improve the position of the European software industry because it would **provide clarity** in this specialist subject. **Contribute to the clear legal framework** needed to support the policy measures being taken in relation to the Information Society. **Give SME's more encouragement to obtain patents** because they would find it easier to apply for them if the law on patents was harmonised and capable of a clear unambiguous explanation regarding patentability.

### **Introduction**

IBM has research and development laboratories located in Europe and elsewhere working in all areas of information technology and making a major contribution to technology leadership. **Over 90,000 people in the European region are employed by IBM.**

**IBM is a leading participant and strong supporter of open source software in Europe** and elsewhere. IBM will invest more than \$200 million in a series of Linux initiatives in Europe over the next four years. These investments will include Linux development centres across Europe, alliances with Linux-focused business partners, along with the rapid deployment of about 600 specialised Linux consultants, hardware and software specialists, and services professionals. We have opened a series of European development centres to help Independent Software Vendors transition their applications to an industrial strength Linux environment. These centres are located in Paris and Montpellier in France; Greenock and Hursley in the UK; Boeblingen in Germany; Warsaw in Poland; and Budapest in Hungary.

**IBM has laboratories in Europe located in Boeblingen (Germany), Hursley (UK) and Zurich (Switzerland) employing 3300 research and development personnel and is a major manufacturing employer with over 10300 manufacturing employees.** Boeblingen has made numerous contributions to the software industry from operating system software to software enabling workflow and videostreaming, data mining and pervasive computing. Specific business solutions include digital library solutions, speech recognition, banking applications, postal solutions and data management software. Hursley has expertise in business integration and very high volume transaction processing. The product and solutions set produced at Hursley combine to form the engine that enables e-business. Hursley software products run much of the global business for many of the leading corporations and financial institutions in the world, providing the end-to-end integration of business processes such as airline ticket processing and cash-point processing. The Zurich laboratory is involved in more than 80 joint projects with universities across Europe and in more than 30 co-operation agreements with research institutes and industrial partners. Zurich focuses on communication devices and subsystems and in particular on technologies and software aimed at the market for mobile networks, as well as applied computer science in e-business and pervasive computing solutions with a strong IT security component such as smart card technology.

IBM is particularly well placed to assist in the consultation exercise concerning the patentability of computer-implemented inventions.

### **Harmonisation Should be Based on Current Practice of the European Patent Office**

The consultation paper calls for input on the scope of harmonisation and in particular whether harmonisation should be based on the elements (i) to (vii) contained in the consultation paper or whether either a more restrictive or a more liberal approach should be adopted. For the reasons given below, **IBM urges that harmonisation be based on the current practice of the European Patent Office.**

We note that the elements (i) to (vii) are each supported by a respective explanatory commentary with a substantial number of references listed in Annexe II. The elements (i) to (vii) and their commentaries come close to stating the current practice of the European Patent Office but can be interpreted to mean something different. For the avoidance of doubt, we are able to support harmonisation based on the elements (i) to (vii) only to the extent that they accord with current European Patent Office practice. We find support for our view in element (vii) suggesting that the procedural and substantive legal rules of European patent laws would remain the essential basis for protection of computer-implemented inventions.

IBM's view is that the elements (i) to (vii) should be interpreted so that In the commentary to element (i), if a patentable invention is implemented as a program which has a technical character, it is not "a computer program as such". In element (ii), if a computer program implementing a patented invention is copied, then

this will be an infringement of both copyright AND the patents that cover the program, irrespective of whether it is in source code, object code or any other form. In element (iii), the terms “technical character” and “technical effect” must be used as a basis for determining patentable subject matter, it is not appropriate to artificially split the invention as claimed into technical and non-technical elements. In element (iv), technical considerations should include the knowledge of not only hardware functions but also software engineering. In element (vi), a computer-implemented invention may be claimed as a computer program if it provides the same technical effect as the programmed computer or the process. IBM regards the present consultation exercise as a preliminary to drafting a proposed text of a harmonisation directive. If the elements (i) to (vii) or an adaptation of them were to be used as the text of this proposal we would wish to reserve further comment on the precise wording until the proposal itself is available. We welcome this Community initiative because we accept the arguments in the consultation paper that harmonisation of patent laws is necessary for the reasons advanced by the Commission.

We also note that over 20,000 patents have been granted for technical inventions implemented by a computer program within the present wording of the exclusions in Article 52 of the European Patent Convention. The field of application of such inventions spans an enormous range of products and processes in the fields of communications technology, information technology, broadcasting, industrial processes, traffic management, transport, domestic appliances and so on. IBM itself has a large investment in patents covering inventions implemented by computer programs commensurate with the research and development carried out by IBM both within Europe and globally.

IBM has been a strong and enthusiastic supporter of the European Patent Convention from its very first inception. IBM has contributed to the guidelines developed by the European Patent Office and has helped to make case law. We therefore make our response on the basis of substantial experience in the process of obtaining the grant of patents and the assessment of the grounds on which patentability should be judged within the scope of the European Patent Convention as it is presently interpreted. In our experience, from a practical point of view, the boundary between what is patentable and what is unpatentable, as indicated by the current case law and practice of the European Patent Office, can be judged with satisfactory precision. We acknowledge that there will always be difficult borderline cases but that is a comment that can equally be applied to other areas of patent law such as the level of invention required to support a patent or the interpretation of claim scope in relation to an alleged infringement.

### ***More restrictive conditions would disincent software-based innovation in Europe***

As a practical matter harmonisation of national patent laws must proceed in a manner consistent with the European Patent Convention (whether amended in respect of Article 52 or not) and with the international obligations imposed by the TRIPS Agreement. The options for harmonisation based on a more restrictive approach appear to us therefore to be entirely undesirable. A more restrictive approach could undermine confidence in patents already applied for in good faith and granted by the European Patent Office and would discriminate with no good reason against inventions in the multifarious fields of technology to which we have already pointed above. The patenting of technology provides a boost to innovation by reason of the confidence it engenders in making the investment in these areas. Patents provide a vehicle for the marketing and cross licensing of technology so as to drive forward the supply to the end user of products and services that best meet the needs of the marketplace. The licence exchanges that presently occur in the information technology industry rely on patents to make the exchange of technology possible. Patents provide a platform to promote the adoption of new technology. To take a more restrictive approach to patenting would consequently have a negative effect on innovation and on the supply of technology to the marketplace to the disadvantage of the European economy.

Technology that incorporates computer programs to make it cost effective and practicable is no different in essentials from automation technology that relies on a more traditional implementation such as a mechanical control. There is no difference in principle between using mechanically operated electrical switches to automate a machine to step through a sequence of operations as compared to programming a microprocessor to step through the same sequence of operations. On the basis of long established practice, the mechanically operated switch implementation would be patentable without question (if new and inventive). The technical effect produced by a computer program implementation of an invention may be indistinguishable from that produced by the mechanical equivalent. We have already mentioned the vast range of product areas that depend on computer programs for implementation. Computer programs find their way into the control and automation of almost all sophisticated products and processes because of the adaptability of microprocessors and the flexibility of computer programs. Patents abound in all areas of technology regardless of whether the technology is implemented using computer programs or not. Innovation in technology cannot be differentiated on the basis of whether computer programs form part of the invention. To adopt a more restrictive approach to patenting would prove a disincentive to innovation in almost all fields of technology to the detriment of research and development in Europe.

### *More liberal conditions would extend patentability beyond its useful bounds*

IBM believes it would be inappropriate to introduce more liberal conditions coming closer to the practice in the United States particularly in relation to the patenting of business methods. As correctly stated in the consultation paper, in the US an invention needs no technological contribution; it must merely provide a useful, concrete and tangible result. We argue that to require no more than a "useful, concrete and tangible result" in the broad sense currently being applied in the USA invites the patenting of ideas that may have been visualised as desirable but have no foundation in terms of the research or development to turn them into practical reality. IBM spends very substantial sums to develop products for the marketplace and must ensure the supply of products that are reliable, cost effective and meet the needs of the customer. In common with the vast bulk of the information technology industry we seek to transfer technology into the hands of the customer without restriction, and accomplish this through contracts and licences with the other players in the industry.

The quid pro quo in the grant of patents is the disclosure of technology that rests on the research and development activity generating the inventions. The rationale that applies for protecting technological innovation by patents is therefore absent for those business methods where no such technical contribution is made. It is important that the level of protection granted by a patent is commensurate with the technical contribution the inventor has made to the art. The danger of opening the door to the unrestricted patenting of business methods is that patents may be granted that foreclose business ideas with no requirement to disclose the technology that makes them practicable. Thus, whilst IBM supports the patenting of computer program implemented inventions based on technical innovation, we see no benefit to commercial activity in Europe from the patenting of commerce itself.

The Member States are under no international obligation to broaden the basis of patenting business methods generally and under no obligation to depart from the well established norms of patenting derived from long practice. On the contrary, if it were desired to allow patenting of business methods then the consultation process should go much wider than the software industry itself. The reason is that such patents would affect all areas of commerce and bring all commercial concerns into potential conflict over the ownership and use of methods of doing business. **Harmonisation Will Produce a Positive Impact for Europe**

It will be apparent from what has been said above that the best option is to base harmonisation on endorsement of the current practice of the European Patent Office. IBM would expect issues such as the validity and infringement of patents in national Courts to be decided on the same basis that applies to

granting patents in the European Patent Office. We would also expect national patent offices to apply common standards consistent with the European Patent Office.

The question whether the list of exceptions to patentability in Article 52 of the European Patent Convention is amended or not should not be allowed to deflect from the present practice of the European Patent Office. Claims to a computer program are presently allowable subject to the need to demonstrate a technical effect. That need for a technical effect should stay regardless of any amendment of Article 52.

*Impact on innovation in software and underlying knowledge and techniques*

IBM's recommended option would have a **positive impact on innovation in software and underlying knowledge and techniques because it would provide more certainty as to the standards and practices in granting and evaluating patents**. Since patents amount to commercial tools provided to encourage investment in and deployment of technology, the more certain that decision makers and venture capitalists can be of the investment decisions they have to make the better able they are to come to their decisions. Furthermore, the exclusion of patents to those business methods making no contribution to technology will leave the field clear for those making investments in technological innovation.

The nature of the software industry is such that innovation in software often involves a sequence of improvement steps to existing program products. Only those that are truly novel and inventive justify patent protection and this is typically a small proportion of all the improvement steps. The patents in question may cover individual approaches to providing improved results and are almost invariably overtaken with time as yet further improvements are made. It is important to realise that patents provide a return to the patent holder only in so far as they can be used to stimulate the adoption of the technology that is patented and whilst such technology still remains viable in competition with alternatives. One can expect an individual patent to cover technology that has a window of opportunity for adoption before it is overtaken by newer competing technology. The marketing of proprietary products by the patentee is one option to gain acceptance of a technology as it competes with other products. This option taken on its own gives the technology only a limited chance of acceptance. Licensing the technology increases its opportunity for acceptance and therefore its commercial value. IBM has an open patent licensing policy under which we are prepared to licence our patents on a non-discriminatory world-wide basis. Moreover, IBM licences on a royalty-free basis the patents that are necessarily implemented by the use or sale of our open source contributions, a policy that has been endorsed by the Open Source Initiative.

*Impact on the ability of SME's to enter the market for innovative software tools and services and the market for innovative applications of software*

SME's by their very nature are dependent on a smaller base of investment in products and services than the longer established and larger players in the information technology industry. The decisions they make about entry into the market are therefore more critically dependent on the certainty with which they (or their backers, such as venture capitalists) can protect that investment so as to maintain a differentiation between their products and services and those of the competition. Copyright in software is a familiar concept to all in the software industry and is a major vehicle used to support the position of individual SME's against illicit copying and misuse of their products; however, it does not provide protection against the copying of ideas and concepts. We consider that the underlying concepts in the development work carried out by SME's need to be protected in a manner that provides broader scope than is provided by copyright. This protection would be provided by patents and would provide SME's with a means to secure a better chance to have their technology accepted in the face of competition.

**SME's need more encouragement to obtain patents and that they would find it easier to apply for them if the law on patents was harmonised and capable of a clear unambiguous explanation regarding patentability.** It would give SME's a platform on the basis of which to licence out their developments and put them in a better bargaining position to acquire cross-licences from others. We strongly urge harmonisation according to our recommended option so as to provide encouragement to SME's.

*IBM's position will produce no impact on the creation and dissemination of free/open source software*

IBM is a leading participant and strong supporter of open source software in Europe and elsewhere and encourages the development of software under public licences that provide an orderly distribution of software for the general good. The supply of free or open source software is flourishing under the present patent system where technological contributions in the software field can be eligible for the grant of a patent, and IBM sees no reason why the harmonisation of patent law based on current European Patent Office practice should change that. The fact that some software is distributed with source code that is publicly available is however no reason to prevent other software being distributed without public access to the source code. Whether to make the source code available or not should be a matter of vendor choice. It may, as one example, depend on the need to provide expert maintenance of safety critical software by the software supplier.

**The patenting of computer implemented inventions encourages the disclosure of the concepts underlying an invention because all patents are published with a description of the implementation of the invention.** Where code is distributed in object code form, a patent may provide the only public disclosure of the technical concepts underlying the code. Such patents therefore promote a number of the aims of the free or open software community by making these disclosures. The argument whether patents would be a hindrance to the dissemination in Europe of free or open software appears to us to be very questionable given the success of free or open software to date, including in the US where the patent regime is more liberal than in Europe. The benefits of having patents to provide a stimulus to innovation far outweigh any potential (and so far as we know unsubstantiated) hindrance to free or open source software.

IBM recommends endorsing the present practice of the European Patent Office. This would involve no change in the scope of patent claims. The effect of harmonisation would be to provide greater uniformity and certainty in evaluating patent protection and not to bring into protection or remove from protection particular categories of free or open source software. The proponents of free or open source software might regard patents covering computer implemented inventions as generally undesirable for their purposes. However it would require very strong evidence indeed to suggest that progress to the benefit of the whole Community in the important area of software technology should be held back by concerns in this particular segment.

*Granting of software patents will positively impact the position of the European software industry in global competition*

IBM is a global player in the software industry and invests heavily in research and development in Europe as already noted above. IBM also invests heavily in the patent system but is currently faced with the position that patents held in the different countries in Europe are subject to evaluation according to different considerations. We are satisfied with and support the European Patent Office in regard to the practice that has been adopted in granting patents relating to computer implemented inventions. The impact of harmonisation according to our recommendation option would be to rationalise the European practice as a common standard capable of explanation to those who have to make decisions on investment in Europe. It is difficult to defend the fine distinctions between what is patentable and what is not patentable in the different countries of the Community and why there should be any differences in standards between the European Patent Office and the Courts of different jurisdictions. **A harmonised approach would help us and, we**

**believe, others in the European software industry because it would help to remove the complication from this specialist subject.**

*Positive impact on the general development of the Information Society*

IBM is an strong supporter of e-commerce and the important initiatives underway to promote the development of the Information Society in Europe. At a European level IBM participates in the eEurope initiative and at country level IBM participates in a number of individual government e-commerce initiatives. As a major contributor to the digital technologies that underpin the Information Society, we regard the encouragement of investment in those technologies as a major factor in the evolution of the Information Society. Indeed the Information Society is the inevitable result of continued development of the technology that IBM has historically been concerned with. When the Commission launched the eEurope initiative it said that policy needs to reflect the pace of change in technologies and markets and requires affirmative measures to support research and development in key areas. As a natural adjunct to that initiative, a clear harmonised legal framework has to be adopted to support the policy measures. The adoption of IBM's recommended option for harmonisation of patent law in relation to computer implemented inventions would self evidently contribute to that clear legal framework. The balance struck by the European Patent Office in its present practice is the right one in achieving the aims of promoting the Information Society. **IBM believes that to widen the field of patenting so as to encompass e-business methods that provide no technological contribution could lead to patents that would foreclose dissemination of clearly desirable ways to conduct commerce. Apart from the immense disruptive impact of such patents and the practical difficulties of evaluating and enforcing them, they would not be right for the Information Society as a matter of principle.**

## **Conclusion**

Harmonisation should take the form of legislation consistent with the European Patent Convention (whether amended in respect of Article 52 or not) and with the international obligations imposed by the TRIPS Agreement. The options for harmonisation based on a more restrictive approach are entirely undesirable. While IBM supports the patentability of computer program implemented inventions, more liberal conditions coming closer to the practice in the United States particularly in relation to the patenting of business methods should be avoided. The innovation incentive rationale that applies for protecting technological innovation by patents is absent for business methods lacking technological innovation. Consultation on the patenting of business methods should be broadened to include all areas of commerce that may be affected. IBM recommends legislating for harmonisation in a form that amounts to endorsement of the current practice of the European Patent Office.

## ICL Plc

### **Patentability of Computer-Implemented Inventions Consultations Paper by the European Commission Consultation Response of ICL PLC**

**Introduction** We are pleased to present our considered response to the Consultation Paper on the Patentability of Computer-Implemented Inventions. The views expressed in this paper are those of ICL plc (“ICL”). ICL is a global IT services company. It designs, builds and operates information systems and services for customers in the retail, finance, government, telecoms, utilities and travel markets. The company has operations in over 40 countries and employs over 22,500 people. The majority of its operations are located in the United Kingdom and other European Union member states. Transformed from a manufacturer of computers, today ICL improves business performance and competitiveness through services focused on electronic business, enterprise applications and the implementation and outsourcing of IT infrastructure. In the course of its operations ICL generates a number of innovative solutions to technical and commercial problems and assists its customers to do the same. As such ICL believes it is well-placed to comment on the issues surrounding the patentability of computer-implemented inventions with knowledge of the different considerations and interests at stake.

**Structure of Response** ICL’s response addresses firstly some observations concerning software patents generally, then related observations concerning business method patents and finally, in two further sections, its response to the questions posed in the Commission’s paper and the proposed key elements.

**Particular Observations concerning Software**

**Clarity of legal position** The current position creates substantial confusion. There is widespread misunderstanding of the effect of the words “as such” at the end of the exclusion in the current Convention (Arts. 52(2), (3)), such that there is a popular view that software cannot be subject to patent protection. This misunderstanding means that organisations who hold this view or who are advised to this effect both fail to obtain protection for their innovation to the fullest extent that the law permits and risk infringing the rights of third parties through failing to appreciate the range of rights that such parties may have. One collateral benefit of the current consultation exercise is the enhanced level of understanding across a broader range of organisations and their advisers that publicising the issue has created, although the effect of this publicity will diminish over time.

**Patents and Copyright** Different aspects protected There is a view that copyright is a sufficient and adequate means of protection for software programs. We do not agree with this view, nor the view that copyright, arising automatically and hence requiring no expenditure to secure, offers better value for money in terms of protection than patents. There is a misconception that patents are prohibitively expensive to secure; our view is that the typical cost of obtaining a patent at a few thousand pounds represents a fraction of the other development and marketing costs associated with bringing a software product to market. There is similarly a view that defending a patent in litigation is expensive; it cannot be denied that to maintain an action up to and beyond a full trial at first instance can entail a matter of hundreds of thousands of pounds, but this can be said of many commercial actions and certainly copyright actions are not notably cheaper to maintain than any other commercial action. Furthermore while the view that copyright protects the expression of an idea but not the idea itself is somewhat of an over-simplification, it is generally true that copyright is apt for protecting the expression of an idea in a computer program - it protects the code and preparatory materials in a piece of software. What it does not do is to protect the underlying solution to the problem that the software was created to fix. For example, in the case of the much debated US patent granted to Amazon in respect of its one-click on-line purchasing scheme, copyright alone would not have protected this scheme since it would be possible to emulate the effect of the scheme without reproducing any of the particular expression of the scheme as found in the programming code giving effect to the scheme nor the visual representation of the scheme as set out on the screen. By contrast, granting a patent in relation to an invention confers on the holder of the relevant patent the ability to prevent the underlying idea being exploited by third parties without his consent. (It is acknowledged that the Amazon patent is criticised as being insufficiently novel and non-obvious, and we refer below to the requirement for rigorous examination of patents, but it is referred to here as a well-known patent which well illustrates the different level of protection conferred by

the different regimes.) We refer below in a separate context to the additional protection that a patent gives as compared with copyright. Different types of protection The protection afforded by copyright is in essence a right to prevent copying – no infringement is created by independent production of the same material. A patent by contrast permits the right-holder to control or prevent the reproduction of the same product or process even if the reproduction is unwitting. There are well-rehearsed reasons why the level of protection afforded is different in each case; it suffices to state that the different level of protection given to patentees does enable them to operate in a particular market in the confidence that the fruits of their innovation cannot be eroded by latecomers to the market simply emulating their innovation. We are of the view, therefore, that in order to confer on innovators the protection that intellectual property rights confer in respect of all of their range of innovations, it is necessary to accord patent protection on computer software, provided that the general requirements for patentability are satisfied. TRIPs Agreement The provisions of the TRIPs agreement should be taken into account in determining the outcome of this consultation. The Agreement stipulates that patent protection should be conferred on all inventions, regardless of the technology in which they manifest themselves. It is our view that this mandates that software should benefit from patent protection and further that business methods, where there is a technical effect, should also be capable of patent protection. The disadvantage of not giving this protection is that the EU will not be able to comply with TRIPs and the message that this will send to other would-be signatory states would be that the EU does not regard compliance with TRIPs as part of its overall strategy for intellectual property recognition. We fear that this would have negative connotations both in the IT industry and more broadly. SMEs Much is made of the requirements of SMEs in relation to this debate and indeed it is to be recognised that theirs is a substantial contribution to the generation of innovation and indeed prosperity in the EU economies. Nonetheless the importance to the EU economies in terms of innovation, wealth creation and the provision of employment of larger enterprises should not be overlooked and ICL trusts that the views of larger enterprises such as itself will be attributed commensurate weight. We believe that for the many SMEs operating in the software industry, the option for them to obtain patent protection confers on them an important and valuable asset. Especially when such enterprises are looking for external finance - typically venture capital - the possession of relevant patents for their principal products would enable them to demonstrate to the investor that the position they occupy in their market is not one that can be eroded by competitors' simply copying their product; the patent of course confers on them a market position which is proof even against independent development of the same idea. A further benefit of the patent to the SME is that it acts as a leveller in the competitive playing field. Without the benefit of protection the SME is vulnerable to large organisations and their ability to achieve by marketing expenditure and leverage in their market a market position that their innovation may not merit. With the protection the SME may prevent this from happening – or enter into a negotiation with a larger company for their exploitation of the SME's innovation, on a balanced basis. Other Industries' Use of Software It should be noted that while the majority of attention has been focussed on the effect of the granting of patents for software upon the information technology industry, in fact software is an all pervasive medium used in many industries as incidental parts of other products; the motor vehicle industry is just one example where the software used in engine management does not correspond to the type of software that is used on a desktop PC. In the case of that industry innovation in engine management systems may manifest itself in traditional "hardware" solutions or in "software", a choice which ought to be driven by technical considerations; we do not believe it would be to the advantage of that industry or its participants to create a position whereby the form of the innovation was determined by the granting of protection in one case and not in the other. There are many other instances where the creation of software is similarly only part of the industry. International Competition While ICL would certainly support the view that the solution the EU adopts should be one which best reflects the requirements of the EU members inter se, it draws attention to the international position. We have referred above to obligations arising out of TRIPs. The commercial position should also be considered in terms of international trade. The US in particular represents the largest source of competition for EU businesses, and their largest market outside the EU. We do not believe that it is to the advantage of European businesses to trade at the disadvantage that would be created where the US companies can protect their

innovations on their domestic markets but freely exploit European invention in the Europeans' domestic market. Examination Some of the patents granted in the United States in respect of software and business methods have been of controversial validity. We do not think that this of itself is a valid reason for denying patent recognition to such inventions; the existing jurisprudence in European states contains a host of cases where, on judicial examination, a patent has been declared invalid in respect of inventions across a range of technologies. It is a necessary and sufficient condition in this regard that as rigorous an examination of applications is undertaken in this field as with inventions in other technologies. It would be unfortunate if perceived shortcomings in the application of patent examination processes in other territories were to determine the underlying legal principles. One important criterion – and perhaps one that could be addressed at the detailed level of implementation – would be that the mere clothing of a known business method with a known, obvious technical effect should be regarded as not having the necessary inventive step to attract patent protection.

**Business Methods Applicability of Considerations Relating to Software** It is ICL's view that many of the considerations identified above demonstrate a cogent case for the availability of patent rights both in connection with software innovations but also in connection with business methods that have a technical basis. Many of the observations presented above have equal applicability in the field of business methods as in the field of software inventions. **Differing Types of Business Method** As an initial proposition ICL distinguishes between (1) business methods that have no technical basis, (2) business methods that have a technical basis but the innovatory step is not technical in nature and (3) business methods where the innovatory step is technical in nature. Some commentators describe both (1) and (2) as "pure" business methods; we believe this is misleading as the difference between these two categories is more distinct than between (2) and (3) or indeed (3) and other technological inventions. "Pure" Business Methods ICL does not support the granting of patents in respect of properly called (category 1) business methods. These inventions, since they have no technical basis, do not amount to an invention in any technology as required by TRIPs. They would amount not to a logical working-out of the patent process, as might be said of the other categories, but rather to an entirely new and radical extension of this process. Technical effect ICL does however support the granting of patents in respect of both category (2) and (3) types of business method patent. As far as category (3) - business methods where there is a technical contribution in the novel part of the invention - we believe that there is little doubt that the TRIPs agreement mandates that these inventions are given the benefit of patent protection. Furthermore if such inventions are expressly excluded from the benefit of patent protection we believe that difficult and controversial questions of characterisation would arise where (as in the Amazon one-click case) an innovation could be regarded as being either a software or a business method innovation (assuming that patent recognition is granted for software; if not, then other issues of characterisation may arise). In relation to category (2), where the technical effect is not necessarily found in the novel part of the invention, but in any part of the invention, we similarly believe that the invention should qualify for patent protection. To distinguish in treatment category (2) and category (3) type innovations would, in our view, entail dissecting the claim into its technical and non-technical parts, and then ignoring the non-technical part for the purposes of assessing whether there has been the necessary inventive step. It is our view that the uncertainty this produces is undesirable and that the claimed invention should be considered as a whole when assessing inventive step. The long-standing practice of the European Patent Office (at least in its decisions prior to the recent pensions case) is to undertake a two stage process; determining whether the patent claim relates to an "invention" within the meaning of the European Patent Convention, which involves considerations of technical effect or technical contribution and then determining whether the invention is obvious, that is whether the invention would as claimed have been obvious to a person skilled in the art, in the light of the prior art. We believe this process represents the most logical approach to the analysis of an invention for patentability.

**Section 1 questions / key elements** Section 1(a) questions In relation to the first set of questions (scope of harmonisation), ICL considers that for the reasons set out in detail below, the first option (harmonisation on

the lines of the key elements) is not entirely desirable. ICL equally does not believe that a more restrictive approach as canvassed by the second bullet point would be desirable, but rather prefers an approach which takes a slightly more liberal view than the first bullet point sets out. We do not believe that the approach adopted by the US authorities is necessarily desirable in every case and therefore does not wholly support the third bullet. Consequently ICL can only respond to the first set of bullet points by making reference to its detailed responses to the key elements, set out below. Section 1(b) questions In relation to the second set of questions (impact of harmonisation), ICL judges that the impact of its preferred option would be as follows:-

### **innovation in software and underlying knowledge and techniques.**

The bargain offered by patent protection, namely the granting of a monopoly in exchange for disclosure of information concerning an invention, and the conferral of protection on qualifying innovations, will incentivise innovators to make investment in research and development of software and thereby increase the level of software development derived from EU active businesses.

### **SMEs' ability to enter the market.**

As indicated above the market position that SMEs can derive from their possession of a patent enables them to compete on a more even footing with larger organisations who can bypass the need for genuine innovation with marketing leverage. Furthermore the availability of protection and of a definitive asset will facilitate the SMEs' access to third party financial investment.

### **Open source software .**

It is notable that in many cases (such as the GNU licence operated by the proprietors of the Linux operating system) the rights conferred by copyright are used by the creators of open source software to control the exploitation and use of such software, thereby ensuring the continued existence of that software and its derivatives as "free and open". We believe that similarly the availability of patent protection (which is optional – once brought to market the software concerned will constitute prior art, precluding subsequent patents from being granted in relation to it) will not operate so as to restrict such software and may even be capable of being used to promote the development of such software.

### **European software industry globally.**

In order to compete internationally, especially with the USA, we believe it imperative that the European businesses can operate on a level playing field and this includes operating in a comparable legislative environment. This is conferred by ICL's preferred approach.

### **General Development of Information Society.**

For the reasons mentioned above we believe that formal recognition of the granting of patent protection for software and appropriate business methods will foster development of the Information Society. Key Elements

i. **Patent protection granted.** ICL supports this element subject to the proviso that it should not be read exhaustively; that is, the term "computer-implemented invention" should not be read as being the only way in which software or business methods (the latter containing a technical effect) may manifest themselves.

ii. **Patent and copyright.** ICL disagrees with this element in its current form. ICL urges that where a patent is granted in respect of a software invention, any software program making unauthorised use of that patent

should be treated as an infringing work and the only practical way in which this can be effected is to ensure that the protection conferred by a patent extends to such programs, whether in source code or object code or other form. If an invention is considered worthy of patent protection then the degree of protection conferred should not be limited such that a change of carrier can permit a third party freely to appropriate the invention for its own use; accordingly the element should be revised so that it is not restrictive of the form in which a program might appear and hence be protected – and indeed if the claims are such that a non-software implemented product or process would otherwise infringe, the inventions should not be denied protection through any artificial limitation in the scope of protectable programs. The fact that a right-holder may have a choice of actions in a given case (between patent and copyright) exists in relation to other industries and does not create any difficulties in application.

iii. **Non-obvious technical contribution.** As set out in some detail above, ICL believes it is inappropriate to dissect a patent claim in the fashion that this element would require. It would require the patent authorities to treat software in a fashion entirely separately from other technologies, which does not appear to be logical nor in conformance with TRIPs.

iv. **Implied technical contribution.** As set out above, ICL's preferred approach would obviate the need to apply principles of construction such as that implied by this element; ordinary principles of patent claim examination would be sufficient to determine patentability.

v. **Business methods analysis.** ICL believes that the invention must be assessed as a whole in order to determine the presence of technical effect; endeavouring to identify technical contribution as a discrete strand within this analysis does not produce desirable examination practices.

vi. **Claim of invention.** The wording of this element may lead to the understanding that it makes the claims as to product and process mutually exclusive, or seeks to make it an exhaustive statement of the only types of claims that may be made in respect of computer programs (and see above for our view on the expression "computer-implemented invention"). We do not believe that this is an appropriate limitation, as it will reward one type of innovation and not another purely on the basis that one has, for technical reasons, been expressed in one technology and the other in a different one. Especially given the platform-neutral nature of many of the considerations referred to in this paper and doubtless those of other contributors, we believe that attributing different commercial outcomes in what (regarded in technical terms) amounts to a random fashion would have a detrimental effect both on the economic effects of formalising patent recognition for software and business method development, and potentially cause the technical, innovating community, to hold the patent system in less than entire esteem.

vii. **General patent law.** ICL concurs that general patent law should underpin any specific provision made in a Directive.

## **The Institution of Electrical Engineers**

Dear Mr Watson

### **PATENTS FOR SOFTWARE AND WAYS OF DOING BUSINESS**

The IEE has within its membership of over 130,000 members worldwide, a number of IT professionals working in large and small companies together with academics working on software within a higher education research environment. It also encompasses user companies and Chartered Engineers working within the legal profession.

It appears so far that there is no clear view from our members or from the software industry as a whole on the granting of patents for software. Views tend to be polarised depending on the size and nature of software businesses. The IEE is therefore unable to offer a definitive view within the present round of consultation.

However, the IEE considers this to be a vital issue that must be satisfactorily resolved as more and more of the UK's intellectual capital is linked to software. Our aim therefore is to stand back from sectoral issues and consider what would be the best solution for UK plc. We will be putting further effort into this debate in the coming months and would welcome an active dialogue with the Patent Office.

#### **Two members of Coventry University Intellectual Property Rights Committee**

Q1 A - As a consultant and researcher I use software for the preparation of articles and to help in research into physical science subjects.

B - I am a home user of a variety of software.

Q2 A - Software should be patentable if it protects novel concepts regardless of the form in which it is reduced to in practice and the field of application. It should not depend upon its ability to cause a technical effect. Copyright protection should still apply in its current limited role. It is already apparent that some software developed to produce a technical effect could probably be used in other non technical fields and vice versa eg. simulation software.

B - Yes - It is a novel, virtual machine. If one can patent a novel, mechanical adding machine then one must be able to patent novel software.

Q3 A - Keeping the restricted use of patents for software is likely to stifle innovation, enterprise and time competition because it enables copying to be carried out without protection for the inventors.

B - Software innovation would be stimulated - protection would encourage investment in new software. General innovation and enterprise would be encouraged as it is in other sections where patent protection is commonplace.

Q4 A - As I am retired I am no longer involved in trade in services or products however in the past I have been involved mainly in the latter.

B - (no answer)

Q5 A - Novel forms of business management should be patentable if they involve new concepts and represent an inventive step over existing systems. This is because management of a business and

organisation of systems in general have many things in common eg. control structure, information handling, etc... therefore similar concepts may apply to both. This situation is likely to intensify in the future.

B - Yes to all above

Q6 A- Lack of protection for new ways of doing business invites copying. This will tend to a lack of disclosure of good practice to the detriment of UK business and commerce. Broadening the scope of patents to include business systems will this promote innovation and enterprise.

B - No new comments.

Q7 A - I have no direct experience of the US positioning on patenting software or business methods but it seems obvious that the more restrictive use of patents in these fields will put Europe at a disadvantage compared with the US. This seems to (be) one of the reasons why the US economy has consistently outperformed that of Europe over the last decade or so.

B - No comment.

## **International Association for the protection of Industrial Property, UK**

Dear Jeff,

### **Consultation on Software and Business Method Patenting**

I am writing in my capacity as President of AIPPI United Kingdom, the British arm of AIPPI, the International **Association** for the Protection of Intellectual Property. Our association has members all around the world and active groups in over forty countries. The membership is made up both of professionals acting in private practice, and also members in industry and commerce. The Association studies questions of interest in the Intellectual Property field on an international basis with a view to agreeing a **consensus** which it then formulates in the form of a Resolution.

The question of software patenting has been considered by the Association on a number of occasions, and most recently in detail in the spring of 1997 when a Resolution on Question Q.1 13 "Patenting of Computer Software" was passed by our Executive Committee. I attach a copy of the Resolution which we would like you to consider as a contribution to this consultation process.

**As you will see**, it is the view of the Association that computer software should be considered patentable providing that it meets the traditional patentability requirements. The concept of technical character should be subsumed into the somewhat broader concept of enabling a useful practical result. Furthermore, computer software should be inherently patentable in any medium in which R can be commercialised. The reasons for these and the other views in paragraphs 1 to 10 of the Resolution Itself are explained in the section headed "Reasons"

These views were accepted by near unanimity in the Association and thus represent the consensus view on a wide international basis amongst those who know and understand the workings of the patent system. We believe these views should, therefore, be given some weight.

The International Association is considering the question of the protection of business methods in March 2001. Preparatory to this, the United Kingdom Group has, in answer to a questionnaire, prepared a report a copy of which is attached (Report Q158). I would refer you to Sections III and IV of this report which set out *the UK Group's* considered views.

The conclusion in this report is that "genuinely inventive methods, whether they be methods of doing business .....or whatever in the field of commerce and industry should be capable of patent protection" (see 111.3 and IV),

The following comments could I believe also usefully be made. It takes time for an 'Industry' to mature and get used to the idea of patents. In the 1 980s computer programmers objected vociferously against patents, but you do not find so many of them doing so now. When they seek funding for their business one of the first questions the venture capitalist asks is 'what protection do you have?' The UK PLC lives now on its wits, not its manufacturing industry. It is in our collective interests for the products of our intelligence to be protected. It is of course important that a proper examination is conducted for inventiveness; this is not happening in the USA. Finally, K is extremely unhelpful that there should be divergence in the attitude of the UKPO and the EPO.

I do not believe we can or should seek to reach a final position that will survive for evermore. We should however be bold enough to take *the* next step, knowing that we may well need to look at it again in another 5 or 10 years.

## **Resolution**

### **Question Q 133**

#### **Patenting of computer software**

##### **AIPPI**

considering its previous positions and resolutions adopted since 1974 recognising the need to protect creations embodied in computer software in general;

considering that copyright protection for computer software was initially recommended by AIPPI due to such type *of* protection being immediate and able to take benefit from already existing international conventions.

considering that copyright protection has been recognised by AIPPI as being inadequate as a sole system for protecting computer software;

considering the increasing technical and economic importance of computer software and the fact that effective protection for computer software developers is critical;

considering that the TRIPS Agreement requires patent protection without restriction for any inventions in all areas of technology; and considering the reasons appended to this resolution,

##### **Resolves that:**

1. As a question of principle clearly reflected in the TRIPS Agreement and taking into account other reasons of a legal, economic and practical nature, patents should be granted without discrimination in all areas of technology, including that of computer software, such as programmes.
2. Computer software should be considered patentable provided that the claimed subject matter meets the traditional patentability requirements *of* novelty, inventive step (non-obviousness) and utility or industrial applicability.
3. The technical character of computer software should be generally acknowledged and Its industrial applicability should be construed in a broad manner so as to embrace the concept of enabling a useful practical result.
4. In spite of increasingly liberal interpretations by the national and regional Patent Offices and Courts, modifications in many national and regional laws regarding patents are recommended to provide or ensure adequate patent protection for com-software; this including the abolition of any limitations, in the laws or treaties relating to industrial property, as well as to promote legal certainty.

5. 911 computer software meeting the patentability requirements should be considered patentable in the same manner and with equality of treatment with no distinction being drawn between the different types of software.
6. Patent protection and copyright protection for computer software are of a different nature and relate to different aspects of the software. They may co-exist notwithstanding their different terms of protection.
7. Computer software should be inherently patentable in any medium in which it can be commercialised.
8. The establishment of special rules for different technologies is undesirable in general with respect to the presentation of the specification (description) and the drafting of the claims and the same principle should apply to patents relating to computer software, it being as usual the responsibility of the applicant to ensure that he meets the relevant national or international requirements. Moreover, special rules should not be encouraged as a solution to other problems, such as the difficulty to effect prior art searches. In this respect, AIPPI encourages all efforts by Patent Offices and all other interested parties to make prior art searches more reliable in the area of software without resorting to the adoption of special rules that could impose undue or unnecessary burden on patent applicants.
9. The concept of inventive step or non-obviousness should be applicable to the patentability of computer software, notwithstanding any practical difficulties that may exist.
10. The exercise of patent rights in the case of computer software is no different in principle from that in the case of other types of invention.

Reasons.,

### **A) Principle of patentability**

Independently of the terms of any specific national legislation, there is no doubt that the creation of computer software is of considerable technical complexity. In principle, therefore, there is no reason to deny patent protection to inventions in the area of computer software. Such a position is integrally in accordance with Article 27 of the TRIPS Agreement.

The creation of computer software is basically as lengthy and expensive a process as the software is simple to copy. A literal copy may be prohibited under copyright. However, the functional concept behind a given software may be copied without such an evident infringement of the copyright. Functional concepts translated into products or processes are the proper subject matter of patents and an efficient system of protection is highly desirable in order to protect investment and to encourage development in this particular technical area.

To exclude computer software from patent protection would be arbitrary and discriminative with respect to a technology of ever increasing importance and which merits concrete protection. In addition the dividing line between hardware and software is becoming increasingly blurred and it is discriminative to consider one patentable and the other not.

### **B) Conditions of patentability**

If software is to be patentable, it is most appropriate that the same conditions apply as they do for other types of invention. Apart from novelty and inventive step (or nonobviousness), the law in most jurisdictions requires patentable inventions to have a technical character or technical applicability. Software can take

many types of form, may be machine-integrated or not and new types of software will certainly appear with new technological development. It is therefore not appropriate to distinguish between the different types which should all be treated on an equal footing, the question of patentability depending on the invention meeting the traditional requirements.

With respect to technical or industrial character or applicability, basically all computer software is technical in nature and this alone should meet this requirement. However, it is important that some useful practical result be obtained. Moreover, the difference between a technical result and, for example an aesthetic result is not pertinent to the generally technical nature of the software in itself. In considering the patentability of any given software, therefore, any legal requirement regarding technical character should be construed broadly so as to embrace the concept of obtaining a useful practical result.

It should also be observed that the requirement of technical nature is open to many interpretations, as has been demonstrated by the many decisions on the matter. It is recommended that there only be a requirement for inventions to enable a useful practical result.

### **C) Legal certainty and changes in legislation**

The tendency of the courts in many countries that require inventions to have a technical character, including the European Patent Office, has become progressively less strict in construing the requirement as applied to software related inventions.

The laws of a large number of countries contain prohibitions to the patenting of software "per se". This is contrary to the TRIPS Agreement, contrary to the position given above and R is not useful.

Alterations in the relevant national and regional legislations, removing the software "per se" prohibition and eliminating the technical character requirement are therefore recommended to ensure the universal recognition of the patentability of computer software and to provide legal certainty.

It is emphasised that the removal of the software "per se" prohibition does not mean that all software is patentable. It only means that the mere fact that 'a **claimed invention relates to software "Per se" should not be a** reason in itself for rejection. Naturally, it must fulfil the normal requirements of patentability.

### **D) \*The co-existence of patent and copyright protection**

In spite of the difficulties that may arise

in attempting to draw a line of demarcation between the aspects of computer software that can be protected under copyright and by means of a patent;

with regard to the differences there may be between the proprietary rights under copyright and patent law; and

with regard to the different durations of copyright and patent protection, especially with regard to problems that may arise in determining which aspects of the computer software cease to be protected when the patent rights expire,

there appears to be no decisive reason against the co-existence of patent and copyright protection. The apparent problem appears to be analogous to the difference between patents and models or registered designs which have historically existed side-by-side. Similarly, there appears to be no overriding reason why the

expiry of a patent relating to software should have any effect on the protection under copyright that may continue to be in force.

### **E) Purely abstract data handling operations**

The fact that a computer software invention involves merely abstract data handling operations should not exclude it from patentability, provided that it enables a useful practical result.

### **F) Software in machine-readable form**

Considering that software in combination with a known general purpose computer may be patentable when a useful practical result is obtained, and furthermore that it is the software itself that represents the true technical and economic importance of the creation, it is arbitrary to consider the product that is commercialised to be excluded from protection. It would be the same thing as to say that a novel nut can only be patented when claimed in combination with its bolt or that a spark plug can only be claimed in combination with an internal combustion engine. Consequently, it is reasonable to consider computer software to be inherently patentable in any medium in which it can be commercialised, provided that it is novel and inventive and, furthermore, that when used appropriately, i.e. in combination with a computer, it produces a useful practical result.

### **G) The specification (description) and claims**

It is a basic position of AIPPI that specific rules or norms for the drafting or presentation of the specification or claims of patents should be avoided wherever possible. There would appear to be no convincing reason for this to be different with respect to software inventions. The applicant for a patent should have the choice of presenting and claiming his invention as he thinks fit. Whether a patent does or does not meet the requirements of disclosure and patentability will always arise in the case of any technology and each applicant has to assume the responsibility of deciding how he meets the requirements. The meeting of very specific rules could well be an undue, unnecessary and possibly expensive burden on the applicant.

The only plausible reason for special rules for the presentation of the specification appears to be to facilitate prior art searches. However, this would not appear to justify the burden or the lack of liberty imposed on the applicant.

At the same time, AIPPI encourages Patent Offices and other interested parties to continue to make all efforts to devise manners, such as the development of classification systems and data-bases, to facilitate prior art searching.

### **H) The exercise of computer software patent rights**

Notwithstanding the difficulties that may arise in the exercise of rights, in particular the questions of territoriality in the case of computer software used in international communications networks, no convincing reason has been found in principle for the exercise of software patent rights to be different from the exercise of patent rights in any other technical field. Exceptions to rights, such as with respect to interoperability (e.g. the communication between one software and another) are not approved, without prejudice to parallel laws or regulations that may already exist in other areas, including those relating to commercialisation, anti-trust and others.

**United Kingdom**  
Royaume-Uni  
Vereinigtes Konigreich

**Report 0 158**

in the name of the United Kingdom Group

by Michael BRUNNER, Nicola DAGG, Michael ENSKAT, Rowan FREELAND,  
David HARRISON, Held! HURDLE, Stephen JONES, Justin LAMBERT,  
Edward LYNDON-STANFORD, John ORCHARD and Kerry **TOMLINSON**

**The patentability of business methods**

INTRODUCTION

The Questionnaire and the UK Group's answers to it are based on the definition of business methods given in I,f of the Introduction, namely "*all methods for doing business, in the broad sense of this term.*

1. *The legal situation in the United Kingdom*

It needs to be borne in mind that the situation in the United Kingdom is affected by the application of the European Patent Convention (EPC) to the UK.

11.1 *Exclusions from patentability*

(a) *Statutory exclusions:*

EPC, Article 52(2) says that "*The following in particular shall not be regarded as inventions...*

*... (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers,...."*

UK Patents Act 1977 (UKPA), Section 1(2) says that "*it is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of...*

*(c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer,...*

(b) *Exclusions arising from case-law*

There are no judicial exclusions in the United Kingdom. There is also only limited case law in the UK on the way in which UKPA Section 1(2) should be interpreted, and from the Technical Board of Appeal in relation to the interpretation of EPC Article 52(2) and (3). This case law relates to the exclusion from patentability of computer programs. The reasoning used by the court and the Board in these cases has included consideration of other excluded subject matter, namely "discoveries", "mental acts", and "mathematical methods". Relevant decisions in this area include Vicom Systems [19871 EPOJ 14, Merrill Lynch Inc. [1989] RPC 561, and Fujitsu Limited [19971 RPC 608.

**11.2 @Are business methods patentable or, on the contrary, are they excluded from patentability in the legislation of your country?**

Business methods are excluded from patentability *per se* by virtue of the provisions referred to in 11.1 above and see 11.3 below.

**11.3 If business methods are excluded from patentability, does this exclusion concern only the methods in themselves, or does it also apply to any invention applying business methods?**

EPC Art.52(3) states that "The provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent that to which a European patent application or European patent relates to such subject-matter or activities as such" and UKPA Section 1(2) states that "... ***the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such. Thus,*** in the United Kingdom, by analogy with the above decisions in the area of computer programs, it can be assumed that it is only business methods *per se* which are prevented from patentability, but it should be noted that the requirement for 'technical effect' remains. This requirement probably means precise processes or methods capable of being industrially applied may not be excluded, while methods that involve a significant level of abstraction and intellectual generality will be excluded.

**11.4 If business methods are not patentable, are there other means of protection of business methods, particularly copyright ?**

Probably the primary means by which business methods are presently protected is secrecy since companies, in particular, are wary of disclosing their internal or external (customer orientated) methods as they are conscious of there being no effective form of protection in return for disclosure. Copyright of course applies to the end product of many business processes, but provides no protection for the method by which the end product is achieved. Both secrecy and copyright are inferior to patent protection in several respects? Firstly and most notably, they are not absolute monopolies, but require misappropriation. Secondly, a secret business method, when misappropriated, is likely to be kept secret, and so the breach of confidence will be difficult to prove, while copyright, as you have already pointed out, is not very good at protecting methods. Thirdly, if business method patenting is allowed in some countries (notably the US), confidentiality will cease to be available to companies who choose patent protection in the US. Finally, confidentiality and copyright could protect only a small percentage of business methods - for example, they would not have protected the hub and spoke (State Street Bank), "one click" (Amazon.com) or reverse auction (Priceline.com) methods.

**11.5 If business methods are patentable, is there a distinction in the grant of protection between business methods used in the context of traditional business and business methods used in the context of the Internet?**

In the United Kingdom (and other EPC contracting states) it is generally accepted that, to be patentable, any method has to be precisely defined and be capable of industrial application to produce a useful or technical result. This follows from the requirements, e.g.,

*of EPC Art.52(1) "European patents shall be granted for any inventions which are susceptible of industrial application..," and UKPA Section 1 (1) (c) "it is capable of industrial application".*

Presently, the mere implementation of an inventive method on the Internet will not mean that the

invention achieves a technical result when no such result otherwise existed and therefore there is no distinction between business methods in the traditional context and the context of the Internet. Note the UK Group's comments on the notion of technical or industrial character in its response to Q133 (see Report Q 133 by the British Group, AIPPI Annuaire 1996/11 at paragraph 3).

11.6 *If business methods are patentable in the country, have the national courts already had the occasion to decide on the extent of the protection conferred by patents concerning such methods? In the affirmative, have the Courts applied specific rules or, on the contrary the normal rules governing the patent system?*

The national courts have not had the occasion to decide whether patent protection is available for inventions in the field of business methods. The courts have ruled on the approach to interpretation of UKPA Section 1(2) in relation to computer programs, and applied the normal rules. There would be no basis for national courts to apply specific rules, in contrast to the normal rules governing the patent system.

III. *Opinion of the groups*

III. 1 *Do the groups consider that business methods, as defined above (see I (0)), taken in themselves, constitute inventions?*

Whilst it is undoubtedly true that it has, in the past, been public policy to exclude business methods from patent protection, it is also correct that R is recognised that "Inventions" are not synonymous with "patentable inventions" This is embodied by the specific provisions of the EPC and UK Patents Act, for example, "European patents shall be granted for any inventions which are susceptible of industrial application ..." (EPC Art.52(1)) and UKPA S. 1 (1)(c) and subsequent provisions, which clearly indicate that the concept of *invention* must extend more widely and the UK Group therefore believes that business methods may constitute inventions (see answer in section 111.3 below).

111.2 *In the opinion of the groups, is the exclusion of patentability for business methods in conformity with the provisions of Article 27 of the TRIPS agreement?*

In requiring that protection be provided for any inventions in all fields of technology, without discrimination as to the field of technology, TRIPS Art.27 does not exclude business methods capable of industrial application, To the extent, K any, that the EPC and UKPA exclude business method inventions capable of industrial application in any field of technology, the provisions would not be in accordance with TRIPS. The exclusions in **EPC & UKPA can, however**, be understood to relate to things that as such or by themselves cannot be inventions capable of industrial application. If the courts understand the exclusions in this way then the provisions are in conformity with TRIPS.

III.3 *If national legislation does not currently provide for the possibility of protecting business methods, taken by themselves, by invention patents, do the groups think that their patentability is desirable?*

While it is true to say that the application of patents to business methods raises many difficult issues such as those relating to public policy, the ability to search and examine effectively, enforcement, etc., the UK Group has previously stated that it "... fully supports ... the repeal not only of the express exclusion of "programs for computers" but also those other express exclusions to be found in Section 1 Patents Act 1997 and Article 52 EPC" (see Report Q 133 by the British Group, AIPPI Annuaire 1996/III.) The view of the UK Group is that genuinely inventive methods, whether they be methods of doing business. of manufacture, of operating computers, of testing or whatever in the

field of commerce and industry should *be* capable of patent protection, not least because the existing restrictions increasingly seem arbitrary given the contribution and importance of the so-called 'new industries' to commerce in general. We note that the view has been expressed (in connection with the discussion within AIPPI in regard to Q133) that all software should be considered *per se* to be of a technical nature.

**111.4** *If the answer to Ill. 3 is in the affirmative, can the groups specify whether patentability should solely cover business methods used on the Internet, that is to say which directly implement technical means present on this network or, on the contrary, whether patentability should be accepted for all business methods without distinction?*

Given that ingenuity may arise in business methods of various types, not restricted to Internet usage, it seems an arbitrary proposal to restrict business method protection to such methods.

**111.5** *If the answer to 111.3 is in the negative, the groups are invited to express their opinion on other means of protection of business methods, such as copyright In this case, it is requested that the groups Present the respective advantages and disadvantages of patents and other means of protection of business methods. On this point, the groups may also refer to the aforementioned resolution (see 1 (Q) on computer programs.*

The UK Group does not envisage any particular problems arising from the possibility of any dual protection, but considers this remote in any case. As mentioned above, copyright is likely only to apply to the end product unless the method is a computer program, in which case our response and the Resolution on Q 133 provide a suitable response. The possibility of trade secret protection seems unlikely to provide any significant protection to many methods where disclosure of the actual method is inherent in carrying out the method, Thus, given the usual conditions attached to patents, for example publication, definition of scope by way of claims, etc. patent protection would appear to provide benefits in comparison with other forms of protection.

**111.6** *If the business methods are the subject of invention patents, the question arises as to the scope of the protection conferred by a patent concerning such methods.*

*Would this be protection limited to the method itself, or would it be necessary, following the example of the process patent, to provide for protection in addition for products or services marketed through such methods?*

A significant question which needs examining here is the extent to which the end result of the method can be considered to be the direct product of that method, for example in the case Of financial instruments or the like. What maybe 'sold' maybe the ability/right to use

The method or, alternatively, it may be that the user of the method offers a service which produces an end result which itself is not what is actually marketed or 'sold' to the customer, but is merely a further service based on, but not the same as the product of the process. The distinction is important and the UK Group's view is that protection should not extend to such indirect products of the process, but only to the direct product.

**111.7** *Should the rules for assessment of the scope of patents covering business methods be the same as for traditional method or process patents or, on the contrary, should specific rules be applied by the courts, and in this latter case, which rules?*

The UK Group does not consider it appropriate to have different rules for assessing scope, whatever the subject matter involved. As we remarked in connection with Q133 specific rules should be avoided wherever possible.

*For example, if the courts of a country generally apply the theory of equivalents, should this theory also apply to business methods patents?*

We see no reason why the theory of equivalents should not apply on the one hand to questions of infringement, given that this should apply equally well to questions of obviousness/inventive step on the other hand. However, it is imperative that search and examination procedures and standards match those of other subject areas, otherwise public confidence in the patent system is likely to be seriously damaged.

*111.8 Do the Groups consider that the inventive activity of an invention concerning a business method may arise as a result of the simple fact of adapting a known method to new means of communication, such as the Internet?*

Whilst inventive activity may result from such adaptation, in general it will not, any more than it automatically arises from adaptation of existing methods of manufacture to say computerised automation techniques.

*111.9 With respect to acts of infringement, should the usual rules in patent law be applied.. direct Or indirect infringement. infringement by incitement, supply of means etc., or on the contrary should special rules be applied to patents covering business methods?*

In general the UK Group does not feel that special rules should apply, but where the end product of a process requires, say, printing by a third party, it may be necessary to make it clear that such additional steps are not the direct result of the use of the method and therefore do not infringe.

*Thus, the US Act of 29 November 1999 provided a new defence in the event of alleged infringement of a Patent with Process claim & And the question arises in interested circles as to whether these new legislative provisions apply to all patents including process claims Or Only those Where the claims concern business methods.*

The UK has long had provisions providing a measure of protection for prior secret users of subsequently patented methods and, in principle, we do not see any need to provide different rules between business and other methods.

***111.10 Should rules concerning compensation for loss as applied to the infringement of patents covering business methods be the same as are applied to patents covering inventions in traditional fields, or should these rules be modified for the infringement of patents covering business methods, taking account of the fact that these methods are not used, in principle, for the manufacture of products but solely for the sale of products and services?***

Firstly, we question the premise that "these methods are [not] used, in principle, [for the manufacture of products but] solely for the sale of products and services." Business methods may well be used for improving manufacturing, delivery and like processes. The UK Group believes that rules relating to compensation (in essence, that the patentee is compensated for such damage as can be shown to have

resulted from the infringement of his rights) The alternative method (an 'account of profits') may well provide a useful means of compensation in the circumstances of the infringement of such business method patents as are envisaged in the question, as it does in respect of other subject matter.

***III.11 Should the rules of evidence concerning the infringement of a patent covering business methods be the same as those concerning process patents or patents for traditional methods? In particular, do the groups consider that the provisions of Article 34 of the TRIPS agreement concerning the burden of proof should apply to patents covering business methods?***

Article 34 (1) of TRIPs says that any identical product when produced without the consent of the patent owner shall, in the absence of proof to the contrary, be deemed to have been obtained by the patented process (a) if the product obtained by the patented process is new, or (b) if there is a substantial likelihood that the identical product was made by the process and the owner of the patent has been unable through reasonable efforts to determine the process actually used. Article 34 (3) provides that in the adduction of proof to the contrary, the legitimate interests of defendants in protecting their manufacturing and business secrets shall be taken into account. The latter measure, K properly administered, would seem to provide sufficient protection for defendants against unreasonable burdens being placed on them in regard to the products of processes alleged to infringe business method patents. However, since the sole product of many such patents may not involve a physical form, it may be necessary to require both measures (a) and (b) above to be established before the product is reasonably deemed to have been obtained by the patented process. However, a difficulty with Article 34 TRIPS is that it applies to help a patentee prove infringement, by reversing the burden of proof, only where he can get hold of a product (which fits into category A or category B), but cannot identify the process by which it was produced. Thus there are probably few occasions where this is likely to be of any help to the owner of a business method patent.

***IV. Conclusion***

***The groups are invited to respond to the above questions in the indicated order, and to make any suggestions concerning the protection of business methods by invention patents on points which have not been specifically referred to in the above questionnaire.***

The UK Group points out that it should be recognised that removing existing restrictions on the patentability of business methods (resulting from requirements that patentable inventions be "capable of industrial application") requires a fundamental re-assessment of what constitutes a patentable invention. Amongst other things, the nature of what is now

considered to be "industrial" may fall to be reconsidered in the light of the enormous changes in commerce that have taken place in the last few years. We believe that the difficulties arising from the broadening of definitions of patentability should not be treated lightly and should be given thorough consideration, involving, as they do, aspects of public policy which have, broadly speaking, remained unchanged for hundreds of years.

While the view of the UK Group is, as stated above, that genuinely inventive methods, whether they be methods of doing business, of manufacture, of operating computers, of testing or whatever, in the field of commerce and industry should be capable of patent protection, it is also the Group's view that related examination issues must be properly considered. For example, a thorough understanding of matters relating to obviousness in the area of business methods needs to be had by examiners, patent professionals, patentees and the public at large. There may otherwise be a tendency for only strict

'mechanistic' views on obviousness to be considered, which in turn may lead patent systems into disrepute if the public perceives that so-called 'bad patents' are being granted.

## SUMMARY

"Methods of doing business" per se are prohibited from patent protection in the UK under both EPC and UKPA, but there is little case law in this area as yet. At present a technical result or effect is still required in order to enable patentability; however, the test of "capable of industrial application" extends more widely and the UK Group supports proposals to abolish the restrictions contained in EPC Art 52(2) and UKPA S. 1 (2) in line with TRIPs Art 27. Internet and other computer-related business methods are not the only business methods capable of industrial application. Other methods of protection are considered to be deficient, but dual protection, e.g. with copyright, is not considered to present any significant problems and patent protection would seem to offer benefits in comparison with other forms of protection as long as the protection does not extend to indirect products of the process. However, the UK Group is opposed to the imposition of different rules for assessing the scope of business method patents as opposed to other method patents. The doctrine of equivalents should be capable of application, but high quality searching and examining are deemed to be essential. Mere adaptation of a known technique to new communication methods is not seen as inventive per se. Special rules in regard to nondirect infringement are considered undesirable and prior secret use is capable of providing protection against subsequent patenting of business methods. Conventional remedies against infringement should apply and the application of TRIPs Art 34 is considered unlikely to be of significant help to patentees given that the product of most business method patents is intangible.

Despite the difficulties that are perceived with extending patent protection to cover, broadly, "industrial" methods, the UK Group feels that genuinely inventive methods should be capable of patent protection as long as search and examination standards are high.

## **International Underwriting Association**

Dear Mr Watson

Thank you for contacting Nick Lowe, our Director of Government Affairs, to invite us to comment on the patentability of software and business methods.

Our association is the world's largest representative organisation for international and wholesale insurance and reinsurance companies. We represent the companies working in and through the international London insurance and reinsurance market. We also provide them with the central back-office facilities that they need to process some 10 billion of premiums and claims per annum.

In general, we would take the view that patenting should only apply to areas where it is in the general interest that innovation should be recognised and protected. It is, for example, in the general interest to encourage companies to create useful new products and services to be offered to the public, through investment in research and development.

On that basis, given the investment and original creation required to develop new software for specific purposes, we would agree that, in principle, new software could be patentable, provided that it is not merely the result of the obvious application of straightforward software engineering to existing or "obvious" business procedures.

With regard to business methods, we also agree, in principle, that it should be possible to patent them in some cases, but only when they amount to a novel procedure that includes an original technical innovation.

It would not seem to us to be reasonable to seek to patent a new way of doing business, which would include no new technical element; the proof of business methods as such should be in their effectiveness in the competitive market. Nor would it appear to us to be appropriate to patent a way of doing business whose originality would arise entirely from technical innovation, but not from the business procedure employing it. In such cases, it should, after all, be possible to patent the technical innovation itself.

It also appears to us that before the UK and European authorities do decide whether to patent software and business methods, they will first need to define with precision and in some detail the relevant notions of novelty, of technical innovation, of methods, and of what constitutes "the obvious". While we perceive, in principle, that software and business methods may be patented, we do not think that it would be feasible to create an effective regime without a well-constructed conceptual framework supported by reasoned examples. We would be interested in responding to consultation about such a framework.

The experience from the United States would perhaps indicate that it is worth investing resource in the initial assessment of patent applications. Europe already has an arguably more effective examination resource at the front end and a public discussion procedure, which elicits opposition and contributes much to the initial quality of patent applications granted. It is to be hoped that these procedures can be extended and adapted successfully in the new areas, but in any event a heavy burden should be placed on applicants to research and demonstrate objectively the full depth of prior art.

## **Kaltons Solicitors**

### **Our Thoughts: Economic & Commercial**

This is the collective view of Kaltons IT/Internet department.

We have for many years been aware of the argument against allowing software to be patentable. In particular, we refer to the commonly subscribed view that if software were patentable, it would enable large corporations to inhibit innovation, particularly in the context of the Internet. The argument largely consists of the assumption that those companies would hold the sector to ransom.

On one hand, as an Internet specialist firm we naturally share the concern that nothing should be allowed to impede the development of technology and especially the Internet. The possibility exists that in limited circumstances companies may suppress advancement of technology but we believe that these fears are exaggerated. Moreover, we also question the proposition that if software becomes generally patentable there would be an administrative crisis with hugely-increased software patent applications. The US, is able to cope, therefore, so should Europe. However, it is conceded that the real difficulty examiners would face is in respect of dealing with technical issues such as “novelty” and “inventive step”.

On the other hand, we have the far greater fear that the economic interests of the European Union are more likely to be adversely affected by the failure to encourage investment in technology within the EU. We consider the potential negative aspects of allowing software patent to be registered are totally outweighed by the potential benefits, namely in attracting forward-looking, innovative companies to the EU. Given a choice between Europe and another jurisdiction permitting software patents, why would anyone choose somewhere where the reward for their research and development would be exceedingly limited?

Furthermore, patents are hard to acquire and expensive to maintain and of relatively short duration. In other areas of innovation they have encouraged substantial investment in research and development and have, by dint of the law governing patents, not generally stifled innovation. We see no reason why the position should be any different for software and, in particular, for businesses involved in the development of the Internet.

### **Our Thoughts: “Technical”**

The main “technical” problem with the present European patent regime is that it (as a general principle) excludes software from patentability. Although over the last 15 years the Technical Board of Appeal of the European Patent Office (EPO) has tried to get over this hurdle, almost to the point of, in effect, overturning the clear intent of the regime, it is still shackled by its current provisions. In contrast, TRIPS (Trade-Related Aspects of Intellectual Property Rights Agreement 1994), to which the European Patent Office is not a signatory, has abandoned the exclusion of computer programs from patentability. For all the “commercial” reasons we have so far mentioned, we take the view that the current European regime must adopt the TRIPS approach as to make it possible to patent software provided it meets the very basic requirement of patentability, which in our view should not be disturbed in any way, shape or form.

If the non-exclusionary approach in TRIPS is followed, it would be possible for the European patent regime to deal with both the *symbolic* and *functional* aspects of software, without being snared by the exceptions which we have to deal with today like the “as such” exception. Moreover, the fact is that at present the EPO grants many thousands of computer programs a patent whilst maintaining the fiction that software is not patentable, and the TRIPS approach will put a stop to that dilemma.

In order to show how we arrive at this conclusion we need to in the foregoing set out the background of the European patent regime and its development until now.

## **Patent Protection of Software: The Background**

In the development of intellectual property law, aesthetic creations (e.g., literary and artistic works) have traditionally been protected by the law of copyright on the basis that copyright's main purpose is to encourage and reward original and creative works. While the protection of copyright is extensive and welcome, it does not protect the owners of software completely. For example, it is easy to ascertain the latent ideas and "copy" these without literal copying of any of the code used in the original. In this context, patent protection would clearly be welcome. This is because patent grants its holder monopoly protection against reproduction of the novel ideas that copyright simply does not protect.

However, industrial property has attracted protection such as designs, patents and trademarks on the basis that protection of investment in useful new technology would provide an incentive to finance research and development.

The critical point of departure which has resulted in the muddied waters of the current European software patent law was the understandable failure in the 1970's to appreciate that software has an industrial aspect to it aside from its obvious aesthetic dimension,

## **Is Software "Aesthetic Creation" or "Industrial Property"?**

There are, however, two aspects to software. It is both *symbolic* (and therefore aesthetic in nature) as well as *functional* (and therefore 'industrial'). Accordingly, in respect of the symbolic aspect of programs, they should surely be protected by copyright as a type of aesthetic creation such as a literary work. However, in their functional aspect (i.e., the way that they behave) it appears more appropriate to protect them as types of industrial property. It is the failure of the European regime to underscore this dual aspect of software that has resulted in software being excluded from patentability. If this had been historically better appreciated, then in respect of the *functional* aspect of software, we believe patentability would have been extended.

## **The Traditional Attitude of European Patent Law *vis-à-vis* Software**

Traditionally, software has been protected by copyright and excluded from patent protection in Europe as can be seen from the exclusion of aesthetic creations from patentability in article 52(2) of the European Patent Convention 1973 and as incorporated under section 1(2) of the Patent Act 1977. This was mainly because, from a lawyer's perspective, the human-readable source code appeared symbolic as opposed to functional, and because source code listing looked like literary work, copyright protection was naturally extended to it.

However, in so far as the machine-readable object code was concerned, although it posed difficulty being functional in nature, copyright lawyers dealt with it by treating it as a translation from one language (human-readable) to another (machine-readable) and extended copyright protection accordingly.

European Patent Convention 1973 ("the Convention"), excluded software from patent protection on the basis that all it consisted of was abstract and intellectual mechanisms as opposed to useful tangible products or processes. Patentability requires a specific technical application, but software is not technical in nature.

The critical failure of the Convention was in not going beyond, as a general principle, the non-technical nature of software *as such*. If it had gone further to focus on the technical effect that software gives rise to,

that aspect would have readily attracted patent protection. However, as an exception, as will be seen below, the Convention did recognise this.

### The “as such” Exception

Article 52(3) of the Convention provided an exception or loophole. It states that that the exclusion only prevented anything from being treated as an invention to the extent that a patent or a patent application relates to software *as such*. In other words, the exclusion from patentability applied only to software “as such”. Therefore, if a software patent application is made for something different from a software program as such, the application would be treated as a genuine patent application and not *prima facie* excluded. The *as such* exception shows that the exclusion of software from patentability is in respect of form rather than substance. So, it is not permissible, without more, to seek protection for a computer program when it is stored on a magnetic medium or when merely loaded into a computer. However, it is permissible to seek patent protection in respect of what the computer – into which the program is loaded and which controls it – is doing!

So, for example, in *Merrill Lynch Inc’s Application* [1988] RPC 1, there was an application to patent an improved data processing system for arranging, analysing and dealing in customers’ stocks and implementing an automated trading market for one or more securities. The program could be used in conjunction with any appropriate computer to process dates relating to transactions in stocks and bonds. Falconer J in the English High Court held that an invention must be found in some aspect of the application aside from the computer program itself. Although this decision was subsequently criticised by the Court of Appeal in this and other cases, the distinction drawn by Falconer J between the computer program *as such* (which is excluded from patentability) and the way it is applied (which should be allowed patentability in the normal way) is illustrative of how the “as such” exception should work.

So some aspects of programs become patentable. This is because the Convention allows claims to novel methods of programming computers to operate in a particular way because these are not inventions in a program *as such*. Accordingly, if a claim is expressed in terms of improved and modified apparatus operating in a new way, it may be patented. The task performed by the computer program becomes the part which could be patented but not the contribution made by computer program itself. So, for example, if a claim is expressed in terms of equipment operating in accordance with a program's instructions, it may become patentable, but not the algorithmic steps instructed by the implementing programs.

In *Vicom System’s Application* (1987) 2 EPOR 74, the Technical Board of Appeal of the European Patent Office, held that since the relevant application to patent a ‘program’ was for a technical process rather than a program, it was patentable. It was further held that the fact that the inventive aspect of the claim resided in the program was no bar to patentability.

Subsequently, the European Patent Office (EPO) itself tried to clarify the meaning of this new concept in its official guidelines. Once it gave the following examples: “[P]rogram controlled machines and program controlled manufacturing and control process should normally be regarded as a patentable subject matter.” (*European Patent Office Guidelines*, C-IV, 2.3 xii.1994). In other words, where programs have application, such as an industrial machine or process controlled by a program, then the overall process considered as a whole could be patentable.

In the subsequent case of *Koch & Sterzel* (1988) EPOR 72 it was held that the invention must be assessed as a whole. If it makes use of both technical and non-technical means, the use of non-technical means (i.e., the internal effect that a program has on a computer) does not detract from the technical character of the overall claim.

## **Is a program that only has an internal effect on a computer patentable?**

The answer given by EPO via its guideline was that: 'Where the claimed subject matter is concerned only with the program controlled internal working of a known computer, the subject matter could be patentable if it produced a technical effect' (European Patent Office Guidelines, C-IV, 2.3 xii.1994.)

In the *IBM Cases* [1999] RPC 861 [Case T1173/97 and Case T0935/97], the Technical Board of Appeal of the EPO held, however, that simple changes in the physical state of hardware, for example, by the manipulation of electrical currents, are insufficient. In order to be patentable, what is required is something more than that. There must be a further technical effect. The Board of Appeal observed: [*IBM's Application* [1999] RPC 861 at 871]:

'[A] patent may be granted not only in the case of an invention where a piece of software manages, by means of a computer, an industrial process or the working of a piece of machinery, but in every case where a program for a computer is the only means, or one of the necessary means, of obtaining a technical effect within the meaning specified above, where, for instance, a technical effect of that kind is achieved by the internal function of a computer itself under the influence of said program.'

It has been argued that it 'is astonishing that the explicit provisions of the Convention denying protection to computer programs have been read into virtual non-existence' [See Tapper in *Masons Computer Law Reports* 280]. Thus, whereas the position under the Convention was that a computer program *as such*, was not patentable unless it could be brought under the *as such* exception in article 52(3) of the Convention and section 1(2) of the Patent Act 1977, now, however, the position is reversed. The position today appears to be that a program is patentable unless it can be shown that the patent application is for a computer program *as such*.

This is clearly unsatisfactory and amounts to judicial legislation and activism of a kind that may even cause some US courts to blush. The better way of going about making software patentable is to legislate to remove the general exclusion of software from patentability under article 52(2) of the Convention in line with the TRIPS approach.

## **Trade-Related Aspects of Intellectual Property Rights Agreement 1994 (TRIPS),**

Article 10(1) of TRIPS states that computer programs, whether in source or object code, shall be protected as literary works. However, Article 27(1) provides that:

'Subject to the provisions of paragraphs 2 and 3, 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.'

The exclusionary provisos under paragraphs 2 and 3 do *not* exclude computer programs but other things like immoral inventions, medical treatment etc. The clear words of Article 27(1) suggest that computer programs have the same ability to be patented as any other product or process.

Unfortunately the EPO is not a signatory to TRIPS and therefore it cannot be made to adopt the concept accepted by TRIPS that computer programs are not excluded from patentability as a general rule, as it is bound by the Convention. However, the EPO is trying to catch up with TRIPS as judiciously as possible. In one of the IBM cases it was said that:

‘[A]lthough 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 patents rights. Thus TRIPS gives a clear indication of current trends.’ IBM's Application [1999] *RPC* 861 at 868.

The EU *Commission's Green Paper on the Community patent and the patent system in Europe* (1997) 16-17 has recommended that TRIPS be followed.

## **Conclusion**

There are very strong economic and commercial reasons why as a general rule software should be made patentable in Europe. Principally, we believe the impact on the attractiveness of the EU as a base for technology-based businesses as opposed to currently more “friendly” jurisdictions such as the US is the most compelling commercial reason for giving serious consideration to the removal of the general exclusion of software from patentability.

Even though it clear why it is that the current legal regime in Europe has ended up making software as a general rule unpatentable, there are sound reasons and clear trends to warrant that software should be made generally patentable. The technical stumbling blocks inherited from the 1970s, when software was viewed quite differently, need to be overcome by legislation.

The EPO and the Technical Board of Appeal of the EPO have bent as far backward as they possibly can to arrive at a position where software is generally patentable. However, this is unsatisfactory because they have achieved this by apparently flying in the face of express legislative intent.

It is clear that the model that Europe should follow should be the TRIPS model which does not, as a general proposition, exclude software from patentability as does the Convention. TRIPS puts software in the same basket as any other invention, whether product or process, and so long as the basic elements of patentability are met – viz. novelty, inventive step and industrial application – a computer program should be patented as all other products in other areas of innovation. That is what we wish to see and that is what we ultimately recommend in this submission.

## **The Law Society of Scotland**

Dear Mr Watson,

### **Consultation on Computer Software and Business Methods**

I refer to the Patent Office consultation on the above and enclose, for your information, a copy of the response sent by the Intellectual Property Committee of the Law Society of Scotland today to the European Commission in relation to its consultation paper on "The Patentability of Computer Implemented Inventions".

I hope that this is of some assistance to you. Please do not hesitate to contact me if you require any further information.

Dear Sirs,

### **The Patentability of Computer Implemented Inventions Consultation Paper by the Services of the Directorate General for the Internal Market**

The Intellectual Property Committee of the Law Society of Scotland welcomes the opportunity to comment on the above consultation paper as well as the accompanying report on the Economic Impact of Patentability of Computer Programs.

The Committee would like to make the following general points:-

Although it is desirable for there to be clarity and certainty in this area, the Committee considers that the case for patenting of computer programs as such has still to be made and that it is not at present clear that such patenting would work as a stimulus to innovation. Moreover, it is not evident that patent protection for software as such would necessarily have the effect of safeguarding innovation by SMEs. There is a danger that there could be a chilling effect on SME activity.

The Committee also has concerns regarding the desirability of patenting of business methods. The Committee considers that this would favour large organisations and could have the undesirable result of preventing other organisations from following best business practice. Furthermore, the possible wide scope of such patents could give rise to innocent infringement.

2.

The Committee hopes that these comments are of some assistance. Please do not hesitate to contact me should you require any further information.

## **London Investment Banking Association**

Dear Mr Hayward

Further to our meetings and telephone conversations, I attach a response by the London Investment Banking Association to the Patent Office's consultation. Please contact me on 020 7367 5513 if you would like to discuss this further.

I also attach for your information comments which I have received from a patents expert in the American financial services industry. I hope these are helpful as well.

Many thanks for drawing this matter to our attention.

Timothy M M Baker

### **Response to the Patent Office's consultation on the European Commission's consultation on the Patentability of Software and Ways of Doing Business**

LIBA represents the major international investment banks and securities houses which base their European operations in London. LIBA members are at the forefront of innovation in many areas, such as financial instruments, structured financial products, electronic trading systems, and risk management.

This response to the Patent Office's consultation is limited by the fact that in the time available it has not been possible for us to study the European Commission's consultation document or to examine the detailed implications of recent decisions in the US courts or the details of recent patent application decisions for software and business methods in the USA. This response is therefore largely based on the recent discussions with yourself at the Centre for the Study of Financial Innovation, the British Bankers Association, and bilaterally.

Our understanding is that the European Commission is consulting on the way ahead for the patenting of software and ways of doing business in Europe, in the light of recent changes to US patent law which mean that patent law now differs on each side of the Atlantic. Broadly, whereas in Europe an innovation must be new, non-obvious, useful, and have a 'technical effect' to be patentable, in the US it need only be new, non-obvious, 'concrete' and 'useful'. 'Technical effect' is not clearly defined, but extends to software which has a 'technological' effect on an operation outside the computer on which it runs, or on the operation of the computer itself

Without studying the details of the recent US financial services markets innovations that have been patented despite having no 'technical effect', it is difficult, if not impossible, to predict the impact an equivalent change could have on European financial services markets. It has been possible therefore to make only fairly generalised comments on the nature of innovation in these markets, and how that innovation might be affected if patent control were to be extended, or alternatively if the discrepancy were to remain between Europe and the US.

We understand that recent interpretations of European patent laws by the European Patent Office Boards of Appeal suggest that it may already be possible to obtain patents for certain kinds of business methods in Europe.

To the extent **that the new US** approach represents an extension of patent protection where it would not apply under the European criteria, it will be important to examine the competitive effect on European innovation of American applicants 'locking up' available innovations. Although US patents would strictly apply only under US jurisdiction, in practice financial markets are global, so patent control over innovation in the US would be likely to have consequences elsewhere as well. We understand that firms in Europe may already be attempting to file patent applications with the European Patent Office in anticipation of European laws changing as a result of the pressure of international developments. They would do so in order to avoid losing the benefits of first mover advantage, and to avoid finding themselves locked out of innovations by competitors in the US or elsewhere who have been quicker to exploit wider patent protection. Possession of or application for patents might also put a firm in a stronger position to negotiate a favourable settlement if a US firm were to sue for patent infringement.

In rapid growth areas such as electronic commerce, market share is commercially very important, and patenting of software and business methods would be a method of protecting it. Patents could have significant commercial value, and confer substantial competitive advantage in terms of profitability or ability to raise capital. Thus patenting of software and business methods which have no 'technical effect' could be a spur to innovation in these fields.

It is also the case that financial markets are already at the forefront of developing new types of products and instruments for the raising of capital and investment of funds. The wholesale markets in particular are highly innovative, and strong competition and narrow margins ensure that firms are constantly seeking for improvements which will generate expanded revenues or reduce costs. It is arguable that the extension of patent protection to ill-defined innovations could well inhibit innovation, because of legal uncertainty, protective patenting, diversion of resources to patent defence and checking patent exposure, and because innovation in the financial markets tends to depend on and build on innovations which have gone before. It could also be difficult for either innovators or patent officials to determine whether innovations were in fact new and non-obvious, since one consequence of the competition in wholesale financial services markets is a high degree of commercial confidentiality.

It is difficult to say anything more about the distinction between 'technical effect' and 'usefulness' than that the pace of innovation in financial markets is already very rapid, and to justify an extension of patentability in economic terms it would be necessary to demonstrate that any acceleration resulting from the extension of patentability outweighed the risk of holding innovation back because of legal uncertainty and the risk of legal challenge. However, as described above, the availability of patents for business model innovation in the US could have a major impact on electronic financial services in Europe, and if so it **would be important to ensure that Europe did** not lose out competitively in world terms,

I hope that this is useful, and I am sorry it has not been possible to be more specific. Please contact me on 020 7367 5513 or [timothy.bakerMiba.org](mailto:timothy.bakerMiba.org). if you would like to discuss

## **Nokia UK Limited**

European Commission Consultation:

The Patentability of Computer-related Inventions

Software and computer-related Inventions

Nokia believes that patents should be available for all fields of technology without discrimination. This includes patents for software and computer-implemented inventions. This is the intention of TRIPS Article 27. Nokia welcomes the decision of the November Diplomatic Conference to amend Article 52(1) of the European Patent Convention (EPC) to reflect this.

Patents are intended to promote technological advance and encourage investment. Nokia, like all players in the telecommunications industry today, devotes a major and increasing part of its R&D investment towards software. Clearly it is important that the patent system continues to encourage the European telecommunications industry to protect its substantial investments in the software field.

The patent system encourages disclosure into the public domain of technical details which would otherwise probably remain secret, and/or not readily discernible even by reverse engineering products in the field. Patent documents provide the public with an important source of scientific and technical information, thus promoting technological progress. The field of software and computer-related invention needs this benefit no less than any other technology sector.

Given that patents should be available for software, it is Nokia's view that there should not be any artificial restrictions on the category of claims that are permissible in this field. It should be possible to claim (and therefore protect) any commercially significant manifestation of the invention, whether that is as software recorded on a carrier, or even in a disembodied form (e.g. a signal or transmission). Otherwise there would be technical discrimination against software inventions contrary to TRIPS Article 27, since there are no restrictions on claim types in other technical fields.

Furthermore, in practice, any restrictions on allowable claim types is only likely to encourage ever more ingenious claim drafting. In this sense, a restriction would be artificial. It would give rise (unnecessarily) to 'cosmetic' claim drafting, which is likely to result in a more difficult and protracted examination of the patent application. This only adds to the overall expense of the patenting process. The current climate in Europe is to reduce – not increase – patenting costs.

Nokia does not oppose the deletion of the computer programs "as such" exclusion from Article 52(2) of the EPC. However, neither do we believe that deletion is necessary. It would not result in any real change in the current state of the law. European Patent Office jurisprudence has already effectively broadened the scope of allowable subject matter to include:

Computer implemented inventions (assuming technical character) Software (computer programs per se, even as a record on a carrier) Business methods implemented in apparatus (assuming the invention as a whole is novel and inventive)

Nokia believes the current state of EPC law in this field is just about right. However, a positive impact of the proposed deletion might be to help displace the popular misconception that computers and software are not patentable. But a change in the EPC would not itself be enough. This would need to be supported by a

systematic publicity campaign throughout Europe, directed perhaps more towards SMEs where such misunderstandings about software patents are generally believed to be most prevalent. Larger companies, particularly those having an in-house patent department, are generally more aware about the state of the law in this area.

If Article 52(2) EPC is amended, then it would seem that at least the business method exclusion "as such" should also be deleted, so there is no doubt that in relation to business methods it is only pure business methods, that is to say business methods which are void of technical character, that are excluded.

Since copyright and patents protect quite different aspects of a computer program in different ways, Nokia sees no difficulty in the two complementary forms of protection co-existing in this field. Whereas copyright protects the particular expression of an original program (e.g. the object code) from copying, patents protect the underlying principles and concepts - provided they encompass a new, and non-obvious, technical invention.

## 2. Business methods

It is Nokia's position that patents should not be available outside the technical arts. Patents are not the right vehicle for protecting "pure" business methods, that is to say methods of doing business that do not involve anything inherently technical. Indeed patents should not be available for any method which does not pass the "technical" test.

Merely implementing a business method on a computer should not render it sufficiently "technical" to permit patenting. Otherwise, we open the back-door to patenting pure (non-technical) business methods, albeit in the "quasi-technical" context of a computerised environment. Mere computer-implementation is no more "technical" in the digital age than using a paper and pencil formerly.

This raises the question about what is meant by "technical". There seems to be a lot of confusion and different ways of understanding the current jurisprudence of the European Patent Office even among specialist practitioners in the field. This point is addressed again in section 3 below (Standards and Thresholds of Patentability),

Nokia believes that availability of patents is not needed to encourage investment in the development of new business methods. Companies will develop new business methods anyway in order to remain viable and competitive.

Moreover, there is likely to be substantially less advantage to the public from disclosure in a patent document, because a business method is more likely to be inherently discernible when practised. In this sense patents do not contribute to the state of the art.

Business methods can also be about market making. Patents in this area are more likely to stifle than promote competition - to the ultimate detriment of consumers.

Since business methods are now being recognised as patentable for the first time at least in the United States, it seems to be much easier to persuade the US patent office to grant very broad scope claims, akin to the scope classically available for an entirely new field of technical endeavour (in that case a broad scope would certainly be justified). This anomaly results, at least partly, because it is impossible to conduct an effective search of the prior art in a field which has not previously been well documented. To permit business method patenting in Europe now would inevitably give rise to "fundamental" enabling patents enshrining the whole business method, which therefore would have the potential completely to block the entire method. While it is

true that the validity of unduly broad patents can be challenged in court later, it could substantially change the whole risk landscape for conducting business in Europe because a patent gives the owner the right to sue an alleged infringer regardless of whether the patent is ultimately held to be valid.

It would not be in the interests of European companies to establish a more liberal regime of patenting business methods in Europe. In practice it is probably US companies who stand to benefit most in that they are more likely to be active in seeking patents in this area because (a) they already have greater experience of doing so in the US, and (b) there is a tendency for US users of the patent system to be more adventurous. Thus it is US entities that are more likely to hold business method patents even in Europe, which would act as a barrier for European companies to do business even within Europe. Because of the chances that broad and potentially invalid patents would be granted at least at the outset, European companies – both large and SMEs equally - may be exposed to new risks even by simply carrying out their established business methods, creating the additional burden for companies of having to internally document their own business methods as evidence of prior use. This is an unnecessary and unjustified burden.

It is generally accepted that TRIPS does not require patents to extend to pure business methods. On the other hand TRIPS does not prevent patents for fields outside the technical arts.

### 3. Standards and thresholds of Invention and Patentability

Nokia believes that "technical" test is the correct standard to determine if there is an invention within the meaning of Article 52(1) EPC (existing version). This simply determines whether or not the innovation falls within the patentable domain. Pure business methods are excluded by this mechanism regardless of Article 52(2) EPC.

However, technical character alone is not sufficient to make an invention patentable. To be patentable an invention must be (a) new, (b) non-obvious (i.e. involves an 'inventive step'), and (c) capable of industrial application.

Nokia takes the firm view that the threshold for patentability, most notably the test of non-obviousness (i.e. inventive step), as well as the standards of prior art searching and examination, should be the same in all fields of technology. This means the threshold and standards for software and computer-related inventions should be no more and no less rigorous than for inventions in any other field.

One of the tests that has been developed in the jurisprudence of the European Patent Office for non-obviousness is whether the invention makes a "technical contribution" to the art. This is not an easy test to apply and it does seem to give rise to confusion and different ways of understanding the current jurisprudence of the European Patent Office even among specialist practitioners in the field. It is Nokia's view that a relatively broad interpretation of "technical contribution" is needed, recognising that an invention may legitimately be defined in the claims in terms of a mix of technical and non-technical features, so the "technical contribution" may lie not only in the technical features alone, but alternatively in the interaction of the technical with the non-technical features. It is the invention as a whole that needs to be considered. On the other hand it is Nokia's view that even a new and non-obvious business method in a novel, but obvious, technical implementation should not be patentable. This highlights a real grey area where it seems difficult to define a clear dividing line.

### 4. Harmonisation of the Law

Nokia is in favour of harmonising the law not only at European level, but also at the global level. Nokia sees this as an excellent opportunity for Europe to take the lead and help to influence – rather than follow - the

other major jurisdictions , most notably US and Japan, on this topical issue of computer-implemented inventions. Japan is still debating this issue and in the US the pendulum has in the view of many (including Nokia) already swung much too far in favour of patenting pure business methods.

## **Nycomed Amersham plc**

Dear Mr Lewis

### **Consultation on Computer Software and Business Methods**

Tony Rollins suggested that I should write to you regarding the paper on the above-mentioned topic that was recently sent out to SACIP members.

Nycomed Amersham's view is that patent protection should be available both for computer program *per se* and for business methods, provided that the inventions claimed have a technical character. We do not believe that the mere fact that such inventions are implemented on a computer is sufficient to confer a technical character.

Please do not hesitate to contact me if you have any queries regarding this letter.

## **Oracle Corporation**

I saw that UK Patent Office is also seeking comments on patentability of software or ways of doing business and am pleased to forward the attached comments for consideration. Oracle has several development facilities in the UK and files patent applications in the UK Patent Office on certain inventions and therefore has an interest in the outcome of the consultations being conducted. Feel free to contact me if there are any questions or if I can provide further information. I am in the UK from time to time on business and would certainly be pleased to meet with you or others in your organisation to discuss any issues surrounding patentability of software or business methods.

### **Oracle Corporation's Comments On the Patentability of Computer-Implemented Inventions In Europe**

Oracle Corporation submits the following comments in response to the Consultation Paper distributed by the Directorate General for the Internal Market on 19 October 2000. Oracle welcomes the opportunity to provide comments on the important issues raised in the Consultation Paper and thanks the Commission for inviting public comment on the important issues surrounding the patentability of computer implemented inventions in Europe.

#### **Oracle's Interest In Computer-Implemented Inventions**

Oracle Corporation is the world's second largest independent software company, with annual revenues in excess of \$10 billion (USD). Oracle's products and services are offered in more than 145 countries around the world and include database software, internet-enabled enterprise automation software and related tools and consulting services. While Oracle is based in the United States, approximately half of Oracle's revenue is derived from outside the U.S. Oracle's European operations include product development groups for development of Oracle's software products in addition to extensive sales and related consulting groups for distributing and selling Oracle software and providing related software consulting services. The law surrounding patentability of computer-implemented inventions in Europe is therefore critical to Oracle's business interests in Europe.

#### **Comments on the Consultation Paper**

As an initial matter, Oracle notes the considerable debate concerning the perceived advantages and disadvantages of patent protection for computer-implemented inventions. As noted in the Consultation Paper and in the studies cited therein, the effect of patent protection for computer-implemented inventions is entirely uncertain. While the debate over the appropriateness of patents on computer-implemented inventions continues, Oracle submits that harmonisation is necessary to eliminate the differences, and attendant uncertainty currently existing in Europe. Oracle supports harmonisation that maintains and extends the requirement that patents should *only* be granted for inventions that make a technical contribution to the state of the art, where the technical contribution is not obvious to a person skilled in the art. As noted in sections iii and iv of the Consultation Paper, the technical contribution may be implied by the need for technical considerations to arrive at the computer-implemented invention as claimed, but where the contribution lies merely in non-technical features, the invention should not be considered as involving an inventive step.

Such an approach limits patents to innovations that advance technology thereby maintaining the traditional exclusion from the patent system of non-technical innovations. The uncertain benefits of patent protection in a number of fields, such as software and more generally, computers, dictates caution in extending patent protection to non-technical fields. Moreover, ensuring that non-technical inventive steps remain in the public

domain would seem to stimulate, or at a minimum allow for, technical innovation by allowing for multiple technical solutions to achieve the same non-technical result.

### **The Necessity of Proper Examination of Computer-Implemented Inventions**

Any consideration of patentability of computer-implemented inventions must address the critical need of ensuring that granted patents provide industry with reasonable notice as to the scope of the patented technology. Failure to do so creates unnecessary disputes and prolongs legitimate disputes. While the benefits of patents in computer-implemented innovations may be uncertain, it is beyond dispute that patents that are examined by those with insufficient knowledge or skill in the relevant area or that suffer from inadequate prior art and searching techniques burden investment and innovation in software and thereby threaten innovation in the software industry. The importance of a written record (including the granted patent and the record of proceedings in the patent office) that allows industry to determine the scope of a granted patent is critical to maximizing any benefit, and minimizing any burden, that patents on computer-related inventions may provide to, or impose upon, industry.

## **Orange Personal Communications Services Limited**

After having consulted internally we would respond to the questions as follows:

Question 1: How does what you do involve using software?

I am writing on behalf of a mobile telecommunications company, which develops its own software as well as purchasing software from others.

Question 2: Do you think software should be protectable by patents?

The degree of patent protection for software currently available in Europe seems sensible. It is unfair to deny technical inventions patentability merely because they have a software element, but we would not support extension of patentability to software which does not have a "technical effect". In practice, we have come across patents, which do not appear to have a real "technical effect". The requirement seems to be an extremely low hurdle to overcome. In our view, a stiffer burden of proof should be placed on patentees wishing to prove a "technical effect".

Question 3: Why do you say that?

An extension of the patentability of software would affect our business in a negative manner. In-house software development could be inhibited as there would be greater insecurity surrounding introduction of software without a full patent search. As well as a significant delay, this would involve considerable additional expense.

SME's would be negatively affected by rising prices in proprietary software, decrease in availability of innovative software packages, and lack of confidence in developing and selling their own software solutions.

Consumers would be similarly affected (apart from the last point).

Innovation and enterprise, traditionally spurred by the availability of patents, would suffer at the hands of increased availability of software patents. Innovation and enterprise depend on vendors having the confidence to introduce new products. Fear of being subjected to patent infringement suits based on development and sale of software will possibly lead more suppliers (especially small suppliers) to "play it safe" and not deviate from their existing tried and trusted product lines.

Competition will be inhibited as economic power will concentrate in the hands of those who have most powerful patent portfolios and the largest appetite for enforcement of it.

Question 7: If you have any experience of the US position on patenting software or business methods, how would you assess it?

In the United States, computer software is in general terms patentable if it has a useful and tangible effect. This is a much lower hurdle than "technical effect" and effectively means that any software based patent can be patentable so long as it satisfies the normal requirements for patentability. To date, our business has not had much involvement in the US market, but it has had an affect on our procurement of software from US based companies. They are loath to provide indemnities for intellectual property right infringement, presumably because they have objected in the past for claims for patent infringement on software or business methods.

## **Patent and Trade Mark Group of the Institute of Information Scientist**

Dear Mr Watson,

### **CONSULTATION ON COMPUTER SOFTWARE AND BUSINESS METHODS**

I am writing to you in my capacity as the current Chair of the Patent and Trade Mark Group (PATMG), which is a special interest group of the Institute of Information Scientists. The PATMG membership comprises some 200 individuals employed in industry and private practice as patent and trade mark searchers. As such, our perception of the issues surrounding patenting of software and business methods are mostly confined to the challenges which arise in establishing the prior art in this field.

**The corresponding** EU consultation paper published on 19th October 2000 by the DG Internal Market makes a telling comment at p.4 where it says that, "In fact, practice has shown that examining technical contribution for novelty is fraught with difficulties." and at p.5 with the comment, "In processing patent applications for computer-based inventions.... the relevant patent based and non patent based prior art has to be identified... [which] requires ... appropriate databases and classification systems."

If the relevant authorities in Europe and the United Kingdom decide to allow - and promote - the patentability of computer software, it is clearly in everyone's interest that the resulting patents are sufficiently robust to withstand challenges against their validity. This would imply that suitable search files are available to ensure, within a reasonable degree of confidence, that the relevant prior art can be identified.

At the present time, it is practically impossible to search the computer software prior art in an adequate fashion. A disclosed "technical effect" is frequently one of the few criteria which can be successfully used as a search key. Therefore, the position of the PATMG would be that the requirement to show a technical effect should be retained. Mere listings of computer code are not searchable as such, and even if they were to enter the search files (perhaps by way of an agreement analogous to the Budapest Treaty, enabling independent deposit), the variation in structure and computer languages is such that a search of these listings would hardly be a reliable method of establishing novelty. The nearest analogy is perhaps the biotechnology industry, where standard search algorithms have developed to screen peptide and nucleic acid sequences to exact or "near-match" criteria. It has taken a substantial commercial investment over the last 10 years to reach today's sequence search systems, and the corresponding systems for computer code are simply not available. As a result of this situation, the PATMG would advise that any move to extend patentability to mere listings should be resisted.

A related point is the question of the *type* of prior art. Whilst some progress has been made the search systems for identifying patent-based prior art very little corresponding work is widely available in respect of the non-patent based prior art

Software patents (and increasingly, business method patents) granted in the USA are frequently criticised on the grounds that the non-patent literature has been inadequately considered during the examination process. For an example, the website of STO (<http://www.bustpatents.com>) contains an extensive listing of US software patents which have been invalidated either by USPTO re-examination or by court rulings in patent infringement lawsuits. In many cases, the decisions have been based on existing *non-patent* prior art. The search systems at the EPO for classifying and retrieving literature in the fields of software and business methods are not as well developed as those at the USPTO. Even so, both organisations are to some extent reliant upon commercially-developed databases for discovering publications in this technical field. Prior art which has not been "published" in the conventional sense (for example, discussions on programming

technique which might appear in Internet-based forums) is also extremely difficult to retrieve, and it is even more difficult to establish a definite date of disclosure.

At the same time, software develops at a rapid pace and many programmers would regard the effective life of a particular software-based invention to be substantially shorter than the 20 years allowed for under existing patent laws. It may be worthwhile for the authorities to consider a form of reduced-term grant, similar to a utility model grant for software, giving a shorter term of protection which will be sufficient to remunerate the inventors without stifling innovation in the longer term. The granting authorities would have to address the question of whether or not such applications should be examined with the same degree of rigour as conventional patent applications.

I hope that these remarks are of value to the consultation exercise. Fsky

## **Perwill Plc**

Perwill plc is a member of BASDA and we received the original questionnaire that I passed to our Contracts Manager to consider before we replied. I am sure you will understand the pragmatic approach that we as a Software developer have to take. If we want to patent we have to publish the how. Technology can be replicated (reproduced) that may have no foundation in the original delivery but is achieved because the 'how' is realised or known. Our Company has been developing software for the last twenty years and without exception we have relied on Copyright to protect our Intellectual Property and are unlikely to ever consider using patenting.

## The Post Office

### BUSINESS METHOD AND SOFTWARE PATENTS CONSULTATION

I am responding on behalf of The Post Office to The Patent Office's on-line consultation document "Should Patents be Granted for Computer Software or Ways of Doing Business?". This letter sets out our position.

#### Summary of position

The Post Office **does not support** the granting of patents for business methods or software as such, for the following main reasons:

- The philosophical and economic rationale for patent protection does not generally apply to business methods or software.
- Business method and software patents would inhibit competition and innovation, particularly in e-commerce.
- Practical problems would arise in the administration of business method and software patents leading inevitably to a number of "bad" patents being granted.

These problems arise for business methods and software as such because they are fundamentally different in nature from other potentially patentable technologies.

#### Background

The Post Office is a large statutory organisation that develops and makes extensive use of many different types of business method and software. For example, The Post Office develops and uses:

- software for machine control and business functions;
- computerised access to services and information; and
- software for management information and training.

Much of the business methodology and software developed and used by The Post Office is concerned with physical message handling and logistics. However, The Post Office is increasingly involved in e-commerce and providing electronic communication services.

#### Preliminary comments

The Post Office considers that the current level of patent protection for business methods and software in Europe is about right. Patents should continue to be granted for software that produces a predetermined technical effect. Patents should continue to be granted for business methods to the extent they are encapsulate in other inventions.

This submission sets out The Post Office's position on the patentability of business methods and software **as such**. The references to business methods and software that follow should be read accordingly.

## **The nature of business methods and software**

It is important to recognise that business methods and software are fundamentally different in nature from other potentially patentable technologies.

- Business methods and software occupy a middle ground between abstract concepts (that are not patentable) and usable inventions that accomplish tasks (that are patentable). The Post Office considers that business methods and software are closer to the unpatentable end of that spectrum, dealing as they do with matters of algorithmic and mathematical logic. They are discoveries rather than inventions.
- Because of the logical nature of business methods and software, they do not necessarily require a large investment of time or money to “invent”. Other types of technology may require several years of testing and refining to prove that they work as claimed. In the case of business methods and software, the primary test is satisfied if the logic is sound.
- Because business methods and software are relatively easy to “invent”, there is a dauntingly large amount of prior art being continuously produced by a dauntingly large number and variety of people. The discovery of algorithmic and mathematical logic is not a specialised field.
- Business methods and software are fundamental to a myriad of production processes and the development of commerce over the Internet and other emerging channels. Accordingly, business method and software patents impinge on a very large number of different industries and markets. This is as opposed to patents on other specialised inventions that generally do not have the same across the board application.

These fundamental differences mean that business methods and software are not well suited to patent protection. The reasons for this are discussed below.

## **The philosophical and economic rationale for patent protection do not generally apply to business methods or software**

The philosophical and economic rationale for patents is that they provide an incentive for innovation by putting inventions into the public domain while allowing the inventors a temporary monopoly on exploitation in order for them to obtain a return on their investment.

This rationale breaks down for business methods and software:

- Because business methods and software are relatively inexpensive to “invent”, there will not normally be a large research and development outlay for the inventor to recover. Business methods and software patents would be tools for inventors to obtain excess profits, presumably at the expense of potential competitors.
- The return from discovering new business methodology or software is an (often disproportionately large) increase in time and cost efficiency. The Post Office considers that in Europe the prospect of greatly increased efficiency, and the existence of alternative means to protect valuable intellectual property, provide an incentive to innovate in the areas of business methodology and software; notwithstanding the general unavailability of patent protection. For example, business methods and software are often applied to the development of new business channels, in particular (at the moment) the Internet. The much publicised explosion in B2B, B2C and B2G e-commerce in Europe over the last ten years tends to indicate that the new business channel sector does not suffer from any lack of funding incentive.

- Because of the likely chilling effect of widespread patenting of business methods and software (discussed below) the overall effect of allowing such patents will be to curtail innovation rather than encourage it.

### **Business method and software patents would inhibit competition and innovation, particularly in e-commerce**

A computer program or end-to-end business method typically uses many techniques and provides many features. If patents for business methods and software became wide spread, businesses that develop and use new business methods and software will incur an unacceptable risk of infringing another party's patent. This will have a chilling effect on innovative businesses who might otherwise consider novel ways of conducting themselves. The Post Office is aware of at least one US study that supports this predicted chilling effect (MIT, January 2000 - accessible at <http://www.researchoninnovation.org/patent.pdf>).

Nor will there be an easy or inexpensive way for such businesses to check whether their apparently new business method or software infringes another party's patent. Apart from the fact that it would be nearly impossible to identify all the patentable "inventions" inside, for example, a computer program, for the reasons discussed below it is unlikely that there would be a reliable or easily searchable database of patents to reference against. Many infringements of business method and software patents would be accidental ones committed by businesses trying their best to innovate.

These problems do not only affect SME's and free software providers who will not be able to afford the high costs of fighting a patent case through the courts or the risk of liability in damages. Larger organisations like The Post Office with reputations as well as financial bottom lines to defend are likely to take a risk averse approach to developing new business methods and software. It is likely that businesses across the board will prefer to take licences for existing business methods and software from large software developers whose business it will become to stockpile as many patents as possible. Licensing could be an expensive proposition in itself, and a select group of licensors will obviously have an adverse effect on competition.

The problems discussed above are exacerbated by the fact that many business method and software patents would not describe end-to-end processes or tasks. They would merely be sub-routines for the resolution of particular logic problems that may be applied in a huge variety of ways. Examples are British Telecom's apparent 1989 patent over hyperlinking and Amazon's one-click ordering and affiliate program patents, the latter covering "an Internet-based referral system that enables individuals and other business entities to market products, in return for a commission, that are sold from a merchant's web site." These patents (which, like many such patents, particularly affect e-commerce operators) illustrate that by controlling an idea out of context, you can control all the means by which that idea is put to use. That is an unacceptable monopoly for owners of business method and software patents to have.

### **Practical problems would arise in the administration of business method and software patents leading inevitably to a number of "bad" patents being granted**

The Post Office does not consider that effective prior art searches are possible for business method and software patents.

The main problem is the sheer volume of prior art and the diversity of places it can be found. Another problem is the nature of much of the prior art in this area, which is described in the following quote from Bruce Lehman (the then US commissioner of patents and trade marks) reported in the July 1994 edition of *Wired* magazine:

We search the patent database, both US and foreign, and we search every commercial database. But there are many concepts that have been done which are what I call folklore. They are out there, and people know about them, but we can't find any written documentation. The examination process requires that we have a written document which we can point to which states a particular fact. Too often we can't find the documentation. Then when the patent is issued, some people say, "Well, this is well-known, it has been in the industry for years."

In order to be aware of the "folklore" and weed out false innovations, a high level of experience and technical and anecdotal knowledge of the field is necessary. Most patent examiners will not have the background required. Additionally, they will be under pressure to make decisions on the patentability of business methodology and software within set time frames. The large number of business method and software patent applications that can be expected if restrictions are lifted in Europe will no doubt stretch examiners' resources even further.

Even searches for prior patents are likely to be less than 100% reliable. In the US the specifications for many software patents do not contain the keywords "software", "program" or "algorithm" (these words are often avoided to give the application the appearance of a "normal" patent). Also, because a particular business method or item of software could be used in a variety of different ways, classification and index systems are unlikely to be applied consistently. Another problem is that the abstract nature of business methods and software means that it will not always be obvious to a non-expert examiner exactly what a particular patent describes.

These factors will inevitably lead to the grant of "bad" patents (i.e. patents that are invalid because of prior art). If such patents are granted, those that were using the technology before the priority date, or that subsequently begin using the technology on the basis of prior art, will become unwitting patent infringers. Even if a bad patent is eventually over-turned, businesses affected in the meantime by interim injunctions and/or court costs will suffer, in the case of SME's possibly fatally.

### **Other observations**

- Allowing business method and software patents in Europe at this stage would amount to arbitrary and unfair treatment of those early innovators whose discoveries are already in the public domain.
- There has not been much discussion to date about how territorial patent laws could be enforced in a global, on-line environment. If a "state of establishment" approach to jurisdictional issues (as enshrined in the E-commerce Directive) is adopted, it would be possible for an infringer to avoid European business method and software patents by simply basing itself outside of Europe and offering its services over the Internet. Adverse patent laws could act as a disincentive to business in Europe generally.
- The US has called for its trading partners to harmonise their patent laws with the US. However, it is not clear how this would benefit European businesses or consumers. Allowing business method and software patents in Europe would lead to the creation of fresh monopolies in Europe but would not give European businesses any wider rights to exploit infringing technologies in the US. The US call for harmonisation may be an attempt for US businesses to extend their monopolies into Europe by claiming priority based on their existing patents in the US.

There is growing dissent from within the US as to the wisdom of business method and software patents, at least as they exist on an equal footing with other patents. Jeff Bezos, founder and Chief Executive of Amazon, has recently published an open letter on the Amazon web site calling for patent reform and stating "that the [US] patent laws should recognise that business method and software patents are fundamentally

different than other kinds of patents.” The June 2000 edition of *Wired* magazine reported comments by a member of the US Senate Judiciary Committee that “Everything is on the table. There will be change [to the US patent laws] and it will happen relatively soon.” Some pundits have also recently raised the argument that the US position on business method and software patents may be in breach of the GATT and GATS trade agreements.

## **Power X Ltd**

Power X Limited designs and develops Communications ICs, targeting Carrier Edge product vendors and associated markets with its TeraChannel family of switch fabric devices. TeraChannel is a highly integrated, low power, CMOS based, switch fabric chipset.

The Company's Headquarters are in Manchester, England where all its R&D is currently focused. The Company employs a growing staff of 98 as at December, 2000. Power X Networks Inc., a wholly owned subsidiary, is established in Silicon Valley to handle the majority of the Company's customer support and marketing activities.

Power X has significant interest in ensuring that the patent system in Europe is available to protect its inventions, be they embodied in hardware (Asic design) or software (suitably programmed devices). The Intellectual Property Power X generates is a significant component in demonstrating to investors and customers the technology capabilities of the Company. The Intellectual Property portfolio Power X has created is an important tool in securing Venture Capital and provides evidence of the originality of the company's design capability. Power X provides designs which are usable by the major International Companies in the field of digital communication technology. Power X needs to be able to protect its design technology by patent as part of its negotiating position with these companies. Without patent protection for the designs embodied in the software Power X produces Power X would not be able to control the use of these designs in equipment manufactured by its customers.

Power X aims to market its technology internationally and specifically in the United States. Accordingly, Power X considers that it is important for there to be harmonisation for the scope of protection under patents at a European level as well as at an International level. Power X urges the Commission to ensure that the same standards of patentability are applied throughout the European Union and to use its influence to ensure that harmonisation at an international level is also achieved.

## **Record Treasury Management Ltd**

Dear Sir,

Patent Scope Consultation Software and ‘Ways of doing Business’.

I am the Chairman, CEO and founder of a currency overlay business. The business was founded in 1983, following 7 years of my working in the public sector (Bank of England) and a large private employer (Mars Inc). The concept of the business was to offer a currency risk management service to companies and investors (mainly pension funds) based on a proprietary deterministic and systematic ‘process’ for undertaking forward foreign exchange contracts.

The phrase ‘currency overlay’ refers to the process of laying a currency hedging process ‘on top’ of underlying international investments. Our process is transparent, and we always communicated its detailed construction to our clients, and has not materially changed in the course of the 17 years that the business has traded. We do know that a number of individuals either who 1) worked here or 2) worked for clients have joined firms wishing to offer a competing product, and have developed processes either very similar to ours or based on ours.

This company is acknowledged as the founder of the currency overlay business worldwide (see WM Mercer, *Discussion Paper on Currency Management Issues*, October 2000), and this industry now controls around \$100 bn of currency assets in around 20 overlay firms (of whom many of the largest are located in the UK). Record Treasury Management has around \$6bn under its management, or 6% of the world market. London, which is the centre of the world foreign exchange market, is also the centre of the world currency overlay business. It became clear very early in the life of the business that it was vulnerable to copying. Had there been scope to patent the idea under a ‘way of doing business’ category, it would have allowed the business to benefit from its first mover/inventor status, rather than have to compete in what was then a low-barrier-to-entry sector. While there are undoubtedly other independent ideas that have formed the core of other overlay businesses, the leakage of our experience and expertise has been of significant benefit to later entrants.

We have often debated the question of whether patentability would have helped or hindered our business. The question which we debate is “is there a way of describing what we do which would prevent copiers from using the core of our ideas ?”.

The problem we foresee is that the limits of what would be patentable would be fuzzy; competitors could learn enough about our process from the patent office documents to pick up the ‘idea’, then amend the detail sufficiently to make the likelihood of successful enforcement by us marginal. Whether this is preferable to limiting leakage by secrecy is moot. However, we understand that these problems are common in pharmaceuticals and other areas where the boundaries are fuzzy. No-one would seriously argue against patenting in the pharmaceutical area – there is no doubt that without it drug research would dramatically diminish.

Standing back for a moment, we do take the view that discrimination between ideas which are encapsulated in material existence (a physical device or chemical compound for example), and ideas which are not (say financial derivatives design) is no longer appropriate, in patenting or indeed in the general economy. This distinction is mirrored in the archaic categorisation between manufacturing and services. Just as old fashioned industrialists are misguided and wrong to argue that manufacturing creates the wealth of the country, and that somehow services are parasitic or ‘feed off’ that wealth, so it is increasingly indefensible to arbitrarily disallow patenting in the service sector (i.e. dematerialised products).

I hope this view from one particular corner of the service sector is of help.

Yours faithfully,

Neil Record Chairman and Chief Executive

## **Reuters Group Plc**

### SHOULD PATENTS BE GRANTED FOR COMPUTER SOFTWARE OR WAYS OF DOING BUSINESS?

#### SUMMARY

1. Software and computer-implemented business methods are central to Reuters' products and services.
2. Computer-implemented inventions should be patentable. The existing laws and practices are uncertain and need to be clarified and clearly supported by the wording of the UK, EU and European Patent Convention legislation. The scope of patent protection in this field must not be narrowed down.
3. The basic requirements of patentability should be rigorously applied. The main issue is evaluating what amounts to an inventive step. We need a firm indication on the inter-relationship between the inventiveness test and any related or separate criterion of "technical effect".
4. We would urge the legislators to issue guidance on what "technical effect" means.
5. Copyright laws are unable to adequately protect computer-implemented inventions. To prevent copying and reverse engineering, UK and European business needs access to the patenting system.
6. So long as safeguards and guidance are put in place so that only high quality patents for computer-implemented inventions are granted, Reuters is of the view that patents for these inventions will give it (and UK industry generally) confidence that the fruits of its research and development will be protected.
7. To avoid the high costs and long time delays in opposition and invalidity attacks, Reuters urges the legislators to ensure that applications are rigorously examined so that ultimately only high quality patents are obtained.
8. For a global company such as Reuters, it is essential that there is harmony of protection for computer-implemented inventions across the world. The UK and Europe need to fill the gap between the protection they offer and that available in the US.
9. Mere concepts or ideas for business methods should not be patentable. However, computer-implemented business methods are and should be patentable so long as they satisfy the basic patentability criteria. In assessing the inventiveness of such applications, human convenience and/or the business or commercial rules associated with the method should be considered.

#### SOFTWARE

Q1 How does what you do involve using software?

For example, are you a programmer, a systems analyst, a business person, an investor in e-commerce, or a home user?

1.1 Reuters Group PLC (Reuters) is the world's leading financial information and news group. It is quoted on the London Stock Exchange and NASDAQ, employing more than 16,000 staff in 97 countries.

Reuters holds a premier position as a global information, news and technology group. That position is based on a reputation for continuous technological innovation.

- 1.2 Reuters' product range includes extensive software applications for traders in the dealing room, brokers and investment managers including Internet delivered solutions linking financial professionals to their clients.
- 1.3 Reuters provides technologies for the financial markets including enterprise-wide integration, market information and data distribution, equity and foreign exchange transactions as well as risk and trade management.
- 1.4 Instinet, an independently managed subsidiary of Reuters, is the world's largest electronic agency brokerage firm, serving the equities and fixed income market.
- 1.5 Software and computer implemented business methods are central to Reuters' products and services. Reuters' vision is to make the financial markets really work on the Internet.

Q2 Do you think software should be protectable by patents?

A lot of software already is: 15% of UK patents being granted now are software-based. Any invention has to be new, not obvious, and useful if it is to be patented. In Europe, a software-based invention not only has to meet these criteria, it also has to give rise to a technical effect. For example, a new and non-obvious program which gave a computer more efficient memory usage and so enabled it to run faster would be patentable because of the technical effect it has on the operation of the computer. But a new program for a computer game would not currently be patentable because it has no technical effect.

Do you think that this degree of patent protection for software is about right? Or does it go too far, even with the requirement that there should be some technical effect? Or do you think that any software (that is new and non-obvious but regardless of any technical effect) should be patentable?

## SUMMARY OF REUTERS VIEWS

2.1 The degree of patent protection available in this field in the UK and Europe is about right. Computer-implemented inventions should be patentable. However, the existing laws and practices are uncertain and need to be clarified and clearly supported by the wording of the UK, EU and European Patent Convention legislation. The legislators must not shy away from the reality that a practice of granting patent protection in this field has grown up in the UK and Europe. The scope of patent protection in this field must not be narrowed down.

## THE BASIC PATENTABILITY CRITERIA

2.2 Reuters considers that the basic requirements of patentability, namely that the computer implementation:

- (a) is new;
- (b) involves an inventive step; and
- (c) is capable of industrial application;

should be rigorously applied. The main issue is evaluating what amounts to an inventive step.

2.3 In examining the issue of inventiveness, if an analysis akin to the EPO practice (of looking for an objective technical problem, which is overcome) is to be used, guidance must be given on how this fits in with the requirement for “technical effect” or “technical contribution”. In summary, we need to have a firm indication on the inter-relationship between the inventiveness test and any related or separate criterion of “technical effect” or “technical contribution”.

## TECHNICAL EFFECT

2.4 While we are aware that, in the UK and Europe, a software-based invention also has to meet the additional criteria of “giving rise to a technical effect”, we would urge the legislators to issue guidance on what “technical effect” means. We also need clear guidance on what, if any, differences there are between the concepts of “technical”, “technical contribution”, “technical effect”, “further technical effect” and “technical character”.

2.5 In some of its decisions the EPO seems to concentrate on whether the software produces a “technical effect” or “technical contribution” while ignoring the issue of whether it constitutes an inventive step. Without an invention no product or system is patentable. If the focus on “technical effect” or “technical contribution” means less emphasis on “inventive step” then this highlights a potential problem with patents for computer-implemented inventions, which should be resolved by legislation in this field.

## THE COMPLEMENTARY NATURE OF PATENT AND COPYRIGHT PROTECTION

2.6 Reuters believes that patent protection and copyright protection for computer-implemented inventions can run side by side. Having said that, copyright law is unable to adequately protect computer-implemented inventions.

2.7 Copyright merely protects the particular expression of an idea. It does not prevent the underlying idea itself being used by a third party. Nor does it provide effective protection against non-literal copying. With the programming tools that are available today it is easy and commonplace to take over and re-implement the brilliant concepts of successful computer-implemented inventions developed by others. Such copying and reverse engineering is widespread and difficult to prove, making it expensive and difficult for UK and European business to protect its intellectual property in computer-implemented inventions without access to the patenting system.

Q3 Why do you say that? How do you think maintaining the current position, or changing from it, would: affect you or your business? positively or negatively? affect SMEs, or other sectors of UK business and commerce? affect consumers? promote or stifle innovation and enterprise? encourage or inhibit competition?

## EFFECT ON OUR BUSINESS

3.1 So long as safeguards and guidance are put in place so as to ensure that only high quality patents for computer-implemented inventions are granted, then Reuters is of the view that patents for computer-implemented inventions will give it (and UK industry generally) confidence that the design and improvement of computer programs will be protected, to the same extent as other valuable inventions in other fields. This protection and the resulting patent portfolios are increasingly important assets for Reuters. It is these assets which are the company’s return (and justification) for our substantial investment in research and development in this field.

3.2 If computer-implemented inventions were to be patented in an uncontrolled way in the UK and Europe (a problem which to some extent has arisen in the US) then Reuters (and UK industry generally) would be faced with large numbers of “junk” patents. We would hope that those patents would be successfully struck out through the EPO opposition procedure or national invalidity attacks. In order to avoid the costs and time delays involved in such attacks, Reuters urges the legislators to ensure that applications are rigorously examined, in accordance with defined legal criteria and that an adequate level of disclosure in patent specification documents is required so that ultimately only high quality patents are obtained.

3.3 A relatively liberal regime exists in the US for the patenting of computer-implemented inventions. The availability of patents for such inventions in the UK and Europe would put the UK and Europe on a level playing field with the United States. For a global company such as Reuters (operating in the global market created by e-commerce) harmony of protection for our computer-implemented inventions is very important.

#### EFFECT ON SMES OR OTHER SECTORS OF UK BUSINESS AND COMMERCE

3.4 Whilst there are a number of very large players in the UK software industry, there are an enormous number of relatively small UK software houses who have contributed to the development of software. A newly clarified patent system would represent a clear opportunity for them to gain the rewards that they deserve for genuine innovation and help them to find investors, for example, amongst venture capitalists.

#### EFFECT ON CONSUMERS

3.5 If high quality patents are granted for computer-implemented inventions then this will reward UK industry and business for its investment of time and money in the background research and development. Ultimately, such research and development (and the improvements it brings) offer increased convenience to consumers.

#### PROMOTE OR STIFLE INNOVATION AND ENTERPRISE/ENCOURAGE OR INHIBIT COMPETITION

3.6 Uncertainty over patent protection has encouraged companies to become more secretive. Good quality patents for computer-implemented inventions and the resulting disclosure of novel ideas would increase such dissemination and provide further impetus for innovative software development.

#### GENERAL DEVELOPMENT OF INFORMATION SOCIETY

3.7 The patent system was a cornerstone for innovation in the industrial revolution. There seems no reason why it should not be a cornerstone for innovation in relation to computer-implemented inventions and the e-revolution. The important thing is to ensure that monopolies are only granted for genuine inventions where genuine problems have been solved by new and inventive steps.

#### WAYS OF DOING BUSINESS

Q4 Does what you do involve trade in services rather than products? For example, are you concerned with market strategy, selling airline tickets, in financial services, or a consumer of such things?

4.1 Yes. We offer full service information and software applications for financial markets, financial services, internet-delivered solutions and professional products exploiting the latest developments in application technology.

Q5 Do you think ways of doing business should be protectable by patents? A “way of doing business” might be a method for selling airline tickets, a way of administering a pension scheme, or a way of organising a staffing rota, for example. In the United Kingdom you cannot get a patent for such things. Do you think that this is the right position? Or do you think that a way of doing business (which otherwise meets patenting criteria of being new and non-obvious) should be patentable?

5.1 The right position is that mere concepts or ideas for business methods, for example, a way of administering a pension scheme, should not be patentable. They are not in any sense technical. However, computer-implemented business methods should be patentable.

5.2 Reuters takes the view that computer-implemented business methods, for example, a software application for organising a staffing rota, should be patentable and should be treated in exactly the same way as other computer-implemented inventions. The existing requirements of patentability should be applied and the main issue will, once again, be evaluating what amounts to an inventive step. Technical effect (for example, better communication between the computer files holding the information relating to the rota) is only one criterion for inventive step. Potentially non-technical features (such as easier means for a human to make changes to the rota) may also be important in examining the inventiveness criterion.

5.3 Many business methods are implemented by computer. The effect achieved is often to make it more convenient for human beings to perform certain activities or to make it possible for human beings to perform activities, which could not be previously performed. We consider that such human convenience can be taken into account in assessing inventive step (or technical effect).

5.4 There may be cases where the business or commercial rules associated with a computer-implemented business method (such as in the German Federal Patent Court Case2) are so closely bound up with the technical features and any resulting technical effect, that they must also be considered in assessing whether there is an invention.

Q6 Why do you say that? How do you think maintaining the current position, or changing from it would: affect you or your business ? positively or negatively? affect SMEs, or other sectors of UK business and commerce? affect consumers? promote or stifle innovation and enterprise? encourage or inhibit competition?

6.1 We feel that to allow business methods themselves would be very broad and would be problematic in that it would be hard to devise workable and effective criteria to determine their patentability. Where implemented by computer, providing the current criteria for patentability are rigorously applied, we reiterate our comments under question 3 above. Allowing patents for business methods implemented by computers would have the same effects as those discussed in paragraph 3.

## THE POSITION IN THE UNITED STATES

Q7 If you have any experience of the US position on patenting software or business methods, how would you assess it? In the United States, computer software and ways of doing business are in general terms patentable. How has that impacted on you or your business, and how has it shaped your views on what is best in this area? How do you think the difference between the current US and European positions affects the factors listed under Q6?

7.1 Good quality patents for computer programs and computer implemented business methods would alleviate a disadvantage that UK and European companies face vis-à-vis their foreign competitors as a result of a gap between the protection afforded in the US and that available in the UK and Europe. For a global company like Reuters (operating in a global market place) it is vital that the company has the assurance of

knowing that it has protection for its inventions across the world, not just in isolated geographical areas. Without that assurance, there are inherent risks for Reuters in launching new products or services. In certain jurisdictions it will not have adequate patent rights to prevent others copying or reverse engineering its computer-implemented inventions and therefore will risk losing out on its investment in the background research and development.

7.2 In our experience, problems have arisen in the United States as a result of the number of “junk” patents derived from the United States? More lax approach to the criteria for patentability. This has led to unnecessary expense and uncertainty arising from the widespread, somewhat uncontrolled patenting of computer programs.

7.3 Junk patents hold back development, prevent competition, and incur considerable time and expense for business. Business is hampered by the costs and logistics of evaluating potential patent infringements in a system where junk patents were easily granted. Companies like Reuters might also face significant costs in enforcing or defending their patents from attack in a system awash with patents of variable quality.

7.4 It is only by ensuring the quality of computer-implemented patents in the UK and Europe that these problems can be avoided. Reuters urges avoidance of the problems experienced in the United States by adopting a more rigorous approach to the basic patentability criteria in the granting of computer-implemented invention patents.

## **Runtime Collective**

I'm attaching a response to the call for consultation on software patents. The response is the official one of our company, Runtime-Collective and can be seen on the web at <http://www.runtime-collective.com/static/runtime-new/opinions/patent.html>

Software

Q1. How does what you do involve using software?

We are a small software company who provide content management, community management and e-commerce solutions for web sites and internal networks.

Q2. Do you think software should be protectable by patents?

A lot of software already is: 15% of UK patents being granted now are software-based. Any invention has to be new, not obvious, and useful if it is to be patented. In Europe, a software-based invention not only has to meet these criteria, it also has to give rise to a technical effect. For example, a new and non-obvious program, which gave a computer more efficient memory usage and so enabled it to run faster would be patentable because of the technical effect it has on the operation of the computer. But a new program for a computer game would not currently be patentable because it has no technical effect.

Do you think that this degree of patent protection for software is about right?

No

Or does it go too far, even with the requirement that there should be some technical effect?

Yes. We believe it already goes too far. (See answers to question 3)

Regarding the specific issue of technical effect: even though we have a lot of experience in the software industry, the concept is not familiar to us. It is clearly not a term in computer science, software engineering or for any other of the IT professions. A survey via search engines of documents on the net reveals the phrase only occurs in the context of European patent law.

Therefore:

It seems extremely doubtful whether the distinction is one which can really be made sense of scientifically, or for which there can be an objective, universally applicable, unambiguous test.

And consequently, what seems likely is that it will be up to the courts to decide when software has such an effect. For us, such a criterion of distinction is not useful as it requires us to appeal to law everytime we have to decide whether an idea is potentially patentworthy.

Or do you think that any software (that is new and non-obvious but regardless of any technical effect) should be patentable?

No

We don't believe that patents should be granted for any software except under the exceptional circumstances that an algorithm involves the use of a large dataset, which has been collected as the result of considerable and costly research. For example, a mathematical model whose many parameters had been fine tuned through experiment, might be patentable. And then only the model plus dataset should be protected. Another company should be allowed to use the same model with a dataset of their own discovery without infringing the patent.

Q3. Why do you say that? How do you think maintaining the current position, or changing from it, would affect you or your business - positively or negatively?

From our business perspective we see these major problems with software patents.

1.As a small company we are always at a disadvantage to larger companies in the event of the threat of a lawsuit. Large companies can afford to threaten to sue knowing we can't afford to fight the case. This is particularly true in the arena of patents where (as we understand) only qualified patent lawyers are legally considered eligible to judge whether a patent is valid or not. That, in essence, means that a larger competitor could threaten to sue us, knowing that, simply to retain a qualified expert to help us judge whether we have a legal case or not, is going to do significant damage.

For similar reasons we are unlikely to take advantage of patent protection ourselves. We are an inventive company, but we do not have the resources to patent our ideas, still less to actively police our competitors.

In short, it is clear to us, and presumably to the framers of this questionnaire, that this isn't a matter of natural justice but a law that is framed pragmatically for the benefits of the players and the industry in general; and we think that the more legislation that affects the area: software design, the more it will cement the position of large companies that can afford to support a legal department, and suppress smaller companies who face this legal barrier to entry to the market.

2.The experience of the US seems to be that patents are being given for extremely simple ideas and, more worryingly, patents are given that have very broad areas of application. No doubt, this situation will be improved as the patent office employs more knowledgeable staff, but there's a fundamental asymmetry. You only need a small twist on an existing idea for it to be considered original enough to patent, but no small twist on a patented idea makes it original enough to be unpatented. Until this is addressed, it seems that those who aggressively patent will rapidly gobble up the available idea space, simply by patenting the broad, generalisations, while leaving those who struggle with the devil of the details, unprotected.

3.The aspect of patents that seems particularly unfair is that one can be penalised for independently coming up with a previously patented idea. As many new ideas are merely the result of combining two existing ideas, once these two preceding ideas become public knowledge, there is a sense in which the combination ought to be considered obvious. Nevertheless, although, many people might independently put 2 + 2 together, the current patent system is simply a reward for the fastest to get to the patent office with the result.

As we see it, the other great source of ideas are problems. Once again, the same problems are going to occur for many companies including our clients. And once a problem is framed, its solution is often obvious. This is another way many people can come up with the same idea independently.

Affect SMEs, or other sectors of UK business and commerce?

As stated above we are an SME and we think the effect of software patents is overwhelmingly bad for this sector.

Affect consumers?

The main concerns to consumers are cost and variety of choice. Anything which increases costs to software producers will impact consumers.

Traditional commercial software producers must raise their prices to help cover these costs or be barred from creating speculative software for new, uncertain markets because of the extra burden. Worse still, these costs will prevent non-profit organisations such as universities who might otherwise create and distribute software free or "open source" from creating any publicly available software at all.

This second matters more than may at first be apparent. Open Source / Free software is an essential component of the internet and its freedom is what has made it so easy for the net to grow. It has allowed many SMEs to spring up, such as Internet Service Providers and other infrastructure providers. If the academic wellspring of free software is choked by software patents, we can expect fewer and slower development in internet infrastructure and a corresponding drop in the number opportunities that come from this.

Promote or stifle innovation and enterprise?

We believe strongly that software patents would stifle our own innovation and enterprise. In particular

1. Every time we looked at a client's problem, and attempted to solve it, we would be obliged to perform a patent check to find potentially conflicting patents, hire a patent lawyer to advise whether our solutions were in fact violations, if so, try to negotiate with patent holders to license the use of the patented technique, or think about alternatives. In fact we tackle problems and find solutions that are potentially patentable every day, on a time scale of a few hours.

Were we to have to play by the above rules, our productivity would have to drop by an order of magnitude.

A further point could be made here. One of the rationales for having patent protection is to provide an incentive for research and development. Where software solutions are developed over a long timescale with a significant input of resources in a research area (the kind of thing typically done in the context of a CS PhD) there maybe an argument for patent protection. Where patents have gone wrong, in our book, is simply in allowing the patenting of an 'idea'. Especially in the internet business, development timescales are extremely short. The reason for the enormous productivity gains coming out of the internet is that many many people are applying creative ideas to existing business models, and are able to realise them on a timescale of months. The models then, of necessity, become public on a website, and there is a very rich cross-fertilisation of ideas. No ideas in this field are truly 'original' - they tend to be arrived at by hundreds or thousands of people at the same time. And through inventors making incremental evolutionary improvements on the work of others. The patent system is actively unfair in rewarding those who can afford to spend the money and the time working the system, who are often late arrivers in a particular field (e.g. amazon, priceline).

One idea we favour, if patents are really meant to promote research, is that the criteria for rewarding patents should be the same as the criteria for evaluating academic research - peer review to establish a genuine contribution and research innovation - not the opinion of patent attorneys. Peers would be anonymous, and sign non-disclosure agreements. Academia might be a good place to find experts willing to perform this role.

Encourage or inhibit competition?

In the sense that we feel generally inhibited by the existence of software patents, we believe that our ability to compete is diminished.

Ways of doing business

Q4. Does what you do involve trade in services rather than products?

Although we are a software developer we view our business as being service rather than product based. A web site is continuously evolving, and we aim for a long-term relationship with our customers. The value we sell is not in our code as much as the expertise and experience of our staff. Our clients obviously see us as providers of packaged solutions, but internally our model is a service.

Q5. Do you think ways of doing business should be protectable by patents?

A "way of doing business" might be a method for selling airline tickets, a way of administering a pension scheme, or a way of organising a staffing rota, for example. In the United Kingdom you cannot get a patent for such things.

Do you think that this is the right position?

Yes.

Or do you think that a way of doing business (which otherwise meets patenting criteria of being new and non-obvious) should be patentable?

No

Q6. Why do you say that? How do you think maintaining the current position, or changing from it, would affect you or your business - positively or negatively?

If patents were granted for supposedly 'innovative' ways of doing business on the web, that would certainly affect our business negatively. It seems very unlikely to us that the patent holders would clearly be the true 'innovators' - the sector moves so fast that it is likely to be almost impossible to judge where innovations were first made. And most 'innovations' patented in the states for example are simple and obvious extensions of existing models - often suggested by the use of web technology and independently arrived at by many entrepreneurs at the same time. The granting of patents in these circumstances serves no generally positive economic purpose.

Affect SMEs, or other sectors of UK business and commerce?

The affect would clearly be the most negative on SMEs in our opinion. Traditionally patents have been used by inventors to protect their work from plagiarism by more powerful competitors. The experience of the US shows the reverse to be the case - larger organisations with the resources to work the law have used them to unfairly protect an entrenched position.

Affect consumers?

Patenting business practices in this sense is clearly anti-competitive.

Promote or stifle innovation and enterprise? Encourage or inhibit competition?

See above

The Position in the United States

Q7. If you have any experience of the US position on patenting software or business methods, how would you assess it?

In the United States, computer software and ways of doing business are in general terms patentable. How has that impacted on you or your business, and how has it shaped your views on what is best in this area? How do you think the difference between the current US and European positions affects the factors listed under Q6?

## **Skygate Technology**

Hello,

I write with reference to the current consultation on software and business practice patents. I write on behalf of Skygate Technology; what I say also reflects my personal views. This response may be published if you wish to do so. To answer the questions on the web site:

1. Skygate Technology develops software. The business develops some software on a consultancy basis, and also develops other software for licensing. Usually the software which is developed for licensing is sold outright, including the copyright, rather than us doing individual licensing deals.

2. I think that software should be unpatentable and, by statute, incapable of infringing any patent.

In other words it should be impossible to patent a computer program as such. If an invention can be implemented physically as well (for example an algorithm that can be implemented in hardware) then it should be possible to patent the hardware. However, if anyone implements the same algorithm exclusively in software, the resulting program should not count as infringing.

3. Of course, there are things that we could patent ourselves. However, the price of being able to do that is having to accept others' patents. When we produce software for an international market, we have to be very careful to avoid using patented algorithms. Sometimes this limits what we are able to offer to customers without them incurring prohibitive licensing fees.

In addition the open source software movement is seriously hampered by software patents. If software is redistributable there is no revenue stream which can pay the licensing fees. There are, of course, ways of making money from open source software - consultancy for example. But because the author of the package does not have control over how it is used, it is impossible to license patents on realistic terms.

Our own business would probably experience a small increase in profitability if software patents disappeared. However, there would be a much larger improvement in the quality of the products we were able to produce. I believe that this is important as well as pure profitability. We want to be a business, which is profitable because it makes good products, not a business which is profitable because it is good at playing the legal system.

At the same time, of course, if software patents did become dramatically easier to obtain we would have to participate actively because of our duty to our investors. We would probably try to minimise the impact of our patents on open source projects. Not doing this would risk incurring substantial bad publicity.

I think it is clear from this that software patents have a negative impact on the economy as a whole which is greater than their negative impact on us. Because we develop software we have the ability to profit from software patents. The companies outside the software industry cannot do so. They will receive all the costs (licensing fees, reduced availability of open source software, and so on) with none of the benefits.

Whether or not we could patent the results would not affect the amount of research we carry out. We have to carry out research; the ability to make money out of patent licences would be nice (though outweighed overall by the costs) but would not really make any research justified that was not before.

4. We do not have any physical products - all of our revenue comes from services.

5. I believe that business method patents should not be available.

6. Since any patent restricts companies' ability to do business, the availability of patents has to be justified on two grounds. Firstly the availability of patents reduces the incentive to keep inventions secret. Secondly patents encourage research.

For business methods, it would normally be impractical to keep them secret. For example, Amazon.com's one-click patent is in a sense both a software patent and a business method patent. However, because the invention has to be made available for people to use, it has to be publicised.

In the pharmaceutical industry, research is extremely expensive, so would probably be difficult to justify without the ability to patent the results. Software patents are towards the other end of the scale, and business method patents are at the other extreme. Very complicated ways of doing business, which require a lot of research, are comparatively unusual. For this reason I believe that business method patents are impossible to justify on this ground.

Finally, all patents (including both software and business methods) have a cost in the way they inhibit competition. Sometimes this is not too bad; for example there are many ways of making CD-Rs, all of which are patented by different people. Other times the inhibiting effect is very serious, such as the public key cryptography patent, which for many years forced inferior computer security on a great many people.

7. Our experience of the American system has been extremely negative, which is the primary motivation for this submission. Software design for the American market is influenced by the need to avoid patent problems as much as technical issues.

## **Trade Marks Patents and Designs Federation**

Dear Mr Watson,

In response to the Patent Office consultation on the patentability of computer software and business methods, the Trade Marks Patents and Designs Federation (TMPDF) would like to make the following comments:

1. How does what you do involve using software?

Our members use software in a very wide range of contexts, from pure computer applications, through to controlling a wide range of hardware devices, such as automobile and aircraft engines, telephone networks, consumer electronic devices, and so on.

2. Do you think software should be protectable by patents?

Yes. We believe that patents should be granted for new, non-obvious inventions in any field of technology (note that patents are granted for inventions, rather than software per se, although the invention may be implemented in software). We are generally happy with current EPO practice on the handling of software inventions. It should be noted that some of the UK case law on methods of performing a mental act is anomalous and needs reform.

3. Why do you say that?

See our response to the Commission for the rationale behind our support for software patents (see attached file).

4. Does what you do involve trade in services rather than products?

Our members trade in services, in some cases to other business (such as consultancy), in other cases to consumers (eg some telephony services). In the broadest sense, even the way in which our members sell products can be regarded as a business method.

5. Do you think ways of doing business should be protectable by patents?

We do not believe that pure methods of doing business (i.e. absent any technology) should be patentable. See the discussion of EPO case T0931/95 in our response to the Commission for more discussion of our members' views on this.

6. Why do you say that ?

See our response to the Commission for the rationale behind our opposition to pure business method patents (see attached file).

7. How do you assess the position in the US?

Our members have considerable experience of software patents in the US, although it is probably too early to tell the full impact there of business method patents. Note that there are certain factors in the US which are absent in Europe. For example, there have been some acknowledged quality problems in the handling of patents for software inventions in the USPTO.

Also US patent litigation is very expensive, and somewhat unpredictable due to jury trials (although within Europe, UK litigation is expensive). Whilst our members generally regard international harmonisation as beneficial, this is only on appropriate terms, and they would not want wholesale adoption by the UK of the current US position.

Yours sincerely  
Mrs Sue Scott

Dear Sirs

Please find below the response of the Trade Marks Patents and Designs Federation (TMPDF) to the above consultation paper. The Federation agrees to its comments being published on the Commission web site, in any evaluation report on the consultation or in any other document to be drawn up by the Commission.

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## THE PATENTABILITY OF COMPUTER-IMPLEMENTED INVENTIONS

### RESPONSE TO THE COMMISSION CONSULTATION PAPER BY TRADE MARKS PATENTS AND DESIGNS FEDERATION

#### INTRODUCTION

The Trade Marks Patents and Designs Federation (TMPDF) represents the interests of many substantial innovative UK industrial companies (a list of which is appended) in the protection and fair use of intellectual property rights. The Federation works closely with the Confederation of British Industry (CBI) and is a member of the UK Government's Standing Advisory Committee on Industrial Property.

#### SCOPE OF HARMONISATION

We support harmonisation on the general basis of the elements proposed in the Consultation document by DG Internal Market, subject to the observations expressed below.

In particular,

(a) Patents should be available for new, non-obvious inventions in any field of technology. Thus software inventions which provide a technical effect should be patentable, but pure business methods excluded.

(b) Current experience of EPO practice demonstrates that the patent system can successfully accommodate software inventions without the need for any special provisions or procedures.

(d) Patents and copyright are complementary, with the former generally protecting ideas, the latter expression.

The advantages of such harmonisation are:

- (i) satisfying the requirements of Article 27 TRIPS for patents to be granted for inventions in any field of technology
- (ii) improving legal certainty and transparency by clearly aligning the law with current EPO practice
- (iii) providing a reasonable degree of harmonisation with major trading partners, in particular the US and Japan
- (iv) stimulating investment in software research

We have the following additional comments:

- (a) Claims to a computer program per se should be permitted, where a patentable invention is involved, since restricting claims to computer systems typically introduces considerations of contributory infringement, and reduces legal certainty. A patentee should be able to select the most effective claim formulation to protect an invention (this is a separate issue from whether an invention is patentable in the first place).
- (b) The requirement for a "non-obvious technical contribution" is inconsistent with current EPO case law, and should be replaced by the need for a technical effect or technical character in the invention as a whole. Note that attempts to exhaustively define the boundaries of patentability by a detailed explanation of technical considerations etc are unlikely to be useful, and would certainly reduce legal transparency. The statutory provisions should be based on Article 27 TRIPS, perhaps with non-binding Examination Guidelines to reflect current EPO practice.
- (c) Adopting a more restrictive approach to computer program inventions would dramatically reduce the scope of patent protection available not only in IT, but also in huge swathes of industry that now rely on software innovation, such as telecoms, electronics etc. This could have a potentially severe adverse economic impact, and would certainly contravene TRIPS. Alternatively, the consequences of a more liberal approach to embrace pure business method patents are difficult to foresee at present, and require a much more comprehensive investigation and analysis (even the US currently remains uncertain as to the correct approach for business method inventions).
- (d) Overall experience with the EPO indicates that they already provide a competent search and examination of software patents - at least comparable with their performance in other fields of technology (certainly there is no good evidence to the contrary).
- (e) One additional significant benefit of the proposed approach, not specifically recognised by the Consultation Document, is that worldwide TRIPS conformity is very important for many European industries outside IT, such as pharmaceuticals. These industries may suffer if European patent law is not clearly in line with TRIPS, since it will reduce the ability of Europe to press other countries to conform to TRIPS.
- (f) If a whole computer program is copied, then the copy will take both the expression and ideas of the original; hence there will be infringement of both copyright and patents (if any). To this extent a program can potentially be protected by both copyright and patents. Note that the situation here is exactly analogous to many mechanical products which can be protected by both design right and patent.
- (g) In the recent decision EPO decision T0931/95, the Board of Appeal held that an invention relating to a computerised pension benefits system was patentable subject matter under Article 52(2), but could not have an inventive step because the advance was in a non-technical field (economics). This decision has proved

controversial with our members: some feel that the subject matter should have been excluded under Article 52(2); others feel that having found a technical effect, the Board should have gone on to consider inventive step irrespective of its nature.

## IMPACT OF HARMONISATION

Innovation in software and underlying knowledge and techniques We believe that this would be positive, based on analogy with other sectors of technology. The Commission Study (ETD/99/B5-3000/E/106) was unable to find clear economic arguments, either for or against software patents, but this is not surprising since the Study also indicates that the economic evidence in support of the patent system as a whole is not necessarily conclusive. Nevertheless, industry supports the patent system, and regards it as economically advantageous. Indeed, as software increasingly drives innovation in more and more industries, from aerospace to telecoms, the need for software patents to encourage and sustain R+D investment will grow ever stronger.

The Commission Study presents some arguments arguing that software innovation should be treated differently from other industry, but these are undermined by highly inappropriate comparisons (for example between pharmaceuticals and software), and also spurious characterisations of the software industry, such as being a field of particularly "incremental" development (which must surely be true of any technology). More realistic comparisons, for example between hardware inventions and software inventions in the IT industry itself, or in other closely aligned sectors, such as consumer electronics, strongly suggest that the overall economic benefits of hardware patents will also be enjoyed from software patents. In fact software innovation particularly merits patent protection, because once a software product has been developed, there are few barriers to derivative products from competitors (there is no need to invest in factories, tooling, etc).

### Ability of SMEs to compete

Patents provide an effective mechanism to allow an SME to compete against established players, as demonstrated for example by the Dyson vacuum cleaner. Historically, patents have also been important in the growth of companies such as Glaxo Wellcome to their current size. One prominent example in the IT industry concerns Stac who successfully defended a patent on disk compression technology against the marketplace power of Microsoft.

In the converse situation, where a company finds itself potentially on the wrong side of a patent, there is no evidence that SMEs suffer disproportionately compared to larger companies, either in general across all technology, or specifically in the software industry (which is particularly relevant given that many software patents are already in existence). In fact, patents are much more likely to be asserted against larger companies, given their greater financial exposure.

In the US SMEs are generally very strong supporters of the patent system across all industries, demonstrating that there is nothing inherent in the patent system, which is disadvantageous to SMEs. However, it is probable that SMEs are particularly vulnerable to the current confused state of the law regarding software inventions in Europe, since they lack specialist in-house advice.

A further consideration is that patent protection is often regarded by venture capitalists in the US as an important consideration before investment in an SME, since otherwise any technological lead held by that SME is vulnerable to the superior resources of a larger company. However, without a strong and transparent patent system for software inventions in Europe, this important source of SME funding may be restricted.

## Open Source

It is true that some prominent members of the Open Source community are strongly antagonistic to software patents. This opposition often stems from philosophical considerations (a quasi-religious belief in programming freedom), and the poor performance of the USPTO in handling certain software patents. Neither is directly relevant to the present situation; the former because patents should be assessed on an economic basis (as per the Consultative Study), the latter because the EPO has generally performed satisfactorily in the area of software patents. The Open Source community also sometimes appears to be especially fearful of Microsoft, but this problem (if any) is best remedied under competition law provisions.

In practice a company often has a choice for any given project between investing in its own R+D, and retaining IP rights, and utilising (and enhancing) existing Open Source code, which saves R+D expense, but surrenders IP rights. Which option is taken depends upon the particular commercial circumstances, but it is vital that industry is free to continue making this choice (particularly for SMEs).

At present many companies are contributing code to the Open Source movement, which is strongly supported by our members. There is very little evidence that this activity has been adversely impacted by software patents, either in Europe, or in the US, where such patents are even more prolific. In fact, the debate about Open Source and software patents often fails to recognise that large numbers of software patents already exist, thereby significantly exaggerating the effect that the proposed harmonisation would have.

In many ways, the relationship between Open Source and patents is similar to that between patents and standards, in that the marketplace will find an appropriate balance. The best outcome is therefore one of co-existence between Open Source and patents, to maximise the scope for future software development.

The position of the European software industry in global competition It is sometimes mistakenly asserted that software patent protection is being advocated only by US companies for their own benefit. The reality is that patent protection is a mechanism for supporting R+D investment, and is therefore a necessity for any society which wants to support a high skills, high technology economy (as opposed to being a low-cost manufacturing centre). Of course the US is one such economy, hence its strong support for the patent system, but equally this is the only economically and politically sensible strategy for Europe. Therefore this is an area where the interests of the major industrial powers (such as Europe, US and Japan) are closely aligned.

## Development of the Information Society

We believe that the impact here will be positive, comparable with the impact on software innovation as described above, and for essentially the same reasons. Note also the general lack of concern in the US that software patents could in any way harm the development of their Information Super-Highway.

(c) 2000 Trade Marks Patents and Designs Federation

## APPENDIX

Members of the Trade Marks Patents and Designs Federation (TMPDF) include the following companies:

Acordis Ltd  
Allied Domecq plc  
ALSTOM UK Ltd

Arjo Wiggins Appleton plc  
AstraZeneca plc  
Aventis Pharma Ltd  
Babcock International Ltd  
BAE Systems plc  
Bass PLC  
B G plc  
Black & Decker  
The BOC Group plc  
The Boots Company plc  
Borax Europe Ltd  
BP Amoco plc  
British Biotech Pharmaceuticals Ltd  
British Telecommunications plc  
BTG plc  
H P Bulmer Holdings plc  
Cadbury Schweppes plc  
CarnaudMetalbox plc  
Celltech Therapeutics Ltd  
Ciba Specialty Chemicals Ltd  
Coats Viyella plc  
Compu-Mark (UK)  
Corning Communications Ltd  
Dow Corning Ltd  
Dyson Research Ltd  
Eaton B.V.  
Eli Lilly & Co Ltd  
ExxonMobil Chemical Limited  
Ford of Europe Incorporated  
Gallaher Ltd  
Glaxo Wellcome plc  
Hewlett-Packard Ltd  
IBM UK Ltd  
Imperial Chemical Industries PLC  
International Computers Ltd  
IMI plc  
Imperial Tobacco plc  
Invensys plc  
Knorr-Bremse Systems for Commercial Vehicles Ltd  
Kodak Ltd  
Lloyds TSB Bank plc  
Marconi plc  
Merck Sharp & Dohme Ltd  
NCR Limited  
Nestlé UK Ltd  
Nokia R&D (UK) Ltd  
Nortel Networks plc  
Nycomed Amersham plc  
Pfizer Ltd  
Philips Electronics UK Limited

Pilkington plc  
Procter & Gamble Ltd  
Reckitt Benckiser plc  
Ranks Hovis McDougall Limited  
Rolls-Royce & Bentley Motor Cars Limited  
Rolls-Royce plc  
Shell International Ltd  
SmithKline Beecham plc  
Sony UK Ltd  
Takeda Europe R&D Centre Ltd  
Tyco Electronics UK Limited  
United Distillers & Vintners (ER) Ltd  
Unilever plc  
Wyeth Laboratories  
Xerox Ltd