

7 July 2008

PATENTS ACT 1977

APPLICANT Aspect Communications Corporation

ISSUE Whether patent application number GB
0607202.9 complies with section 1(2)

HEARING OFFICER J E Porter

DECISION

Introduction

- 1 This patent application results from the entry into the UK national phase of international application no. PCT/US2003/032043. The international application was filed on 8 October 2003 and had no claim to priority. It was published as WO 2005/045723 A1 on 19 May 2005, and has been reprinted as GB 2 422 231 A after entering the UK national phase.
- 2 Despite amendment of the claims during the substantive examination process, the applicant has been unable to persuade the examiner that the invention is not excluded from patentability under section 1(2) of the Act.
- 3 The applicant therefore requested to be heard, and the matter came before me at a hearing on 7 May 2008, in which the applicant was represented by Ms. Alison Clarke and Ms. Lisa Wells of the firm Haseltine Lake. The examiner, Mr. Ben Widdows, also attended.

The invention

- 4 The invention concerns the operation of centres for contacting or supporting the customers of an organisation (often called “call centres”). As the specification explains, call centres are often busy places where a customer is put “on hold” on the telephone to await the availability of a customer service agent. Sometimes the customer is told how long the wait is likely to be, based on his position in the queue of callers, and some call centres may offer to call the customer back when he reaches the front of the queue. The invention is concerned with this latter idea. In particular, it comprises a method of and system for scheduling a “call-back” to a customer who has contacted the call centre. By calculating estimated

available resources in the call centre and by forecasting the customer service workload, a call-back time for a particular customer is calculated. Furthermore, a particular means of communicating with the customer ("communication protocol") is selected and used, such as conventional telephony (PSTN), Voice over Internet Protocol (VoIP), instant messaging and so on. Finally, when contacted, the customer is asked to provide a response which the system uses to confirm his identity, based upon previously-acquired caller data or other identifying information.

5 The latest set of claims were filed on 26 February 2008. There are three independent claims: 1, 43 and 84.

6 Claim 1 relates to a method of scheduling a call-back time, and reads:

A method of scheduling a callback time for customer service, the method including:

calculating estimated handling resources for a customer interaction system;

forecasting a customer service transaction workload for the estimated handling resources of the customer interaction system;

determining the scheduled callback time based upon the estimated handling resources and the forecasted customer service transaction workload;

retrieving a communication protocol for the callback;

determining a switch for the callback based upon the communication protocol;

placing the callback under the retrieved communication protocol at the scheduled callback time; and

asking for an affirmation response to previously acquired caller data or assigned identifier.

7 Claim 43 relates to a system for scheduling a call-back time in accordance with the method, as follows:

A system for scheduling a callback time for customer service, the system including:

a tracking module to calculate estimated handling resources for a customer interaction system;

a forecasting module to forecast a customer service transaction workload for the estimated handling resources of the customer interaction system;

a callback module to determine the callback time based upon the estimated handling resources and the forecasted customer service transaction workload, to retrieve a communication protocol for the callback and to determine a switch for callback based upon communication protocol; and

scheduling means to place the callback under the retrieved communication protocol at the scheduled callback time and to ask for affirmation response to previously acquired caller data or assigned identifier.

- 8 Claim 84 similarly relates to a system to schedule a call-back time, which comprises various means for carrying out the method steps of claim 1.

The law

- 9 Section 1(2) of the Act declares that certain things are not inventions for the purposes of the Act, 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) a discovery, scientific theory or mathematical method;

(b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;

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

(d) the presentation of information;

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.

- 10 The examiner and the applicant agree that the assessment of patentability under section 1(2) is governed by the judgment of the Court of Appeal in *Aerotel Ltd v Telco Holdings Ltd* and *Macrossan's Application* [2006] EWCA Civ 1371, [2007] RPC 7 ("*Aerotel*"). In this judgment, the court reviewed the case law on the interpretation of section 1(2) and approved a four-step test for the assessment of what is often called "excluded matter", as follows:

Step 1: properly construe the claim

Step 2: identify the actual contribution (although at the application stage this might have to be the alleged contribution)

Step 3: ask whether it falls solely within the excluded matter

Step 4: check whether the actual or alleged contribution is actually technical in nature.

- 11 At the hearing, the applicant's representative also made some points in relation to the judgment of the Patents Court in *Symbian Ltd* [2008] EWHC 518 (Pat) ("*Symbian*"), and its interaction with the approach set out in *Aerotel*. I discuss these points in more detail below.

Arguments and analysis

- 12 Despite some rounds of correspondence between the applicant and the examiner, and some amendment of the claims, the examiner maintains that the claims define an invention which relates solely to a program for a computer and a method for doing business. His position is set out in his letter of 3 April 2008, and the disagreement between him and the applicant centres to a large extent around the second step of the *Aerotel* test.

Construing the claims

- 13 I agree with the view of the applicant and the examiner that the claims relate to a method of, and system for, scheduling a call-back time and then placing a call-back. This involves calculating the call-back time based on estimated resources and forecasted workload, placing the call-back using a chosen communication protocol, and confirming the identity of the customer who is called back.

Identifying the contribution

- 14 As noted above, the step of identifying the contribution made by the claimed invention is at the heart of this matter. The debate over the contribution has moved somewhat as the claims have been amended twice during the prosecution of the application.
- 15 In paragraph 43 of *Aerotel*, it is made clear that identifying the contribution is probably best summed up as determining what the inventor has really added to human knowledge, and this involves looking at the substance and not the form of the claims (as construed in step one).
- 16 In essence the applicant argues that, under the current set of claims, the contribution made by the invention includes not only the steps of scheduling a call-back time but also those of selecting a particular communication protocol, placing the call-back using the chosen communication protocol, and confirming the identity of the customer.
- 17 The examiner, on the other hand, contends that the features of placing a call using a chosen communication protocol and of confirming customer identity are known, and so the contribution must be taken to be the method of and system for scheduling a call-back time.
- 18 I must therefore determine the contribution that is made by the invention, and in this particular case that involves, as a first step, considering some prior art in relation to some features of the claimed invention.

Selecting a communication protocol and placing a call-back using it

- 19 According to the specification, once the call-back time arrives the call-back module 52 retrieves from the appropriate database the relevant caller data and the selected communication protocol. The appropriate switch is then set so that the call-back is made using the selected protocol. In claim 1, this is reflected in the steps which refer to “retrieving a communication protocol for the callback; determining a switch for the callback based upon the communication protocol;

placing the callback under the retrieved communication protocol at the scheduled callback time". Similar terminology is used in the other independent claims.

- 20 The examiner's view was that this feature was disclosed in US 6,493,447 B1 ("Goss"), and so did not form a part of the contribution made by the claimed invention. The applicant's view was that the disclosure in Goss was not of exactly this feature, as discussed further below, and that as a result this feature formed a part of the contribution made by the invention.
- 21 Goss is concerned with a "Contact Server" which enables customers to submit call-back requests to a call centre via a number of protocols. It is particularly concerned with synchronising simultaneous telephone calls and TCP/IP communications so that during the telephone call the customer can see on a web browser the actions which are being performed by the customer service agent on his web browser (see, for example, col.1 line 62 to col.2 line 13).
- 22 In the applicant's letter of 2 May 2008, the applicant pointed out that the disclosure in Goss, as described in col. 14 lines 47 to 55, relates to the fact that the call-back is placed using conventional telephony. If the customer answers the call-back then both telephony and TCP/IP sessions proceed between agent and customer. If the customer does not answer, the TCP/IP session can proceed but then (and only then) may an on-line chat session replace the telephone call.
- 23 I agree with the applicant that this particular embodiment in Goss is disclosed to operate in the way described – namely, that the on-line chat session only replaces the conventional telephone call if the customer does not answer the telephone call. However, at the hearing there was some discussion of other passages in Goss – in particular, col.2 lines 14 to 29, col.4 lines 22 to 33, and col. 23 lines 5 to 40.
- 24 Ms Clarke's view was that these passages reinforce the operation of the embodiment discussed above. She argued at the hearing that:
- "...these are all dealing with, if the agent is not available then they will use other forms of communication. Or, if the caller does not answer, then they may use a different form of communication. So the initial call-back is always made via the telephone, it is always telephony."
- and
- "So I don't think it is actually retrieving communication protocol. It doesn't give that choice. It doesn't give the customer that flexibility of choice of retrieving communication protocol and then switching to the retrieved communication protocol."
- 25 I have read Goss very carefully, and I am not convinced that Ms Clarke's interpretation is the right one. A key passage seems to be col.23 lines 5 to 17, in which it is described how "the present invention allows the call-back request to be submitted to the Contact Server 28, which can place a call-back using any available communications technology". A list of examples is then given in lines 18 to 40, setting out the various ways in which a call-back request may be

received and in which the call-back may be placed. One example given is for the call-back request to be submitted over the internet and for the call-back to be made using conventional telephony over the PSTN. But other examples state other ways in which the call-back request can be made, and make clear that the call-back can be made over the internet as a voice call or video call. So I cannot see any suggestion here that the initial call-back must be made via conventional telephony.

- 26 Another important passage in Goss is col.23 line 66 to col.24 line 4. This explains that, if the queue time is above a certain threshold, the caller is prompted to place a call-back request. If, with that request, the caller provides an IP address instead of a telephone number, the call-back is placed via the internet rather than via conventional telephony.
- 27 These passages convince me that what is being described in Goss is a system which retrieves caller data related to a call-back request, and which then selects the appropriate communications protocol and then places the call-back, based on that retrieved data.
- 28 I am therefore content that the steps of the claimed invention which comprise retrieving a communication protocol for the callback and placing the callback under the retrieved communication protocol are disclosed in Goss.
- 29 Furthermore, it seems to be inherent in the Goss system that within the idea of selecting a particular communication protocol and placing the call-back must be contained the concept of a switching mechanism for switching from one protocol to another. In other words, I do not think that the step of “determining a switch for the call-back based upon the retrieved communication protocol” in the claims of the application in suit brings to bear any distinction between the invention as claimed and the disclosure in Goss.
- 30 I therefore find that the feature of retrieving from a database the relevant caller data, determining a switch for the relevant communication protocol, and carrying out the call-back using the particular communication protocol, is known.

Confirming the identity of the customer on call-back

- 31 According to the specification, when the customer responds to the call-back, the call-back module 52 verifies the identity of the customer by asking for a response to previously-acquired caller data or ID information. It is also stated that the response requested may vary depending on the communication protocol that has been selected. The relevant part of claim 1 refers to “asking for an affirmation response to previously acquired caller data or assigned identifier”. Similar terminology is used in the other independent claims.
- 32 The examiner’s view was that requiring verification of the person being called-back, as part of a call-back system, is conventional. Particular reference was made to US 5,155,761 (“Hammond”).
- 33 Hammond is concerned with an automatic call-back system, with a “robot controller” which suggests a call-back time or allows the caller to request a

particular time. Figure 3 illustrates the call-back procedure and shows a step of verifying that the correct person has been called back. This is also reflected in, for example, column 7 lines 17 to 20.

- 34 At the hearing, Ms Clarke agreed that “verification of caller ID is certainly disclosed in US 5,155,761”. But she argued that this did not mean that the “affirmation response” feature was wholly outside of the contribution made by the claimed invention, because in the application in suit the affirmation response was adapted to the particular communication protocol used.
- 35 As noted above, the independent claims refer to the step of asking for an affirmation response to previously acquired caller data or assigned identifier. It is clear from the four-step *Aerotel* test that I must ascertain the contribution by looking at and properly construing the claims. And it seems to me that this feature of the claims is directed in a general sense to asking for an affirmative response to some form of previously-acquired data relating to caller identity – as disclosed in Hammond. I do not think that it would be right to construe this claimed feature in a way which gives it a more specific meaning – namely, in a way which reads it as specifically referring to adapting the caller-specific data to a selected communication protocol. Although the description mentions this possibility, I can see no basis for construing the claim as being limited to this particular feature.
- 36 I therefore find that the claimed feature of requesting an affirmative response to previously-acquired data relating to caller identity is known.

Analysis of the contribution actually made

- 37 In determining the contribution made by the claimed invention, ascertaining that the features discussed above are known is not the end of the matter. It does not necessarily follow that because a particular feature of a system is known, any contribution made by that particular feature can be dismissed.
- 38 This is because it is not as simple as slicing the invention up into its component parts and then assessing the novelty or inventiveness of each of those parts. What is required is to assess the contribution made by the claimed invention as a whole, and so the interaction between the various features (known or otherwise) needs to be considered when making that assessment.
- 39 In this case, having carefully considered the description and the applicant’s arguments, I am not satisfied that there is sufficient connection between, on the one hand, the parts of the system which schedule the call-back and, on the other, the known features discussed above for it to be said that there is a contribution made by the system as a whole, over and above the contribution made by the steps involved in scheduling the call-back.
- 40 What the known features do is go through the steps of placing a call-back in accordance with a selected communication protocol at the scheduled time, and of confirming customer identity. I have found nothing which has persuaded me that these steps are materially different as a result of the previous steps of estimating resources, forecasting workload and scheduling of the call-back time. In other

words, the steps of selecting a communication protocol, placing a call-back and identifying the customer do not in my view interact with the earlier steps of scheduling a call-back in such a way that all the features of the claimed invention when taken as a whole can be said to deliver a contribution over what is already known.

41 Following *Aerotel*, I therefore find that the features of retrieving a communication protocol for the callback, placing the callback under the retrieved communication protocol, and requesting an affirmative response to previously-acquired caller data cannot be said to form a part of the contribution made by the invention of the application in suit.

42 Having found that the features discussed above do not form a part of the contribution, I conclude that the contribution made by the claimed invention is in providing a method and system of scheduling a call-back time, which includes calculating estimated resources, forecasting customer service workload for the estimated resources, and determining a call-back time based on these calculations and forecasts.

43 I should note, in passing, that this is the alleged contribution in the sense discussed in *Aerotel* at paragraph 44, because (although in this case a search has been carried out by the examiner) the consideration of issues of novelty and inventive step have been deferred by the examiner, pending resolution of the excluded matter issue.

Does the contribution fall solely within excluded matter?

44 As is clear from *Aerotel*, what I must now do is decide whether the contribution relates solely to one or more of the matters which are excluded from patentability under section 1(2).

45 It seems to me that the steps of estimating the resources available to carry out a particular task or set of tasks, and of forecasting the workload for those resources, are steps which would be carried out when running any business which is called upon to process a number of tasks in a finite time and with finite resources. In particular, although the calculations carried out in order to obtain the estimates and forecasts may well be detailed and complex, there does not seem to me to be anything of a technical nature to be found in those steps.

46 I also cannot see that the step of using such estimates and forecasts to calculate the time that the task will be carried out (in this case, the time that the call-back will be made) brings this outside the scope of a process which would be found in the running of a business. I therefore conclude that there is nothing contained within the idea of obtaining and using such estimates and forecasts to schedule a call-back time which brings the claimed invention outside the realm of a pure method for doing business.

47 Furthermore, it is clear from the description that the system as a whole is implemented by both computer software and by various pieces of hardware. That hardware may comprise a server, personal computer or other device which can execute software in such a way as to carry out the various operations

necessary to calculate and schedule a call-back time. See, for example, paragraph 55 of the description. The hardware also comprises “media switches” for switching between different communication protocols, and one or more communication devices, such as a telephone or fax machine.

48 But this hardware is, in my view, conventional. The contribution made by the invention is implemented solely by computer software running on that hardware - namely by a program which manipulates data so as to calculate estimates of resources and to make workload forecasts, and which then calculates what the call-back time will be on the basis of these.

49 Furthermore, the software does not in my view cause the computer (or other hardware which may execute the software – see above) to operate technically in a new way. Nor does it solve a problem of a technical nature in the operation of the computer or other hardware. I therefore find that the contribution made by the invention falls solely within the bounds of being a computer program.

50 I conclude that the contribution falls solely within excluded matter, as it is no more than a method for doing business and a program for a computer. It therefore fails to meet step three of the *Aerotel* test.

Is the contribution technical in nature?

51 In paragraph 46 of *Aerotel* it is stated that applying this fourth step may not be necessary because the third step should have covered the question. This is because a contribution which consists solely of excluded matter will not count as being a “technical contribution” and thus will not, as the fourth step puts it, be “technical in nature”.

52 Subsequent judgments in the Patents Court have tended to follow this approach – most notably *Oneida Indian Nation’s Application* [2007] EWHC 954 (Pat), in which Deputy Judge (as he then was) Christopher Floyd QC said that

“the fourth step is intended merely to make sure that inventions that have passed at step three are technical in nature. So step four is exclusionary in nature”.

53 However, as noted above, at the hearing there was some discussion of *Symbian*. In his judgment, Patten J states at paragraph 58 that

“What is clear from the authorities is that the question whether the invention makes a relevant technical contribution has to be asked”

and also that

“Whether it is asked as part of Step 2, 3 or 4 matters much less than whether it is asked at all”.

54 It is clearly not easy to find an approach to the fourth step which is consistent with, on the one hand, *Aerotel* and various Patents Court cases which followed it and, on the other, the approach taken in *Symbian*. But I do not think that I need to do so, for the reasons set out below.

- 55 Ms Clarke's position was that *Symbian* may be helpful to the applicant's case. Her contention was that the contribution made by the claimed invention included *inter alia* retrieving a particular communication protocol and controlling a switch in response. She then postulated that one might fall into the trap of taking a narrow view of step three, and so might decide that, taken as a whole, the invention was a computer program – but that one might do so without considering whether that program was actually contributing something more than just the running of that program on a computer. Her argument was then that step four would rectify matters, by ensuring that one went on to consider whether a technical contribution was made by the invention. This was important because, as Ms Clarke said, "if it is technical in nature then it cannot solely lie within excluded matter". In other words – put simply – using step four could correct an error of approach in step three.
- 56 In my view this argument falls away for two reasons. One is that Ms Clarke's position was based on her contention that the contribution made by the invention included retrieving a particular communication protocol and controlling a switch in response. I have found that it does not include these features.
- 57 The second reason is that I do not believe that I have fallen into a trap of considering the third question too narrowly. On the contrary, in paragraphs 45 to 49 of this decision, part of the consideration I make in determining whether the contribution made by the invention is excluded is whether that contribution is technical in nature.
- 58 Thus I have already concluded, in assessing step three, that the contribution made by the invention is solely within the realm of a business method and also that it comprises software which neither results in the hardware operating technically in a new way, nor solves a problem of a technical nature in the operation of the hardware.
- 59 Regardless of whether step four of the *Aerotel* test is an optional check or not, this means that I am in any event satisfied that the contribution made by the invention contains nothing which is technical in nature – and thus it should be regarded as excluded under step three.

Conclusion

- 60 I conclude that the invention of independent claims 1, 43 and 84 is excluded from patentability under section 1(2)(c) because it relates solely to a method for doing business and a program for a computer.

The compliance period

- 61 As things stand, the compliance period expired on 9 June 2008, having been extended by two months as-of-right. If that remains the position, then under section 20(1) the application must be treated as having been refused on that date.
- 62 However, for 2 months after that date, and while the application remains pending, it remains possible for the applicant to request that the compliance period is

extended by a further 2 months. If such a request were accepted, and the applicant were then to appeal my decision, it would mean that section 20(2)(a) would apply – since the appeal would be pending at the compliance date. Given that the examiner has deferred consideration of novelty and inventive step issues pending resolution of the excluded matter issue, it seems fair to me that the applicant should be given the chance to request a further extension to the compliance period. If that request were accepted, it would mean that section 20(2)(a) would apply and – should my decision be overturned on appeal – the applicant would then be able to ask the court to extend the compliance period, so that any outstanding novelty and inventive step objections could be dealt with.

63 I therefore order as follows:

In the event that the compliance date remains 9 June 2008, the application in suit is treated as having been refused under section 20(1) on that date.

In the event that the compliance period is further extended, the application in suit is refused under section 18(3) immediately after the extension to the compliance period has been allowed.

Appeal

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

Dr J E PORTER

Deputy Director acting for the Comptroller