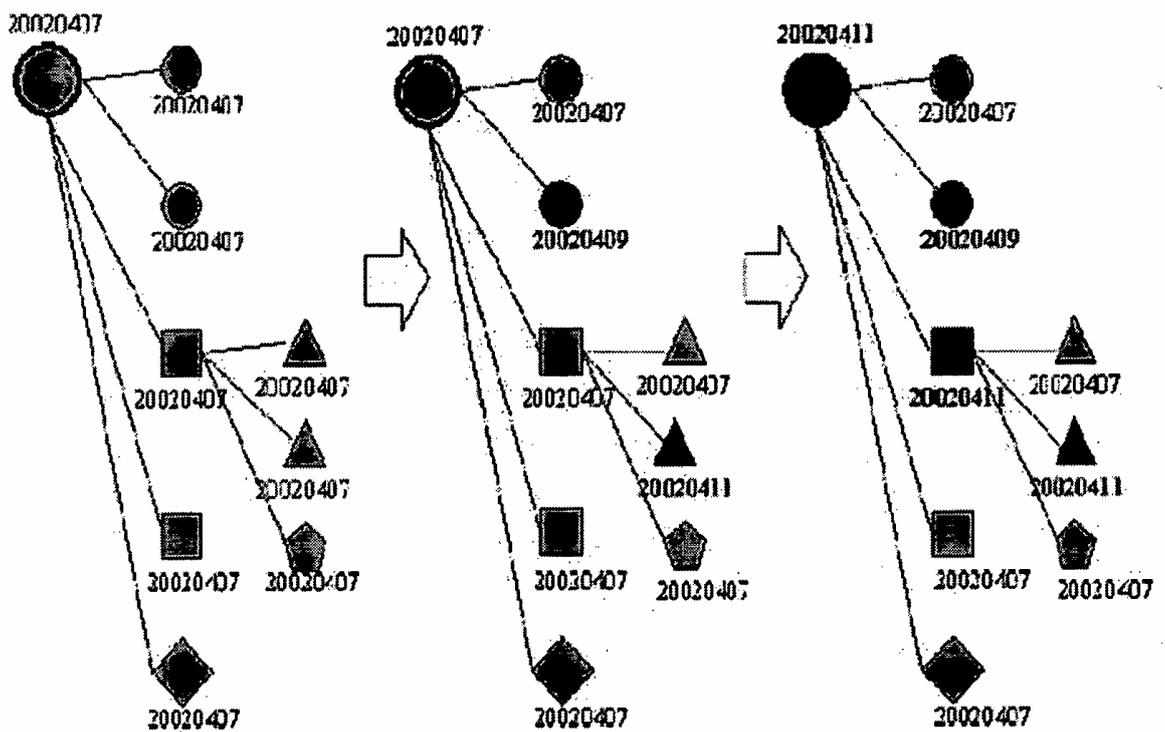




diagram, one fragment of the document (represented by the lower right most triangle) has been updated and has a new version value of 20020411. The third diagram shows how in accordance with the invention this update is then reflected up through the branch associated with this updated fragment. Hence the version values of the upper square and largest circle are also changed to 20020411.

- 5 When a requestor wishes to receive an update of the document he will first communicate the latest version value for the document that he currently has. The method will then use the version values to identify those fragments which have been updated since that version and then transmit only the updated parts.

Fig.4



- 6 In one application of the invention, the electronic document comprises a broadcast program wherein the fragments of the document are episodes of television programs.
- 7 The latest available claims are those filed on 18 December 2006. These include

the following two independent claims:

Claim 1

A method for updating XML data stored in a requestor, said XML data comprising a fragment describing metadata related to a television program and version information of said fragment, wherein said version information comprises date information and/or time information, the method comprising:  
requesting an updated version of said fragment of said XML data from a provider, said requesting comprising transmitting previously received version information of said fragment,  
receiving said updated version of said fragment from said provider; and updating said XML data stored in said client with said received version of said fragment, wherein when a lower structure of said fragment is changed, the version information of the lower structure is updated and the updated version information is reflected in the version information of an upper structure.

Claim 10

A method for providing an update of XML data, said XML data comprising a fragment describing metadata related to a broadcasting program and version information of said fragment, wherein said version information comprises date information and/or time information, the method comprising:  
receiving a request for an updated version of said fragment of said XML data from a client, said request comprising previously received version information of said fragment stored at said client; and supplying said updated version of said fragment, wherein when a lower structure of said fragment is changed, the version information of the lower structure is updated and the updated version information is reflected in the version information of a corresponding upper structure.

## The law and its interpretation

8 The relevant parts of section 1(2) read:

“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.”

9 It is not disputed that the assessment of patentability is now 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 (hereinafter “*Aerotel/Macrossan*”), delivered on 27 October 2006. In this case the court reviewed the case law on the interpretation of section 1(2) and approved a new four-step test for the assessment of patentability, 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) Check whether the actual or alleged contribution is actually technical in nature.

10 The operation of this test is explained at paragraphs 40-48 of the decision. 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 involves looking at substance, not form. Paragraph 46 explains that the fourth step of checking whether the contribution is technical may not be necessary because the third step should have covered the point.

11 The notice issued by the Office in relation to this test<sup>1</sup> indicated that it should rarely be necessary to refer back to previous case law. Mr Dallimore was however keen to remind me that previous decisions of the Court of Appeal were also still binding on the Office. He referred especially to *Merrell Lynch's Application* [1989] RPC 561 (hereinafter "*Merrill Lynch*") and *Gale's Application* [1991] RPC 305 (hereinafter "*Gale*"). Both of these provide context for *Aerotel/Macrossan* and guidance in circumstances in which that case is silent.

12 Mr Dallimore also makes reference to *Research in Motion UK Limited v Inpro Licensing* [2006] EWHC (hereinafter "*RIM*") and *Cappellini & Bloomberg* [2007] EWHC 476 (hereinafter "*Bloomberg*"). I discuss these cases in more detail below.

### **Argument and analysis**

13 I will deal with the arguments put forward by Mr Dallimore as I apply the test set out in *Aerotel/Macrossan* to the present case.

#### Properly construe the claims

14 Here I can be brief as there is no dispute between the examiner and applicant. This is not surprising as the claims are clear and relatively straightforward to understand.

#### Identification of the contribution made by the invention

15 On this step I need to say more since although there is some common ground there are some areas of dispute. In his skeleton argument and at the hearing Mr Dallimore makes a number of general points about how this step should be applied and then goes on to identify the actual contributions provided by the invention. I will deal with the general points first.

16 His main point was that that any contribution should consider any new technical

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<sup>1</sup> Practice Notice – Patentable Subject Matter 2 November 2006

results provided by the invention. Whilst I do not believe that is necessary at this step to refer to “technical” results, it is clear that any contribution should consider any new results produced by the invention. This is evident from paragraph 43 of *Aerotel/Macrossan* to which I am referred to by Mr Dallimore. This reads:

“The second step – identify the contribution - is said to be more problematical. How do you assess the contribution? Mr Birss submits the test is workable – it is an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are. What has the inventor really added to human knowledge perhaps best sums up the exercise. The formulation involves looking at substance not form – which is surely what the legislator intended.”

- 17 So in this case what is the problem said to be solved, how does the invention work and what are its advantages?
- 18 Mr Dallimore suggests that the contribution comprises 3 facets. The first, which is perhaps the most obvious, is perhaps best illustrated with reference to the electronic document set out in the right hand tree diagram of figure reproduced above.
- 19 A requestor wishing to update a document sends to the data provider the version value of his current document – let us say 20020407. The data provider checks this version against the most recently updated document. He does this by first comparing this version value with the uppermost version value assigned to the latest updated document. Here the latest document is that depicted in the tree structure shown in the right hand part of the figure and the uppermost version value is 20020411. Since this is different to the version value in the request, the data provider knows that updates need to be sent. The version values lower down in the structure are then used to determine the fragment of the document that needs to be updated. Only this fragment, in this case the fragment depicted by the lowermost triangle and having a version value of 20020411 is sent to the requestor.
- 20 Apparently in prior art arrangements where a version value provided by the requester differs from the current value, then the entirety of the document is sent to the requester. Hence the invention results in a reduced amount of data being transmitted.
- 21 Mr Dallimore also argues that as a result of the reduction in the amount of data that is transmitted, the amount of processing that needs to be performed by the requestor is reduced. This is he contends important in the broadcast environment where there are often very low processing capabilities.
- 22 The examiner contends that it is far from certain that there will be any reduction in the processing needed to be done by the requestor. He notes that in prior art systems the requestor would simply have had to delete his existing document and then replace it in its entirety with an updated version. With the method of the invention, whilst receiving less data, he would need to identify the fragment of the current version to delete and then replace it with the updated fragment. All of this

could in his opinion require extra processing.

- 23 Having listened to the arguments and read the specification on a number of times, I am not convinced that the invention would necessarily in all circumstances reduce the processing that needs to be done by requestor. I will nevertheless give the benefit of the doubt to the applicant although in the event I do not think that anything turns on this.
- 24 Mr Dallimore argues that a further contribution is a more rapid identification of the updated data that needs to be sent by the data provider to the requestor. More specifically by updating version values up through the structure, the data provider can quickly scroll through the nodes at a particular level and then investigate only those branches that have been updated as indicated by the updated version number of the respective node. According to Mr Dallimore this speeds up the update procedure whilst also reducing the processing burden on the data provider. A potential advantage of this is that the data provider is able to serve more requestors.
- 25 At the hearing and in his examination reports the examiner opined that the initial processing of the data to update all the linked version numbers should also be taken into account and that this “pre-processing” might actually offset any gains later.
- 26 Much of this argument turns on what the invention is being compared with. If it is with a system comprising a document where only the uppermost node has a version number such that when it is updated then the whole document is transmitted, then it is questionable whether the invention reduces the processing burden on the data provider. Yes the amount of data transmitted with the invention would be less, but actually identifying the data to be sent will take longer. However if the invention is being compared with a system whereby a document has version values associated with each fragment, but without the linking up through the structure of the current invention, then the invention would enable the fragment to be updated to be identified more quickly. The amount of data transmitted will however be the same.
- 27 Where does this get me? Essentially I am prepared to accept that the contribution provided by the invention involves a reduction in data transferred in certain circumstances and a reduction in the processing burden on the data provider in others. I also accept that in those circumstances where the quantity of data transmitted is reduced, the amount of processing that the requestor needs to perform may be less.
- 28 I should add that Mr Dallimore also seeks to introduce a further contribution that the inventors have added to “human knowledge”. This is that the underlying method of versioning and updating a hierarchy of data structures is not limited to XML. It could equally be applied more generally to say, paper based documents/records and other non-computer-based scenarios too.
- 29 I have great difficulty with this argument. The simple fact is that the entirety of the application starting with the title itself but more importantly the claims are directed

solely to an XML based electronic document request/supply method. When pressed Mr Dallimore agreed that the scope of the claims properly construed would not extend beyond XML based documents. I therefore reject this argument.

30 Having identified the contribution provided I turn to the third step.

Ask whether the contribution falls solely within the excluded subject matter

31 The examiner has maintained that any contribution relates solely to a computer program as such.

32 Mr Dallimore first general point under this head is that merely because the subject matter of a claim uses or is implemented by a computer or a computer program, does not automatically mean that it is excluded from being an invention. He refers me on this to *Gale* and *Aerotel/Macrossan* It is not necessary for me to go into the relevant parts of these decisions or other case law since I accept the point entirely.

33 Mr Dallimore also seeks to draw similarities between the invention here and that set out in *RIM*. Whilst recognising that *RIM* was a decision of the High Court that preceded *Aerotel/Macrossan*, he notes that *Bloomberg* handed down after *Aerotel/Macrossan* appears to endorse the finding in *RIM*.

34 He refers me to paragraph 14 of *Bloomberg* which reads:

14. I turn now to the fourth question, which, of course, the Hearing Officer did not deal with: is it possible to identify a technical effect? In my view, the clear answer to this is no, it is not. At this point, I do think it is helpful to draw the distinction with the *RIM* case. In *RIM*, the whole purpose of the server-side treatment of the data to be transmitted was to reduce the information content to ensure more rapid transmission over reduced bandwidth channels. I adhere to the view that I expressed in that case, that this is a relevant technical effect. If the claim had not been limited to systems in which the downloaded data had its information density reduced and was to be transmitted to a "field computer" which, in context, meant a computer having reduced bandwidth capabilities, the position might well have been different. Here, however, there is no such limitation and no relevant technical effect. I conclude, therefore, that the claimed invention fails to surmount the hurdle placed in its path by Article 52 EPC, and it must be rejected"

35 The contribution in this case is an improved method for providing an update of XML data. The improvement stemming from a reduction in data transferred, and potentially a reduction in the processing burden on both the requestor and data provider, with the latter potentially enabling the provider to serve more requestors. However there is no suggestion that any of these contributions is intended to overcome the type of physical problems identified in *RIM*. Rather as Mr Dallimore appeared to acknowledge, the quicker transfer of data and reduction in processing is merely something that is desirable as is the ability to service more requestors that any reduction in processing provides. I therefore do not believe that *RIM* offers any real assistance to Mr Dallimore.

36 Mr Pelly sought to rely on his experience as a programmer to argue that a data structure such as XML is not a computer program. Rather it is a data structure that can be interpreted and used by a computer program. I was referred in this respect to statements in *Merrill Lynch* that “A computer program is a text which when loaded into a computer, directs the manner in which the computer is to operate” and in *Gale* that “.. a computer program is essentially a series of instructions capable of being followed by a cpu to produce a desired result”.

37 I would note first that I do not believe that either of these statements is intended to be a definitive definition of the expression “program for a computer” as used in the Act. Indeed this is made clear when one considers the whole of the relevant sentence in *Gale* and the preceding sentence which read, with added emphasis:

“The Act contains no definition or description of what is meant by the expression “program for a computer”. **For present purposes, it is sufficient** to note that a computer program is essentially a series of instructions capable of being followed by a cpu to produce a desired result.”

38 At the hearing Mr Dallimore sought to encourage me to address head on in this decision what the expression “computer programs” means. It is not necessary for me to do this here. My task is merely to decide whether the invention in this application in issue is excluded by being merely a computer program. I believe it clearly is. The contribution provided by the invention is an improved method of updating computer based documents. The method is performed by computer hardware that is entirely conventional. What is not conventional is the instructions for updating, interrogating and retrieving the data. But these instructions, whether in XML or any other computer language are instructions that the computer follows, if necessary with the aid of another program, to produce the desired result. As such the contribution comprises merely a program for a computer. It may be a better program than in the prior art but it is still a computer program.

*Check whether the contribution is actually technical in nature*

39 Since I have found that the contribution fails step 3, it is not necessary for me to go on and consider whether it is technical in nature.

## **Conclusion**

40 I have found that that the invention as presently claimed relates to a computer program as such and is excluded from patentability under section 1(2)(c). A possible amendment to the claims involving incorporating additional information in the version values was briefly discussed at the hearing. This stems from the embodiment shown in figure 12 of the application. I have carefully considered this however I do not believe that it would alter my finding that the contribution relates solely to excluded matter. I have also carefully read the rest of the specification

but am unable to find anything that could form the basis of a patentable claim. I therefore refuse the application.

### **Appeal**

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

Phil Thorpe  
Deputy Director acting for the Comptroller