



## The Claims

- 6 The current claims were filed on 31<sup>st</sup> August 2018 and comprise three independent claims directed to an apparatus, an article of manufacture and a method. Claim 1 reads:

*An apparatus for automatically detecting bulk forwarding of email from a first network environment, the apparatus comprising*

*a memory, and*

*at least one hardware device coupled to the memory, operative to determine an arrival rate for internal emails received from within said first network environment into one or more user accounts within said first said network.*

*determine a sending rate for external emails sent from said one or more user accounts to a second network environment, and*

*detect said bulk forwarding of email from a given one of said user accounts by comparing said arrival rate for said internal emails and said sending rate for said external emails.*

Claim 9 reads:

*An article of manufacture for automatically detecting bulk forwarding of email from a first network environment, comprising a non-transitory machine readable recordable medium containing one or more programs which when executed implement steps of:*

*determining an arrival rate for internal emails received from within said first network environment into one or more user accounts within said first network environment.*

*determining a sending rate for external emails sent from one or more user accounts to a second network environment, and*

*detecting said bulk forwarding of email from given one of said user accounts by comparing said arrival rate for said internal emails and said sending rate for said external emails.*

Claim 16 reads:

*A method for automatically detecting bulk forwarding of email from a first network environment, comprising:*

*determining an arrival rate for internal emails received from within said first network environment into one or more user accounts within said first network environment;*

*determining a sending rate for external emails sent from said one or more user accounts to a second network environment, and*

*detecting said bulk forwarding of email from a given one of said user accounts by comparing said arrival rate for internal emails and said sending rate for external emails.*

## **The Law**

7 Section 1(2) of the Patents Act 1977 reads:

*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;*

*...*

*but 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.*

8 In order to decide whether an invention relates to subject matter excluded by Section 1(2), the Court of Appeal has said that the issue must be decided by answering the question of whether the invention reveals a technical contribution to the state of the art. The Court of Appeal in *Aerotel/Macrossan*<sup>1</sup> set out the following four-step approach to help decide this issue:

- 1) Properly construe the claim;
- 2) Identify the actual (or alleged) contribution;
- 3) Ask whether it falls solely within the excluded subject matter;
- 4) Check whether the actual or alleged contribution is actually technical in nature.

9 The operation of the approach is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and

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<sup>1</sup> *Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application* [2006] EWCA Civ 1371

involves looking at substance, not form. Paragraph 47 adds that a contribution which consists solely of excluded matter will not count as a technical contribution.

- 10 The case law on computer implemented inventions has been further elaborated in *AT&T/CVON*<sup>2</sup> which provided five helpful signposts to apply when considering whether a computer program makes a relevant technical contribution. In *HTC v Apple*<sup>3</sup>, Lewison LJ reconsidered the fourth of these signposts and felt that it had been expressed too restrictively. The updated signposts are:
- i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;
  - ii) 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;
  - iii) whether the claimed technical effect results in the computer being made to operate in a new way;
  - iv) whether the program make the computer a better computer in the sense of running more efficiently and effectively as a computer; and
  - v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

- 11 The law regarding Business Methods was initially set out in *Merrill Lynch*<sup>4</sup>, where in the third to last paragraph Fox L.J. states:

*"Now let it be supposed that claim 1 can be regarded as producing a new result in the form of a technical contribution to the prior art. That result, whatever the technical advance may be, is simply the production of a trading system. It is a data-processing system for doing a specific business, that is to say, making a trading market in securities. The end result, therefore, is simply "a method . . . of doing business", and is excluded by section 1(2)(c). The fact that the method of doing business may be an improvement on previous methods of doing business does not seem to me to be material. The prohibition in section 1(2)(c) is generic; qualitative considerations do not enter into the matter. The section draws no distinction between the method by which the mode of doing business is achieved. If what is produced in the end is itself an item excluded from patentability by section 1(2), the matter can go no further. Claim 1, after all, is directed to "a data processing system for making a trading market". That is simply a method of doing business. A data processing system operating to produce a novel technical result would normally be patentable. But it cannot, it seems to me, be patentable if the*

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<sup>2</sup> *AT&T Knowledge Ventures LP and CVON Innovations Limited v Comptroller General of Patents* [2009] EWHC 343

<sup>3</sup> *HTC v Apple* [2013] EWCA Civ 451

<sup>4</sup> *Merrill Lynch* [1989] RPC 561

*result itself is a prohibited item under section 1(2). In the present case it is such a prohibited item”.*

- 12 This approach was subsequently reaffirmed in Halliburton<sup>5</sup> by Birss J., who at paragraph 35 states:

*The business method cases can be tricky to analyse by just asking whether the invention has a technical effect or makes a technical contribution. The reason is that computers are self evidently technical in nature. Thus when a business method is implemented on a computer, the patentee has a rich vein of arguments to deploy in seeking to contend that his invention gives rise to a technical effect or makes a technical contribution. For example the computer is said to be a faster, more efficient computerized book keeper than before and surely, says the patentee, that is a technical effect or technical advance. And so it is, in a way, but the law has resolutely sought to hold the line at excluding such things from patents.*

## **Analysis**

- 13 I can see no issues of plurality with the claims so it follows that my analysis will apply to all the independent claims mutatis mutandis.
- 14 The first step of the *Aerotel* approach is to construe the claims. In this case though I believe that the meaning of the claims is very clear and requires little interpretation. However, I will clarify, for my understanding, exactly what is meant by an internal and an external email.
- 15 Page 3, lines 16-20, of the description explains that an internal email is one from a “trusted data repository server, such as an internal e-mail server to a semi-trusted computer such as an employee workstation on an internal network”. Whereas an external transfer is one that is made “from the semi-trusted computer to an untrusted computer, such as an external email server”. On page 6, lines 17-18, the applicant helpfully points out that exemplary external email servers include Google<sup>RTM</sup> Mail, Hotmail<sup>RTM</sup> and Yahoo!<sup>RTM</sup> Mail.
- 16 The second *Aerotel* step is to identify the contribution. Unusually for cases like this, both the examiner and attorney appear to have agreed on the same contribution. Namely:
- “comparing an arrival rate for emails received from a first network and a sending rate for emails sent to a second network in order to determine that unauthorised bulk forwarding or emails is occurring, which reduces the risks associated with enterprise email regarding leaking confidential information, and has reduced processor and memory usage compared to the prior art enterprise email filtering system”*
- 17 Despite this agreement between the examiner and the attorney, though, I am unsure that I agree with this construction of the contribution. I can see nothing in the claims

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<sup>5</sup> Halliburton [2011] EWHC 2508 (Pat)

directed towards reducing processor or memory usage. At best, there is no more than a cursory suggestion of such savings in the application as a whole. While the current invention *may* result in reduced processor and memory usage this would merely be a possible side-effect. I cannot say that it is what the inventors have added to human knowledge. I think that the contribution is simply:

*“comparing an arrival rate for emails received from a first network and a sending rate for emails sent to a second network in order to determine whether the unauthorised bulk forwarding of emails is occurring”*

- 18 Turning to step 3 of the *Aerotel* approach there is no doubt in my mind that the identified contribution is enacted by a computer program. As always, the key question is “is it a program for a computer *as such*”?
- 19 To help answer this question I will turn to the five signposts as set out in *HTC v Apple*<sup>3</sup>. In his response of 3<sup>rd</sup> October 2018 the attorney argued that the claimed invention fulfilled the 1<sup>st</sup> and 2<sup>nd</sup> signposts. His main argument was that as the system responds to an “outgoing transfer rate of email” it monitors a technical process between the computer system and an external system and thus has a technical effect on a process outside the computer. While admitting that it is known to monitor email transfer rates, he argued that the invention contributes to the process of comparing rates over different channels and uses the result to determine whether there may be bulk forwarding of email.
- 20 I am afraid that I do not accept this reasoning. Any processing by the “monitoring software” is entirely based within the first network system as it monitors for destination and does not affect the external environment. I thus conclude that the contribution does not meet the first signpost.
- 21 The second signpost concerns whether the invention operates at the level of the architecture of the computer irrespective of the data being processed. The attorney argues that since the monitor looks at transfer rates this is independent of the data being processed. Again, I am afraid that I disagree. The invention deals entirely with emails and thus cannot be said to operate irrespective of the data being processed.
- 22 This view is not changed if I take into account that the invention uses statistical models and that these are based on “*an evaluation of one or more of timing, size and content characteristics of the internal emails received from within the first network environment and the external emails sent from the one or more user accounts*”. This still relates to emails and consequently any effect is entirely reliant on the data being processed i.e. the flow of emails. I thus conclude that the contribution does not meet the second signpost.
- 23 I note that the attorney has not made any observations on the 3<sup>rd</sup> through 5<sup>th</sup> signposts so I will deal with them only briefly. I can see no evidence that the computers in the first network, in the second network, or the networks themselves are operating in a new way or are more efficient or effective. While the attorney’s proposed contribution mentions reduced processor time and memory I have explained above why I do not consider that part of the actual contribution. I thus conclude that the contribution does not meet the 3<sup>rd</sup> or 4<sup>th</sup> signposts.

- 24 While the contribution may overcome the problem of the bulk forwarding of e-mails I do not consider that this is a technical problem. I will return to this point below. Thus the contribution does not meet the 5<sup>th</sup> signpost in so much as it does not overcome a *technical* problem.
- 25 Overall, I thus decide that the contribution falls solely within the program for a computer exclusion. On its own this may well prove fatal for the current application but for completeness I will now turn to the business method exclusion.
- 26 I note that despite the examiner raising this exclusion on a number of occasions I cannot find a specific response on this point from the attorney. I also note that page 1, lines 12-16, of the description state that “*there are number of well recognized risks associated with enterprise email*”. One of these being that “*email can be improperly used to forward confidential and/or sensitive data from a secure enterprise network to an external recipient*”. Finally, page 1, lines 26-27, conclude that “*A need therefore remains for improved methods and apparatus for detecting unauthorized bulk forwarding of sensitive data over a network.*”
- 27 The desire to detect bulk forwarding of e-mails is clearly one of business practice. There is no technical advantage to detecting it. Thus the problem being solved is a business problem not a technical problem. As established in Merrill Lynch<sup>4</sup>, the business method exclusion is generic. This was further amplified by the decision in Halliburton<sup>5</sup> where it was made clear that even though computers are technical in nature, a business method enacted on a computer is still a business method. The application here is directed at preventing the loss of confidential or sensitive data through forwarding email – that is a business issue not a technical one. It follows therefore that the contribution defined above falls within the “method of doing business” exclusion.
- 28 The final step of the *Aerotel* approach is to ask whether the contribution is technical in nature. As a business method enacted by a computer program I conclude that it is not.

## **Decision**

- 29 I decide that the invention defined in the independent claims falls solely within matter excluded under Section 1(2) as a program for a computer and as a method for doing business as such. Having reviewed the application, I do not consider that any saving amendment is possible. I therefore refuse this application under section 18(3).

## **Appeal**

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

**Dr Stephen Brown**