INTELLECTUAL PROPERTY OFFICE

BL O/436/10

21st December 2010

PATENTS ACT 1977

APPLICANT Sony United Kingdom Limited

ISSUE Whether patent application number GB0423100.7 complies with section 1(2)

Mr H Jones

DECISION

Introduction

1 The application relates to the storage of content data in a peer-to-peer network. The issue to be decided is whether the invention as claimed in the application consists exclusively of a computer program which the Act excludes from patentability. The Court of Appeal says that this issue should be decided by answering the question of whether the invention reveals a technical contribution to the state of the art: the examiner argues that the contribution made by the invention is not technical while the applicant disagrees.

2 The issue came before me for decision at a hearing held on 11th October 2010. The applicant was represented by Mr Colin Merryweather of J. A. Kemp & Co and Mr Shaun Lee from the applicant company.

The application

3 The present invention provides a new search functionality in peer-to-peer networks by using a new data structure for storing content files and their associated description information (metadata). The invention is described as moving away from the prior art approach of storing descriptive information alongside each individual content file or by having descriptive information forming part of the individual content file itself . Instead, the invention requires that content files are stored in folders containing an arbitrary number of associated files and for description information to be stored as a separate description file within the same content folder. This arrangement of data allows for multiple related content files to be stored as a single object, i.e. in the same content folder, together with a single description file that is separate from each of the content files. The benefits of such a file structure are set out at lines 9 to 17 of page 2, namely:

> "Such a file structure allows for a group of related content files to be stored in a single content folder, effectively abstracting the group as a single object. This is combined with the provision of the description file. These measures together greatly facilitate searching of the content data stored on the peer. The descriptive information in the description file may be used as the basis for the search. This provides a powerful searching technique improving over techniques relying on the names or other properties of the content files or on examination of the actual content data of the content files. Furthermore, in the search results the content folder may be identified allowing access to all of the related content files. Thus the grouping of files at the time of storage provides more complete results to be provided on searching."

4 At the hearing, Mr Merryweather provided an extremely helpful explanation of the difference between the invention and the prior art. He said that in prior art peer-to-peer searching protocols a single hit message would identify a single file, whereas in the present invention a single hit message could identify a folder containing any number of relevant files. This, he explained, reduces the number of hit messages travelling across the network, which the application says can cause excessive usage of bandwidth (lines 27-28, page 1).

5 The application's three independent claims (1, 11 and 25) are set out at Annex A for ease of reference.

The law

6 From the account of the invention given above, it is quite clear that the invention relates to the field of computer programming and is potentially caught by the exclusion to patentability set out in section 1(2)(c) of the Act. In order to decide whether it is caught by this exclusion or not, the Courts have said that the issue must be decided by answering the now well-established question of whether the invention reveals a technical contribution to the state of the art. Mr Merryweather agreed with this approach.

Arguments and analysis

7 The first step in deciding whether the invention reveals a technical contribution to the state of the art is to determine the contribution made by the invention. Mr Merryweather disagrees with the examiner's assessment of the contribution set out in his examination report dated 6th May 2010 on the basis that it takes no account of the problem solved by the invention, of how the invention works or of what its advantages are, which the Court of Appeal in *Aerotel*[1] has said are necessary considerations. The examiner, quite reasonably, has identified the contribution in terms of the parameters set out in the independent claims, and Mr Merryweather argued that in doing so, had failed to take account of the main advantage of the invention, namely that a group of related content files can be stored together in a single content folder so that a hit message can identify a

[1] Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371

content folder containing an arbitrary number of relevant files instead of a single content file. Mr Merryweather argued that it was important to take account of this advantage when assessing the contribution, and I consider that it is right for me to do so: the contribution made by the invention is a method of storing and searching data in a peer-to-peer network in such a way that allows a single hit message to identify a folder of relevant files and thereby reduces the number of hit messages across the network.

8 The second step is to decide whether this contribution is technical. The examiner has relied on the signposts set out by Lewison J in *AT&T/CVON*[2] as a guide in deciding what is technical. At the hearing, Mr Merryweather argued that these should not be taken as a definitive account of what is and what isn't technical, that these are signposts and nothing more, and that the guidance I should follow is that set out in the Court of Appeal's judgment in *Symbian*[3]. I agree entirely with Mr Merryweather.

9 Mr Merryweather argued that two of the European Patent Office (EPO) Boards of Appeal (BoA) decisions approved by the Court of Appeal in *Symbian*, namely *IBM Corp./Data processor network*[4] and *IBM Corp./Computer-related invention*[5], are similar in nature to the present invention and are particularly helpful in deciding what is or isn't technical. In the first of these decisions, it was held that an invention relating to the co-ordination and control of the internal communications between programs and data files held at different processors in a data processing system, and the features of which are not concerned with the nature of the data and the way in which a particular application program operates on them, is to be regarded as technical. In the second of these decisions, it was held that even if the basic idea underlying an invention may be considered to reside in a computer program, a claim to its use in the solution of a technical problem cannot be regarded as an excluded invention.

10 What I take from all of this is that a) a computer program that either solves a technical problem external to the computer or solves a technical problem within the computer is to be regarded as making a technical contribution, b) a computer program that improves the operation of a computer by solving a problem arising from the way the computer is programmed, can also be regarded as making a technical contribution if it leads to a faster or more reliable computer, and c) a computer program that relates to the control of internal communications within a computer network and is not concerned with nature of the data and the way in which a particular application operates on them, is to be regarded as making a technical contribution.

11 The present invention is concerned with reducing the number of hit messages in the search for content files across a peer-to-peer network. It is able to achieve this by arranging the content files into folders and by having a separate file within each folder for storing information relating to the content files that can be interrogated by peers connected to the network. The invention also provides the

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[2] [2009] EWHC 343 (Pat)
[3] [2008] EWCA Civ 1066
[4] [1988] T06/83
[5] [1988] T115/85

communication protocols by which peers can create, transmit, receive and process search requests and to generate, receive and process hit messages. The invention quite clearly does not solve a technical problem external to the computer nor does it lead to a faster or more reliable network, but it does reduce the amount of hit messages sent across the network. Mr Merryweather's argument is that reducing the number of hit messages solves a technical problem relating to the use of bandwidth within the peer-to-peer network.

12 It seems to me that the invention is only able to reduce the number of hit messages by organising the content files into folders and by providing a single hit which points to a folder rather than a number of hits to the individual content files contained therein. The invention is intrinsically concerned with the arrangement of data. Unlike the data processing system set out in *IBM Corp./Data processor network* which clearly operates at the architecture level of a computer network, the present invention is not concerned with the internal workings of processors irrespective of the data and the way in which a particular application program operates on the data files, a distinction the BoA considered important in deciding whether a computer program solves a technical problem within the computer.

13 But what of the ability of the invention to solve the problem relating to excessive bandwidth use within the network. Despite what the application says, I am not convinced that the searching protocol does reduce the amount of network traffic to any significant extent. The search is required to identify content files meeting particular search criteria across a peer-to-peer network, and the result of the search must provide the necessary pointers required to locate relevant content files across the network. The invention allows these pointers to be grouped in a single message, but the information content remains largely the same save for a reduction in the amount of redundant header data that acts as an overhead to each hit message. In other words, the invention aims to solve the problem of network usage by arranging content files in such a way that this overhead data need not be sent. Rather than solving a technical problem, I consider that the invention provides a computer program that avoids the technical problem in the first place.

14 Although I have accepted both Mr Merryweather's argument regarding the contribution made by the invention and the authorities I should consider in relation to the meaning of technical, I find that I disagree with his argument that the invention reveals a technical contribution to the state of the art.

Conclusion

15 I find that the invention is excluded under section 1(2)(c) because it relates to a computer program as such. I have carefully reviewed the specification and do not see any possible saving amendment. I therefore refuse the application under section 18(3).

Appeal

16 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

H Jones
Deputy Director acting for the Comptroller

Annex A

Claim 1

A peer-to-peer network of peers which are interconnected for sharing content data, wherein

the peers are arranged to pass through the network messages which originate from respective requesting peers;

respective peers in the network are arranged to store content files of content data in a file structure comprising of a plurality of content folders, each content folder containing

any number of content files of related content data, one or more of the content folders containing plural content files, and

a description file containing: descriptive information describing the content file or files stored in the same content folder; and identification information;

said respective requesting peers are arranged to transmit a search query message which specifies search criteria for passage through the network; and

said respective peers storing content files are arranged, after receipt of a search query message which specifies search criteria, to compare the search criteria with the descriptive information contained in the description files in each of said plurality of content folders, and in the event of there being a matching content folder to transmit a hit message identifying the matching content folder for passage back through the network to the respective requesting peer, the hit message identifying the matching content folder by including the identification information of the description file which contains the descriptive information matching the search criteria.

Claim 11

A peer arranged to connect into a peer-to-peer network of peers which are interconnected for sharing content data, wherein

the peer is arranged to pass through the network messages which originate from respective requesting peers;

the peer is arranged to store content files of content data in a file structure comprising of a plurality of content folders, each content folder containing

any number of content files of related content data, one or more of the content folders containing plural content files, and

a description file containing: descriptive information describing the content file or files stored in the same content folder; and identification information; and

the peer is arranged, after receipt of a search query message which specifies search criteria, to compare the search criteria with the descriptive information contained in the description files in each of said plurality of content folders, and in the event of there being a matching content folder to transmit a hit message identifying the matching content folder for passage back through the network to the respective requesting peer, the hit message identifying the matching content folder by including the identification information of the description file which contains the descriptive information matching the search criteria.

Claim 25

A method of storing content data in a peer-to-peer network of peers which are interconnected for sharing content data, the method comprising:

the peers passing through the network messages which originate from respective requesting peers;

storing content files of content data in a file structure comprising of a plurality of content folders, each content folder containing

any number of content files of related content data, one or more of the content folders containing plural content files, and

a description file containing: descriptive information describing the content file or files stored in the same content folder; and identification information;

said respective requesting peers transmitting a search query message which specifies search criteria for passage through the network; and

said respective peers storing content files are arranged, after receipt of a search query message which specifies search criteria, to compare the search criteria with the descriptive information contained in the description files in each of said plurality of content folders, and in the event of there being a matching content folder to transmit a hit message identifying the matching content folder for passage back through the network to the respective requesting peer, the hit message identifying the matching content folder by including the identification information of the description file which contains the descriptive information matching the search criteria.