Intellectual Property Office

BL O/398/19

12 July 2019

PATENTS ACT 1977

APPLICANT	Lenovo (Singapore) Pte. Ltd.
ISSUE	Whether patent application GB1519259.4 complies with section 1(2) of the Patents Act 1977
HEARING OFFICER	Phil Thorpe

DECISION

Introduction

1 Patent application GB1519259.4 was filed on 30th October 2015 and published as GB 2534009 A on 13th July 2016.

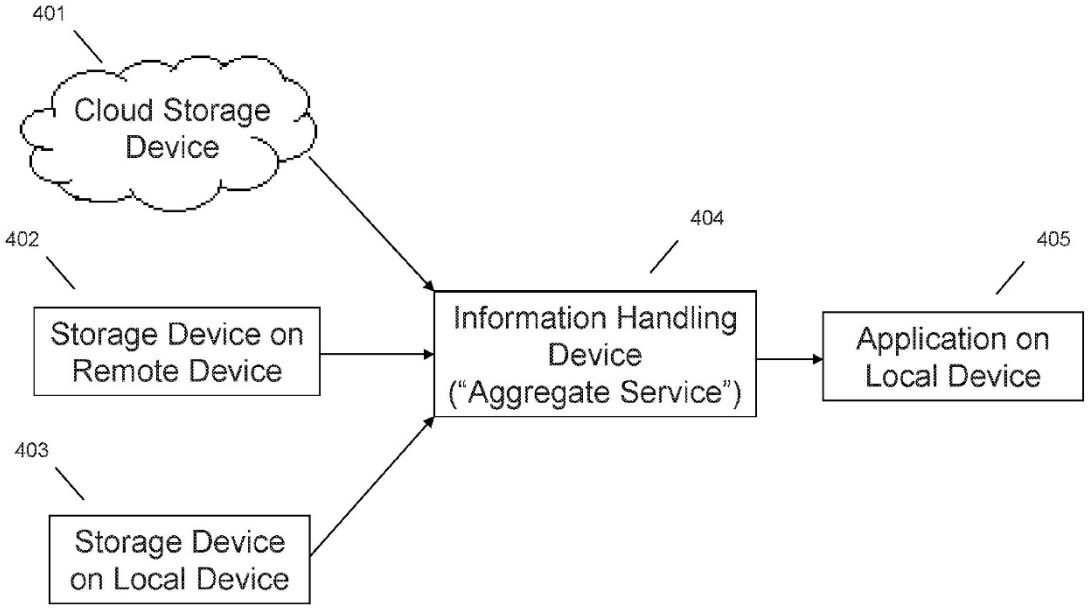
2 A combined search and examination report was issued on 19th April 2016, in which the examiner objected that the invention was excluded from patentability under Section 1(2) of the Patents Act 1977. The examiner also objected that the invention was not novel and not inventive in the light of two US patent publications. In subsequent rounds of amendment and examination, the applicant addressed the issues of novelty and inventiveness to the satisfaction of the examiner. However, the examiner maintained that the invention was excluded subject matter. In the examination report of 4th May 2018, the examiner suggested that the applicant request a hearing.

3 The matter came before me at a hearing by telephone on 18th March 2018. The applicant was represented by Mr Thomas Leffers of Schweiger and Partners.

The invention

4 The invention relates to accessing information, which is stored on multiple remote devices. It relates to an aggregate service device, which collects information from remote devices and cloud services, which can then be displayed in the form of file system data using a file manager interface.

5 According to the application, users of data processing systems store data in multiple different locations. These include different devices, such as smart phones, personal computers, laptop computers, tablets, personal digital assistants and eReaders. In addition, users store data in cloud storage systems, such as Dropbox®, Amazon® S3, Google® Drive, OneDrive® and SugarSync®. It is also possible for a user to have multiple accounts with the same cloud storage provider.



6 To access data in these remote locations, the user is required to identify the appropriate location, sign in using that location's authentication protocol and find the required data within the location. The invention aims to simplify this access to multiple remote sources.

7 As shown in the figure above, according to the invention, a local device 405, such as a smartphone, requests data about information stored on remote devices 402 and cloud services 401 from an aggregate service device 404. The aggregate service device returns information to the local device in a file system format. This is then displayed as a file system on the local device to allow the user to access the data. In addition, an index is maintained on the aggregate service device which can be searched by the user.

8 The latest claims were filed on 6th June 2017. Independent claim 1 reads as follows:

> *A method, comprising:*
>
> *receiving authentication input, at a device, that is sent to an aggregate service device;*
>
> *requesting file system data, retrieved by the aggregate service device, analogous to data stored on a remote device and data stored on a cloud storage device;*
>
> *receiving at the device, after providing the authentication input to the aggregate service device, the file system data from the aggregate service device; and*
>
> *displaying, on the device, a user interface in the form of a file manager application generated from the requested file system data;*
>
> *further comprising sending search criteria to the aggregate service device for searching an index of data retrievable by the aggregate service device;*
>
> *wherein the index of data is stored on the aggregate service device and propagated to the device.*

9 Claim 10 is an independent claim to a device with a processor and a memory that stores instructions to implement the method of claim 1 and claim 18 is an independent claim to a product having a storage device having code stored on it to implement the method of claim 1. It was accepted that both these claims would stand or fall with claim 1.

The Law

10 The examiner has raised an objection under section 1(2) of the Patents Act 1977 that the invention is not patentable because it relates to one or more categories of excluded matter. The relevant provisions of this section of the Act are shown below:

> *1(2) It is hereby declared that the following (amongst other things) are not inventions for the purpose of the Act, that is to say, anything which consists of*
> *–*
> *(c) … a program for a computer;*
> *(d) the presentation of information;*
> *–*
> *but the foregoing provisions shall prevent anything from being treated as an invention for the purposes of the Act only to the extent that a patent or application for a patent relates to that thing as such.*

11 As explained in the notice published by the UK Intellectual Property Office (IPO) on the 8th December 2008[1], the starting point for determining whether an invention falls within the exclusions of section 1(2) is the judgment of the Court of Appeal in *Aerotel/Macrossan*[2].

12 The interpretation of section 1(2) has been considered by the Court of Appeal in *Symbian*[3]. *Symbian* arose under the computer program exclusion, but as with its previous decision in *Aerotel* the Court gave general guidance on section 1(2). Although

13 The Court approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it nevertheless (at paragraph 59) considered its conclusion in the light of the *Aerotel* approach. The Court was quite clear (see paragraphs 8-15) that the structured four-step approach to the question in *Aerotel* was never intended to be a new departure in domestic law; that it remained bound by its previous decisions, particularly *Merrill Lynch*[4] which rested on whether the contribution was technical; and that any differences in the two approaches should affect neither the applicable principles nor the outcome in any particular case.

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[1] http://www.ipo.gov.uk/pro-types/pro-patent/p-law/p-pn/p-pn-computer.htm
[2] Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371; [2007] RPC 7
[3] Symbian Ltd v Comptroller-General of Patents, [2009] RPC 1
[4] Merrill Lynch's Appn. [1989] RPC 561

14 Subject to the clarification provided by *Symbian*, it is therefore appropriate to proceed on the basis of the four-step approach explained at paragraphs 40–48 of *Aerotel* namely:

> *(1) Properly construe the claim.*
>
> *(2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution).*
>
> *(3) Ask whether it falls solely within the excluded matter.*
>
> *(4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical.*

Applying the Aerotel test

Step 1—Properly construe the claim

15 The invention as noted relates to an aggregate service device, which provides information about data stored on remote storage devices to a local device. The aggregate service device also holds an index of data it can retrieve, which can be searched.

16 The claims refer to "file system data…analogous to data stored on a remote device and data stored on a cloud storage device". Mr Leffers explained that this refers to metadata related to files stored on a remote device. The metadata could for example include the title, abstract, author, keywords, file size, data type, data location or creation date of the data. In addition, the file system data may include the actual data stored on the device. Mr Leffers further explained that this data is stored on the aggregate service device and indexed to allow searching.

17 The claims distinguish a "remote device" from a "cloud storage device". Paragraph 17 of the description explains that a remote device is "one of [the user's] own information handling devices (for example, home computer, work computer, smart phone, tablet, and the like". Although the term is not specifically defined, it is implied that a cloud storage device is a device in a cloud storage service. The examples of cloud storage services, which the application gives, are all commercial services run by third parties. As such, the claims require the ability to access data about files on systems owned and controlled by the user of the invention and on third party storage services.

Step 2—Identify the actual contribution

18 Mr Leffers stated that, in his opinion, the contribution provided by the invention is that it allows a user to easily and seamlessly locate and manipulate data within large amounts of data stored in multiple locations with different authentication methods, without downloading the data to the user's local device. This can be particularly useful if the local device has limited storage, as the remote data need not be downloaded to the local device, in order to be searched.

19 An initial search for relevant prior art was carried out, although the search will need to be completed should the application proceed. The search identified two relevant

US patent publications which help identify the contribution in particularly what "the inventor really added to human knowledge"[5].

20 I consider US 2010/0287219 A1 to be more relevant of the two citations. This document discloses a cloud based meta-file system to unify remote and local files across a range of devices. User devices are registered with a Hosting Web Site. An index of meta-data for each device is created and transferred to the Hosting Web Site. These indices are integrated into a single master index by the Hosting Web Site. This master index is structured as a singular file system, which all devices can use to access files. A software client on the local devices accesses this index and uses it to access the remote files. Although this document concentrates on the user's own devices, use with an online service account is disclosed as is use of a username and password for authentication with a secure account.

21 Mr Leffers asserted that the invention in issue here is a new arrangement of hardware when compared with US 2010/0287219 A1 which does not disclose a separate aggregate service device. Rather US 2010/0287219 A1 has a Web based service which is not a separate device as required by the claims. I am not convinced by this argument. The Web site in US 2010/0287219 A1 is hosted on a device that is distinct from the user's local devices and the online services. As such, I consider the device hosting the Web site to be an aggregate service device, as described in the current application. Therefore, I am of the opinion that this document discloses all the hardware features of the current claims.

22 The only difference between the system disclosed in US 2010/0287219 A1 and the invention defined by claim 1 of the current application is that the claimed invention comprises "sending search criteria to the aggregate service device for searching an index of data". Mr Leffers noted that the method set out in the amended claim 1 allows the user to search data held on remote locations "seamlessly and effortlessly with no additional latency and no additional barrier as compared to having to search data on each local device.

23 I consider the contribution made by the invention therefore to be a method of collecting and storing an index of data held on at least one remote device and at least one cloud storage device, storing the index on an aggregate service device and sending search criteria from a local device to search the index of data in the aggregate service device.

Steps 3 and 4—Ask whether it falls solely within the excluded matter and check whether the actual or alleged contribution is actually technical.

24 I will consider steps 3 and 4 together.

25 Lewison J (as he then was) set out five signposts *AT&T/CVON*[6] that he considered to be helpful when considering whether a computer program makes a technical

[5] paragraph 43 of *Aerotel/Macrossan*
[6] AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents [2009] EWHC 343 (Pat); [2009] FSR 19

contribution. In *HTC*[7] the signposts were reformulated slightly in light of the decision in *Gemstar*[8]. The signposts are:

> 1. *Whether the claimed technical effect has a technical effect on a process which is carried on outside the computer.*
>
> 2. *Whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run.*
>
> 3. *Whether the claimed technical effect results in the computer being made to operate in a new way.*
>
> 4. *Whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer.*
>
> 5. *Whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.*

26 Mr Leffers sought support from signpost 5 by asserting that the invention solves a technical problem by allowing a device with limited storage space to search a large data set. Further by providing an up-to-date index of the data held on all the devices on the aggregate service device the network resources required to perform a search is, it is claimed, lessened. Mr Leffers went on to argue that the problem of lack of storage and network reliability could be circumvented by searching locally on the remote devices and then just transmitting the search results or alternatively by mirroring all the data on the local device and just searching that. The invention here however does neither of these but rather searches just the index of data on the aggregate service device. That however is in my opinion still circumventing the problem of data storage and network reliability. It does not for example solve the technical problem of storing more data on a device. Rather it circumvents the problem by searching an index of that data on a separate device. Equally it does not solve any technical problem relating to network reliability.

27 Mr Leffers also sought to argue that the invention here operates at the architecture level of the computer and that the invention makes the computer operate in a new way. I am not persuaded that the invention here provides a computer that does operate in a new way, certainly not in a new way in a technical sense as envisaged by signpost 3. Rather the computer is operating technically in the same way as a normal computer albeit what it is doing, which is the logical consequence of providing a searchable index of data on a separate device is new. Further the invention here is implemented as a number of application programs distributed over a conventional computer network. This is not in my opinion at the architecture level as envisaged by signpost 2.

28 I do not believe that any of the AT&T signposts provide assistance here. Indeed if I take a step back I find that searching an index of data, held on a number of separate devices, that is provided on a separate aggregate device is a routine data processing

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[7] HTC v Apple [2013] EWCA Civ 451

[8] Gemstar-TV Guide International Inc v Virgin Media Ltd [2009] EWHC 3068 (Pat); [2010] RPC 10

task that provides no technical effects. Hence, I believe that the invention is excluded from patentability by virtue of section 1(2) as a program for a computer, as such.

Possible amendments

29 Mr Leffers suggested that, should I decide that the invention as currently claimed relates solely to excluded subject matter, the use of refresh tokens discussed in paragraphs 25, 51 and 53 of the description of the invention could be incorporated into the independent claims. However, the use of such tokens to authenticate access to data in remote storage is well known in the art. As such, this would not provide the necessary technical contribution.

Conclusion

30 Having carefully considered the arguments, I find that the contribution made by the invention falls solely within matter excluded under section 1(2) as a program for a computer as such. Having carefully considered the specification as a whole, I can see nothing that could be reasonably expected to form the basis of a valid claim. I therefore refuse this application under section 18(3).

Appeal

31 Any appeal must be lodged within 28 days after the date of this decision.

Phil Thorpe

Deputy Director, acting for the Comptroller