



19 November 2010

## **PATENTS ACT 1977**

APPLICANT eSpeed Inc.

ISSUE Whether patent application number  
GB0517644.1 complies with section 1(2)

C L Davies

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## **DECISION**

### **Introduction**

- 1 Patent application GB0517644.1 entitled “Systems and methods for protecting against erroneous price entries in the electronic trading of financial and other instruments”, was filed in the name of eSpeed Inc (the “applicant”) on 30<sup>th</sup> August 2005 and claims priority from a US patent application US 60665306, dated 24 March 2005. The UK application was published as GB2425626 on 01 November 2006.
- 2 During the course of substantive examination, the applicant has been unable to convince the examiner that the application is patentable under section 1(2) of the Patents Act 1977, with the examiner maintaining throughout that the invention relates to a method of doing business and a computer program. The applicant requested a hearing to resolve the issue and the matter came before on 17<sup>th</sup> September 2010 to decide. The applicant was represented by Mr Keith Beresford of Beresford and Co., and the examiner, Mr Ben Widdows, was also in attendance.
- 3 Prior to the hearing, the applicant filed a set of replacement claims and a skeleton argument which formed the basis of the hearing. I am also grateful to Mr Beresford for filing after the hearing, a further submission in respect of caselaw which he referred to in his skeleton argument at the hearing.

### **The invention**

- 4 The application relates to apparatus for carrying out electronic trading. It comprises workstations and a server interconnected by a communications network.
- 5 The workstation can, via the communications network, send bid and offer

commands to the server for storage there and for distribution to the other work stations. A bid or offer command stored at the server may subsequently be changed by the relevant user sending, from his workstation an appropriate change command to the server.

- 6 The workstation can also send trading commands, via the communications network, to the server. When a trading command is received by the server, it executes a trade on the basis of that trading command and the value specified in the bid or offer command to which it relates.
- 7 The applicant has recognised that signals sent over communications networks inherently suffer network delays and as a consequence, by the time the trading command has traversed the network, the value of the bid or offer to which it relates may have changed from the original value, on the basis of which the trading command was generated, to a new value. In consequence, the trade will be executed on the basis of the wrong value. The claimed invention provides a means for preventing such incorrect execution by notifying a trader to the fact that the value of a bid or offer has changed and provides the trader with an opportunity to submit, modify or cancel the trade command. In this way, the trader is safeguarded against trading on an erroneous price.

### **The claims**

- 8 The applicant filed an amended set of claims on 15<sup>th</sup> September and requested that these replace the claims filed on 11<sup>th</sup> May 2010. The amended claim set contains 11 claims in total (including one omnibus claim), with claim 1 the main independent claim and directed to “A computer network for effecting electronic trading...” (as opposed previously to “Computer apparatus for electronic trading ...”). Claim 1 is reproduced in the Appendix.

### **Issue to be decided**

- 9 The issue to be decided is whether the invention is excluded under section 1(2)(c) of the Patents Act 1977 because it relates to a business method and a computer program.

### **The law**

- 10 The relevant parts of section 1(2) read as follows:

*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 –*

*(a) ...;*

*(b) ...;*

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

*(d) ...;*

*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.*

- 11 Current IPO examination practice is to use the structured approach set out by the Court of Appeal in its judgment in *Aerotel/Macrossan*<sup>1</sup> for deciding whether an invention is patentable. The test comprises four steps:
- 1) Properly construe the claim;
  - 2) Identify the actual contribution;
  - 3) Ask whether it falls solely within the excluded matter;
  - 4) Check whether the contribution is actually technical in nature.
- 12 The operation of the test is explained at paragraphs 40-48 of the judgment. In Particular, paragraph 43 states that identification of the contribution is “an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are”; it is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form. Paragraph 44 accepts that at the application stage the Office will generally have to accept what the inventor alleges to be his contribution, but that in the end the test must be what contribution has actually been made.

More recently, the Court of Appeal in the case of *Symbian*<sup>2</sup> confirmed that this structured approach is one means of answering the question of whether the invention reveals a technical contribution to the state of the art. In other words, *Symbian* confirmed that the four-step test is equivalent to the prior case law test of ‘technical contribution’, as per *Merrill Lynch, Gale and Fujitsu*. There was no dispute that this was the correct approach that should be followed.

### **Arguments and analysis**

- 13 In his report of 8 July 2010, the examiner has maintained that the invention was excluded under section 1(2)(c) as both a business method and a computer program. Even though the invention was claimed as a computer apparatus and had technical character, the examiner did not think that it solved any technical problems or provided a technical solution. In particular, he believed the problem being solved by the invention was a business problem, namely overcoming inaccurate or erroneous trading commands due to the fast pace of trading.
- 14 At the hearing, Mr Beresford maintained the view which he has consistently argued in correspondence, that the invention seeks to address/solve problems caused by user/system/network delays which he has identified as a technical problem and that the invention as claimed provides a technical solution to this problem, therefore taking the invention outside of the business method and computer program exclusions.

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

<sup>2</sup> [2009] RPC 1

- 15 He submitted that whilst the invention does not actually reduce/eliminate network/system delays, it does, nevertheless, lead to a more reliable system for the user.
- 16 The examiner and the applicant therefore disagree on the nature of the problem being addressed/solved by the invention: a business (non-technical) problem or a network delay (technical) problem respectively, and thus whether the invention falls outside of the exclusion.

**First step: Properly construe the claim**

- 17 At the hearing, the examiner expressed no issues with the actual construction of the claims in their amended form: the claims still relate to computer apparatus for performing electronic trading.
- 18 Mr Beresford explained that the claims have now been limited to a computer network as shown in Figure 6 of the specification. He explained how the features of the claims relate back to the specification and that since amended claim 1 is now directed to “a computer network for effecting electronic trading...” there are underlying technical features in the claim which address a technical problem ie. the problem of user/system/network delays.
- 19 The examiner however, maintained his view that the invention as claimed does not address/solve the problem of time delays as submitted by Mr Beresford but addresses a business problem.
- 20 I have no issue with construing the claims: I am also of the view that the claims relate to computer apparatus for performing electronic trading.

**Second step: Identify the actual contribution**

- 21 At the hearing, the examiner confirmed that the latest amendments to the claims had not changed his view on what he had previously identified as the actual contribution. The examiner has asserted that the problem being addressed by the invention is a **business problem** (and not a technical problem) and, in line with paragraph 43 of *Aerotel*, has considered what it is the inventor has really added to human knowledge as a matter of substance not form, and in doing so has identified this as clearly not being the computer hardware (since the hardware used in the present application is merely a conventional networked computer), but relating to notifying a user that a trading command has been received (at a server) within a predetermined time period following a corresponding price change and allowing a user to cancel or modify the command.
- 22 Having given careful consideration to the arguments Mr Beresford has presented both in correspondence prior to the hearing and at the hearing itself, I believe the contribution identified by the examiner broadly covers the contribution identified by Mr Beresford but with one major difference: the nature of the problem being solved. The applicant has asserted that the problem being solved by the invention is a **technical problem**.

23 Mr Beresford has placed considerable emphasis on the problem that is being solved by the invention is a technical problem and has presented arguments to support the applicant's submission that features provided in claim 1 are technical features which take the invention outside of the exclusion. I will consider this in step 3.

24 Having given Mr Beresford's arguments some very careful thought, I do not believe that the applicant's assessment of the contribution is entirely correct (ie. the applicant's emphasis on the problem being solved) in view of the way the contribution is defined in paragraph 43 of *Aerotel*. From reading the specification, it is clear to me that it is geared towards providing a better, more reliable way for a user/trader to carry out a business transaction. Throughout the specification, reference is made to systems and methods for protecting against erroneous price entries in electronic trading and in particular:

Page 2 paragraph 4 reads:

*"... As electronic trading becomes more popular, an increasing number of traders are in need of new systems and methods to enter trade commands in a quick, efficient and accurate manner. This is especially true given that market conditions change quickly as trades are executed at fast pace. Price positions may therefore change rapidly and sometimes almost simultaneously."*

Paragraph 5 on page 2 reads:

*"It would be desirable to provide systems and methods for protecting against the occurrence of erroneous price entries in electronic trading systems ..."; and*

Paragraph 17 on page 6 reads:

*"The invention is directed to systems and methods that provide an interface that notifies a user that the price at which he or she may have attempted to trade has changed and by presenting the user with the opportunity to submit, modify or cancel the trade command, thereby protecting against the occurrence of erroneous price entries."*

25 Whilst I am mindful that Mr Beresford has basis in the specification for identifying the solving of time delays as contributing towards the contribution, and I refer specifically to paragraph 4, lines 20-28 on page 2 of the specification, I do not agree that solving user/system/network delays is the thrust of the invention.

26 Given the over-arching business/trading nature of the application, I cannot ignore the fact that the contribution must somehow be framed in terms of the business environment to which the specification relates.

27 Therefore, having given careful consideration as to what I believe the inventor has added to human knowledge in line with paragraph 43 of *Aerotel*, I arrive at what is essentially the same view as the examiner regarding the contribution, namely:

*An improved method of trading carried out over a computer network, which method serves to notify a user that a trading command has been received at a*

*server within a predetermined time period following a bid/offer price change and which method subsequently provides the user with options of whether to change (ie submit, modify or cancel) the trading command.*

- 28 I note that since no search has as yet been carried out on the application, the contribution identified above is the “alleged” contribution.

**Third step: Ask whether the contribution relates solely to excluded matter**

Examiner’s arguments:

- 29 The examiner has maintained throughout that he does not consider the invention to solve a technical problem arising from user/system/network delays. In response to the applicant’s assertion that “... the inability of the system to receive and execute a command quickly enough for the command still to be valid if the data on which it is based changes during the delay period” (applicant’s letter dated 22/05/08), he asserted that this is not a technical problem, as identified by the applicant, but a problem which results from a trading environment where “market conditions change quickly as trades are executed at a fast pace” (see page 2 lines 6-8 of the specification). He has argued that the invention addresses a business problem specific to a trading environment where the fast pace of trades means that a user’s trading commands are sometimes inaccurate or erroneous.
- 30 The examiner considered *Symbian* in his argument and referred to the guidance therein given in paragraphs 52-58, as to when a program might make a technical contribution sufficient enough to avoid exclusion. He referenced in particular paragraph 56 and the need to look at the practical reality of what the program achieved and to ask whether there was something more than just a “better program”. He referred also to paragraph 58 where the Court stated that a technical innovation, whether within or outside the computer, would normally suffice to ensure patentability. He concluded that the present application did not provide such a technical contribution and in particular, that a computer with the program of the present application does not provide, as a matter of practical reality, a “faster and more reliable computer”. He submitted that the program allows a computer to perform trading in a more accurate or reliable way and that this was just a computer programmed to perform a business method and not a better computer.
- 31 The examiner considered the applicant’s argument in respect of *Inpro v RIM [2006] RPC 20*, paragraph 184 and could find no such contribution in the present application, pointing out that the trading system of the present invention is not concerned with how to transmit data per se and does not result in a technically better trading system.
- 32 The examiner did not accept that the present invention solves the problem of time delays inherent in network systems but circumvents this problem by notifying the user of such potential delays. The examiner has maintained throughout that the present application does not reduce or prevent such variations in time delays by technical means (or by any other means for that matter) and that the contribution therefore does not provide a technical contribution but relates solely to a method

of doing business and a computer program.

Applicant's arguments:

- 33 Mr Beresford submitted in paragraph 24 of his skeleton argument that the correct approach to take is to determine whether or not there is a technical problem and if there is, whether the invention provides a solution to it. Mr Beresford cautioned that if there is a business problem then this is not a reason for ignoring the technical problem. Mr Beresford pointed to caselaw to support this approach, namely:
- (a) In *Aerotel*, the reference to whether the contribution is “**solely**” within an excluded area; and
  - (b) In *Raytheon*, the reference to “**any**” aspect of the invention falling outside the excluded area.
- 34 Whilst accepting that a business method is being described, Mr Beresford talked me through paragraph 10 of his skeleton argument, where he identified features within the claim which purportedly solve the (network delay) problem and thus take the invention outside of the exclusion:
- (a) The server stores two thresholds: (i) the first is a timeout period; (ii) the second represents a value change (of a bid or offer)
  - (b) A timer at the server is triggered to begin counting out the timeout period in response to detection of a change in the value of a previously stored bid or offer;
  - (c) When the server receives a trading command for execution in relation to a bid or offer, the server detects whether the trading command has been received within the timeout period following a value change greater than the threshold.
  - (d) In response to detecting the condition that the trading command in relation to a particular bid or offer is received within the timeout period following a change in the value of that bid or offer, the server: (i) interrupts execution of the command, (ii) sends an alarm (alert) to the workstation originating the trading command, indicating that this condition has arisen in the server.
  - (e) In response to the alert, the workstation generates a control interface which enables the second user to enter, and transmit to the server, a further command, for cancelling or changing the trading command.
  - (f) The server executes the further command.
- 35 Mr Beresford submitted that in light of the above:
- (a) the problem addressed by the invention, namely the possible varying transmission delays from which signals suffer when traversing a network, is technical because such delays are an inherent technical property of the network; and
  - (b) the solution provided by the invention is technical because the features set

out above (paragraph 10 of his skeleton argument) are technical, and in particular that (with my emphasis added):

- (i) a timer, at the server, which measures a timeout period from the occurrence of an event in the computer is a technical feature;
- (ii) interrupting the execution of a command in response to a specific technical condition within the computer, namely the reception of the command during a timeout period following a specific event in the computer, is a technical feature;
- (iii) outputting to the workstation an alert or alarm indicative of a condition which has arisen in the computer is a technical operation; and
- (iv) a control interface provided at the workstation which enables the user to cancel or modify the command whose execution has been interrupted as a result of the specific condition which has arisen within the computer is a technical feature.

36 He asserted that the features set out in parts (d) (i) and (ii) and (e) in particular are at the heart of the contribution which take the invention outside of the exclusion. He pointed out that (b)(iii) ie. outputting to the workstation an alert or alarm indicative of a condition which has arisen in the computer, is indicative to the user of an unreliable system caused by time delays in the system/network and that the present invention makes the system more reliable by interrupting commands to prevent their incorrect execution.

37 Mr Beresford also drew on several approaches supported by caselaw to reinforce his argument that there was a technical problem to which the invention provided a technical solution, thus taking it outside of the exclusion. I will consider this below.

#### Analysis

38 At this point, I would like to consider the approach Mr Beresford concluded with at the hearing, namely:

- Determine whether or not there is a technical problem and if there is,
- Whether the invention provides a solution to it.

39 I note that Mr Beresford also cautioned that if there is a business problem, this is not a reason for ignoring the technical problem.

40 I take the second bullet point to mean: Do steps (d) (i) and (ii) and (e) detailed in paragraph 34 above (equivalent to steps (e) (i) and (ii) and (e) in claim 1) take the invention out of the exclusion?

41 The specification clearly relates to an electronic business environment where the fast pace at which market conditions change can lead to traders trading at erroneous prices. The applicant has sought to improve the electronic trading system to minimise the risk of traders trading at wrong prices, and has identified



user/system/network delays as contributing towards erroneous trading.

- 42 In my view, the purpose of steps (d) (i) and (ii) and (e) detailed in paragraph 34 above is to provide a way of safeguarding against erroneous trading – to reduce the risk of a trader continuing with a transaction when the value of a bid or offer has changed- which is clearly addressing a non-technical business problem which is intrinsic of a fast moving market trading environment, where prices are changing rapidly, if not simultaneously. These steps flag up with the trader that the value of a bid or offer which they have committed to has changed, and presents the trader with an opportunity to review and subsequently change or cancel their transaction. The trader is not being alerted to the fact that a bid/offer value has changed because of user/system/ network delays.
- 43 These steps do not address the issue of user/system/network delays in any way- there is nothing in the invention as claimed which addresses, minimises or eradicates network delays- such delays remain in the system. The invention, if anything, leads to a more reliable method of doing business.
- 44 In my view, the characterising steps of the invention provide a solution to a business problem and fall squarely within the exclusion. In line with *Aerotel*, I am satisfied that the contribution lies **solely** within excluded matter and in line with *Raytheon*, I am satisfied that there is no aspect of the contribution that falls outside of the exclusion. The invention relates to an improved method of doing business implemented through software.
- 45 Throughout the course of my deliberations, I have given careful thought to both the applicant and the examiner's lines of argument. There is a business problem but there is no underlying technical problem which the invention as claimed addresses/solves.
- 46 Therefore, I am not persuaded by the applicant's arguments that the invention provides a technical solution to a technical problem associated with user/system/network delays. I am however, fully satisfied that the examiner has argued correctly that the invention addresses/solves a non-technical business problem through the application of software.

Caselaw referred to by the applicant.

- 47 Mr Beresford drew on several approaches supported by caselaw to reinforce his argument that there was a technical problem to which the invention provided a technical solution, thus taking it outside of the exclusion.
- 48 Mr Beresford submitted that the mere fact that an invention is claimed in the context of an apparatus for performing an activity which is excluded as such does not mean that the invention is necessarily excluded from patentability and referred to *IGT/Acres, (2008) EWHC 568 (Pat), Aerotel (2007) RPC 7 and BL 0226/07 CFPH*, submitting that even though in the present case the invention is claimed in the context of a trading system, does not necessarily mean that it is excluded. Given my interpretation of the contribution and having given careful consideration to these cases, I believe these do not apply to the facts of the present case.

- 49 Mr Beresford submitted that if there is any aspect of the invention which does not fall within the exclusions, then the invention does not relate to excluded matter as such and is potentially patentable and referred to *Raytheon (2007) EWHC 1230 (Pat)* submitting that in the present case, the aspects of the invention which the applicant submit fall outside the exclusion are set out in paragraph 11 of his skeleton argument.
- 50 Whilst I accept this principle, I do not accept that it applies to the present invention. In my view, the problem solved by the invention is a business problem and not a technical problem – the invention does not address/minimise, solve or eradicate network delays in the system. The features identified in paragraphs 10 and 11 of the skeleton argument, are features which go towards improving the business method ie. by interrupting a trading command detected in a time-out period and notifying the user accordingly as to bid/offer prices changes, giving the user an opportunity to modify or cancel the trade command. In my view, none of the features disclosed in those paragraphs are technical in the sense that they solve a technical problem in the system and thus fall squarely within the exclusion.
- 51 Mr Beresford submitted that an invention which is directed at solving or alleviating a physical problem or constraint in an apparatus is not excluded, (likewise as he has asserted, that with the present case, the invention is concerned with solving the physical problem of network delays), drawing to my attention:
- 52 *Inpro v RIM (2006) RPC 20*, referencing paragraph 184, in which it was held that the invention was not excluded states:
- 53 *“The claims of the patent are all concerned with how to transmit data between a field computer and a proxy server to enable a field computer, inadequate in processing and display power, to browse the web and produce a result substantially better than its modest abilities would indicate.”*
- 54 This, he indicated, was further explained in *Cappellini/Bloomberg (2007) EWHC 476*, referencing paragraph 11:
- “in context, the problems with which the RIM invention was concerned were essentially physical ones, resulting from the various bandwidth restrictions that the patented invention was supposed (had it not been obvious) to overcome.”*
- 55 Mr Beresford appears to have relied on the above two cases to provide support for the present case where he claims the invention is concerned with solving the physical problem of network delays. As I have already stated, the problem which I believe the invention has addressed is a business one, addressing business issues and not a technical one addressing physical problems such as network delays. In my view, the above two cases do not apply.
- 56 Mr Beresford submitted that an invention which relates to the solution to a technical problem is not excluded even if the problem arises within a computer system and the invention is implemented in software, referencing *Symbian (2009) RPC 1*. Mr Beresford submitted that in the present case, the invention solves the technical problem of network delays, which arise within computer systems for

trading, and the solution is technical (even though typically implemented by software) because it involves interrupting a command in response to the occurrence of a particular condition which arises in the machine as a consequence of network delays. In my view, it is still a business problem that is being addressed: the invention does not solve the technical problem of network delays as implied by Mr Beresford. Symbian has also been considered by the examiner (see paragraph 33 above).

- 57 Mr Beresford referred to several EPO Board of Appeal decisions, namely *T 85/0115 (IBM)*; *T 03/0928 (Konami Co. Ltd)*; *T 05/0717 (Labtronix Concept)*; *T 07/1793 (Konami Digital)*; *T 08/0012 (Nintendo)* which, he submitted, demonstrate that an invention which comprises outputting an alert in response to a specific technical condition in a machine is not excluded, even if the condition arises in a software implemented process for carrying out excluded matter such as a game or business method. As Mr Beresford has also pointed out, I am not bound to follow EPO decisions, with them being persuasive only. I agree with Mr Beresford that they appear to show a consistent practice in relation to this type of invention but that I am bound to follow the precedent as set out by the UK courts.
- 58 Mr Beresford submitted that an invention which comprises a user interface for entering an instruction for causing the computer to effect a technical operation within the computer is not excluded from patentability, referencing *Gemstar v Virgin Media (2010) RPC 10*, in particular paragraphs 232 to 235, page 324 of the judgment. Mr Beresford has indicated that in the present invention, the technical operation is the cancellation or modification of a previously inserted command which has been interrupted in response to certain conditions arising within the machine as a result of network delays. Mr Beresford drew an analogy between the *Gemstar* and the application in suit, identifying two processes which the computer carries out which the human cannot do once the user of the workstation has “pressed the (relevant) button”, namely: (a) interrupt the execution of a trading command if it arrives within a timeout period following a previous event (and then generate an alarm/alert ); and (b) cancel a trading command which has been interrupted and in respect of which an alarm/alert has been generated. Given that I have found the features indicated in paragraphs 10 and 11 of the skeleton argument to be features relating to a business method and not technical features, I do not consider this case to be relevant.
- 59 Mr Beresford also referred to *AT&T/CVON [2009] EWHC 343 (Pat)*. Of the useful signposts for determining technical effect, he referred to “iv) whether there is an increase in the speed or reliability of the computer” and “v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented”. Given that I believe the problem solved by the invention to be a business problem and not a technical problem focused on addressing network delays, I believe the invention provides a more reliable method of doing business implemented through software. Furthermore, since the invention itself does not address in any way network delays (ie. they are still there regardless of the invention), the perceived problem of network delays is not overcome but is circumvented by the invention. Signposts iv) and v) therefore point away from a relevant technical effect.
- 60 Mr Beresford mentioned the EPO *Pensions Benefits* case (T 0931/95) at the

hearing but, as I understood it, he was mentioning this as a caution, not disputing the conclusion in *Aerotel* (paragraphs 25-29) that its reasoning was not to be followed. I do not think therefore that I need to consider *Pensions Benefits* in reaching my decision.

### **Conclusion to step 3**

- 61 In my view, the characterising features that are parts (c)-(f) of claim 1 are essentially steps in a business method which, if anything, provide for a better method of doing business. These features simply serve to notify the user that there has been a change in the value of a bid/offer and provide the user with an opportunity to amend their transaction. These features do not notify the user that there has been a network delay problem and, as I see it, do not go anywhere towards addressing, identifying, minimising or solving user/system/ network delay problems at all.
- 62 In my view therefore, the contribution which I have identified is a non-technical business contribution – a better, more reliable business method – which clearly falls within the exclusion. Furthermore, the business method is implemented through software (computer program). The invention does not solve/overcome a technical problem.
- 63 It therefore follows that as a matter of substance, irrespective of the form of the claims, the contribution relates solely to a business method and a computer program and consequently fails the third *Aerotel* step.

### **Step 4 – is the contribution technical in nature?**

- 64 I do not think it is necessary for me to consider this any further since I have dealt with this point in the third step. For my reasons explained above, I do not consider the contribution to be technical in nature.

### **Conclusion**

- 65 I find that the invention is excluded under section 1(2) because it relates to a method of doing business and a computer program as such. I have carefully reviewed the specification and do not think that any saving amendment is possible. I therefore refuse the application under section 18(3).

### **Appeal**

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

**C L Davies**

Deputy Director acting for the Comptroller

## Appendix

### Claim 1 (filed 15 September 2010)

A computer network for effecting electronic trading, comprising a plurality of workstations, server means, and a communication network interconnecting said server means with said plurality of workstations, wherein:

(a) said server means comprises:

- (i) means for receiving from said workstations, via said communication network bids and offers including associated prices,
- (ii) means for storing said bids and offers, said stored bids and offers including best bid prices and best offer prices,
- (iii) means for receiving, from said workstations via said communication network, commands that result in the best bid and offer prices changing,
- (iv) means for distributing the prices associated with said bids and offers to said workstations via said communications network, and
- (v) means for receiving from said workstations via said communication network trading commands related to said stored bids and offers;

(b) said workstations comprise:

- (i) means for receiving said bid and offer prices distributed by said server means,
- (ii) means for displaying said bid and offer prices on a user interface,
- (iii) means for generating said trading commands and transmitting said trading commands via said communication network to said server means for execution thereby;

and

characterised by

(c) means for defining a predetermined time period;

(d) means at said server, responsive to a change in one of the best bid price and the best offer price, to determine whether a said trading command, relating to said changed best bid or best offer price, is received within said predetermined time period following said change;

(e) control means, at said server, operative in response to the determining means determining that a trading command is received within said predetermined time period and that said price change exceeds a predetermined amount:

- (i) to inhibit execution of said trading command received in said predetermined time period, and
- (ii) to generate a notification, via said network, to the workstation which generated said trading command received in said predetermined time period;

and

(f) instruction means at said workstations and operative, following a said notification,

- (i) to enable a user to enter into said workstation and instruction relating

to said trading command received in said predetermined time period; and  
(ii) to transmit said instruction to said server means to cause said server  
means to at least one of modify and cancel said trading command  
received in said predetermined time period.