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## Patentability of Computer Software As Such

The Court of Appeal decision in *Symbian* obliges the UK Patent Office to take a broader view of what is patentable.<sup>2</sup>

Previously the Office considered software patentable only if it either solved a problem in the operation of a computer or produced a new effect outside the computer. For example, an application configured to run more rapidly because it used the computer's resources more efficiently and economised on the memory would be refused as a computer program "as such".

Rejecting the above approach, the Court held that differences in outcome between the UK IPO and the EPO should be minimised. If claimed subject matter was not an excluded business method, mathematical method or mental act, the right question was whether it made a "technical contribution" having regard to the practical reality of what was achieved. Increase in reliability and speed whether within or outside the computer were advantages that would normally suffice to ensure patentability.

Leave to appeal to the House of Lords was refused and the Patent Office was ordered to contribute £55,000 to the applicants' costs.

### Background

The proceedings concerned the patentability of a method of accessing data in a dynamic link library device. It was summarised by the Court in the following terms:

Dynamic link libraries (or DLLs) were already known as a means of storing functions common to a number of different applications, so that they were only required to be stored once. The particular function is selected and linked to the application program when it is loaded and run. A function can be selected by its name ("linking by name") or by the numbered address at which it is located ("linking by ordinal"). Linking by name requires a look up table, which links the

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<sup>2</sup> *Symbian Limited v. Comptroller General of Patents* [2008] EWCA Civ 1066, UK Court of Appeal (Lord Neuberger, Jacob and Maurice Kay L.JJ.), 8 October 2008

name of the function to its location in the DLL. It requires more access to memory than linking by ordinal, which is achieved directly. Linking by ordinal is, therefore, the more rapid method of accessing data from a DLL.

Any additional functionality can be added to the DLL. Each new functional module or program is given a numbered address. Allocation is sequential, so that the first 'free' number is taken. However, difficulties can arise when parties add further functionality to the DLL (for example by an upgrade of the operating system and by an additional piece of hardware) independently of each other. Because the functions are added sequentially at the end of the ordinal number range, they are independently both given the same ordinal number and location. This can cause incompatibility in the operation of these new functions.

The purpose of the Application is to overcome this problem. It claims to achieve this by splitting the DLL into two parts. The first part is effectively 'fixed', and contains one or more functions at one or more locations that are linked directly to the program applications. The second part – called the extension part – enables the addition of further functions at further locations. The functions are not linked directly to the program applications, but are only accessed via a further library or interface that holds the ordinal address of the additional functions as located in the extension part of the DLL. The library or interface is a computer program. The effect of the interface is to enable the location of the functions in the extension part of the DLL to change without altering the location in the interface via which they can be selected or 'called'.

The alleged invention was stated to avoid the potential unreliability of the prior art link-by-ordinal system. Devices configured to work by the new method were expected to include any form of computer, various forms of cameras and communication devices such as mobile phones and other products which combine communications, image recording and computer functionality within a single device. Such devices were expected to work faster and more reliably.

### **Previous proceedings**

The UK Patent Office refused to allow the application to proceed to grant as non-statutory subject matter, but on appeal to the court, Patten J. allowed the appeal and remitted the application to the Patent Office for further examination. The present proceedings represented a further stage of appeal.

### The rival submissions

The Patent Office took the position that art 52(2)(c) EPC, as qualified by art 52(3) EPC, has the effect of excluding from patentability any program unless it has a *novel effect outside the computer*. Thus, a program which contained a method for carrying out a new procedure, or representing a better way of carrying out an existing procedure, would be patentable in principle, unless the effect of the procedure was solely within the computer itself. On this basis, a program for an improved system for manufacturing a product, or for performing a new or improved function on any machine would be patentable, unless the function was only performed on the computer itself.

Symbian, replied that art 52(3) EPC resulted in art 52(2)(c) EPC having a more limited exclusionary effect: it only excluded programs which did not provide a technical solution to a technical problem. A program which improved the performance of a computer would not be excluded any more than a program which improved the performance of any other machine. But a program which simply embodied a theory would be excluded because it would not make a technical contribution. And a program embodying a mathematical method or a method of doing business would be excluded, as its only contribution would be in respect of matter within art 52(2) EPC. Symbian argued that its case was assisted by art 27 of TRIPS, which provided that, subject to certain irrelevant exceptions, “patents shall be available for inventions ... in all fields of technology” (the emphasized words being incorporated into art 52(1) by amendment in 2000).

### Court of Appeal – discussion of the law

Allowing the appeal, the court held that it should continue to apply the approach set out in its earlier decision in *Aerotel Limited v Telco Limited; Macrossan’s Application* [2007] RPC 7, [40]. However, the important question was whether the claimed subject matter made a “technical” contribution to the state of the art. Despite an attack by the Patent Office on the vagueness and arbitrariness of the term “technical”, that question embodied the consistent jurisprudence of the EPO Appeal Boards (even though the precise meaning given to the term has not been consistent), and it has been applied by the UK Court of Appeal itself in *Merrill Lynch’s Appn.*, [1989] RPC 561, *Gale’s Application* [1991] RPC 305, *Fujitsu Limited’s Application* [1997] RPC 608 and *Aerotel (supra)*.

The most reliable guidance as to the meaning of the term “technical” was to be found in *Computer-related invention/VICOM T 0208/84*, [1987] 2 EPOR 74, *Data processor network/IBM CORP* (1988) T 0006/83, [1990] EPOR 91 and *Computer-related invention/IBM CORP* (1988) T 0115/85, [1990] EPOR 107 and in the UK decisions in *Merril Lynch* and *Gale*. The fact that “the boundary line between what is and what is not a technical [contribution]” is imprecise (as Nicholls L.J. said in *Gale*, and as was echoed by Aldous L.J. in *Fujitsu*) might be attributable to three causes:

- (a) national tribunals and the Board may still being at an intermediate stage of working out and identifying the precise location of the line to be drawn;
- (b) the problem being inherent and never wholly satisfactorily soluble; and
- (c) competing views based on different philosophies (the “open source” movement representing one extreme, that of companies such as the present applicant, the other).

The uncertainty was well demonstrated by the elusiveness of the meaning of “technical”, the change of attitude manifested in the more recent decisions of the EPO Appeal Board, the contrasting outcomes in *Vicom* and *Fujitsu*, and indeed possible reconsideration of the correct view of computer program patents in the United States (see Professor John Duffy: *Death of Google's Patents?* Patently-O Patent Law Blog, July 21st, 2008).

However, bearing in mind the multifarious features of computer programs and the unpredictable developments which will no doubt occur in the IT field, the court believed that it would be dangerous to suggest that there was a clear rule available to determine whether or not a program was excluded by art 52(2)(c) EPC. Each case must be determined by reference to its particular facts and features, bearing in mind the guidance given in the decisions mentioned in the previous paragraph.

#### **Decision on the merits of this appeal**

Based on these principles, the Court of Appeal concluded that Patten J. was right and that the claimed invention did make a technical contribution, and was not therefore precluded from registration by art 52(2)(c) EPC for the following reasons:

1. To start with a defensive point, the program in this case did not embody any of the items specifically excluded by the other categories in art 52 EPC; thus, it was not a method of doing business (as in *Merrill Lynch*), or a mathematical method (as in *Gale*), or a method for performing mental acts (as was probably the case in *Fujitsu*).
2. More positively, not only would a computer containing the instructions in question “be a better computer”, as in *Gale*, but, unlike in that case, it could also be said that the instructions “solved a ‘technical’ problem lying within the computer itself”. Indeed, the effect of the instant alleged invention was not merely within the computer programmed with the relevant instructions. The beneficial consequences of those instructions would feed into the cameras and other devices and products, which, as mentioned above, included such computer systems. Further, the fact that the improvement might have been be to software programmed into the computer rather than

hardware forming part of the computer could make a difference – see *Vicom* and the opinion of Fox L.J. in *Merrill Lynch*.

3. In *Aerotel* Jacob LJ when considering the earlier *Gale* decision said that in order to avoid the reach of the art 52(2)(c) exclusion, “[m]ore is needed” than “a code as embodied on a physical medium which causes the computer to operate in accordance with that code”, and then gave as an example “a change in the speed with which the computer works”. The effect of the alleged invention in the present case improved the speed and the reliability of the functioning of the computer so that a computer with the present program operated better than a similar prior art computer. To say “oh but that is only because it is a better program – the computer itself is unchanged” gave no credit to the practical reality of what was achieved by the program. As a matter of such reality there is more than just a “better program”, there was a faster and more reliable computer.

4. It was difficult to see a logical or principled basis for holding that the contribution in the present case should not be treated as technical given the contribution in the two claimed inventions in the *IBM Corp.* decisions of the Board which were held to be technical. In particular, in *Data processor network/IBM CORP*, the “technical” contribution identified by the Board was, as explained in [88] of *Aerotel*, “the removal of limitations of prior art systems with the result that the data processing system was more flexible and had ... ‘improved communication systems between programs and files’...”. It appeared that upholding the conclusion of the Comptroller in this case, would involve the English courts departing from all the decisions of the Board to which it had referred. In particular the court considered that it would be inconsistent with the reasoning of the Board in T 1543/06 *Game machine/GAMEACCOUNT* if this appeal was allowed. In [2.7], the Board said that there must be “*further technical advantages or effects associated with specific features of implementation over and above the effects and advantages inherent in the excluded subject-matter*”. That cannot mean that any technical advantage attributable to a computer program is excluded, as it would make nonsense of art 52(3) and of all the previous Board decisions. Therefore, it must mean, consistently with *Vicom* and the two *IBM Corp.* cases, that a technical innovation, whether within (as in the last-mentioned cases) or outside the computer will normally suffice to ensure patentability (subject of course to the claimed invention not falling foul of the other exclusions in art 52(2) EPC).

The court concluded by observing that there would be cases where the EPO would grant patents in this field when UKIPO should not, at least so long as the view in *Pension Benefit* and *Hitachi* is applied by the Board and is not applied in UK. The fact that the two offices and their supervisory courts have their own responsibilities means that discrepancies, even in approach or principle, are occasionally inevitable. However, it was strongly desirable that the approaches and principles in the two offices should march together as far as possible. There is a need for a two-way dialogue between national tribunals and the EPO, coupled with a degree of mutual compromise. More

directly relevant to the present appeal, where there may be a difference of approach or of principle, decision makers must try to minimize the consequent differences in terms of the outcome in particular cases.

**Further appeal**

Leave to appeal to the House of Lords was refused. It was observed that before any such appeal it would be desirable to have available an opinion of the EPO Enlarged Appeal Board. However, the EPO had not put in motion any such appeal, possibly because it wished to have available a larger number of Technical Board of Appeal decisions before that step was taken. It is open to the Patent Office to apply to the House of Lords for the necessary leave.

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