Intellectual Property Office

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PATENTS ACT 1977

APPLICANT	CITA – The Wireless Association
ISSUE	Whether patent application GB2012345.1 is excluded under section 1(2)(c)
HEARING OFFICER	H Jones

DECISION

Background

1 GB2012345.1 is the national phase of a PCT application filed on 6 February 2019 in the name of CITA – The Wireless Association. It was republished as GB2584565 on 9 December 2020.

2 Despite several rounds of correspondence and amendments to the claims, the applicant has been unable to persuade the examiner that the application relates to patentable subject matter.

3 The applicant initially accepted the offer of a hearing, but subsequently asked that a decision be issued on the basis of the correspondence already on file[1]. I confirm that I have taken full account of the applicant's arguments.

The invention

4 The application relates to testing candidate Internet-of-Things (IoT) devices sequentially against first, second and third sets of cyber security criteria, and issuing certificates if the device passes the tests. For instance, the first set of criteria may be a core set of IoT device security features defined by a manufacturer of the device in official documentation. The second and third sets require further assessments against security criteria of increased complexity and sophistication. For example, the second set may include additional criteria that are required when the device is used in a managed network.

[1] The correspondence can be viewed here.

5 The most recently filed set of claims includes a single independent claim which reads as follows:

> 1. A method for certifying Internet-of-things (IoT) devices with respect to cyber security criteria by an IoT device testing platform coupled to a monitoring system, the method comprising:
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> testing a candidate IoT device with respect to a first plurality of cyber security criteria and granting a first certificate for the candidate IoT device when the candidate IoT device favorably passes assessment with respect to the first plurality of cyber security criteria;
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> subsequent to granting the first certificate, testing the candidate IoT device with respect to a second plurality of cyber security criteria and granting a second certificate for the candidate IoT device when the candidate IoT device favorably passes assessment with respect to the second plurality of cyber security criteria; and
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> subsequent to granting the second certificate, testing the candidate IoT device with respect to a third plurality of cyber security criteria, wherein the third plurality of cyber security criteria includes an additional assessment for tamper resistance, not tested in either of the first or second plurality of cyber security criteria, wherein the assessment for tamper resistance assesses whether the candidate IoT device alerts the monitoring system when a housing of the candidate IoT device is opened or its software is altered; and granting a third certificate for the candidate IoT device when the candidate IoT device favorably passes assessment with respect to the third plurality of cyber security criteria;
>
> further comprising the steps of testing the candidate IoT device with respect to a fail secure mechanism, based on documentation of the IoT device, and confirming if the device passes the assessment.

The Law

6 The examiner has raised an objection that the invention is not patentable because it relates to two of the categories of subject-matter which are not considered to be inventions under the Act. This 'excluded matter' is set out in section 1(2) of the Act: 1(2).

> *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.*

7 The Court of Appeal's judgement in *Symbian*[2] confirms that the four-step test set out in its earlier judgement in *Aerotel*[3] must be used in order to determine whether an invention falls solely within the any of the exclusions listed in section 1(2). The four steps are:

(1) properly construe the claim(s);

(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.

Paragraph 46 of *Aerotel* says that applying this fourth step may not be necessary because the third step should have covered the question. In practice the third and fourth steps can often be considered at the same time.

8 To assist in identifying whether there is a technical contribution in computer related inventions, the signposts set out in *AT&T/CVON*[4] and by the Court of Appeal in *HTC/Apple*[5] act as guidelines. They provide a list of some of the factors that can indicate whether a contribution may be technical. They 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 makes the computer a better computer in the sense of running more efficiently and effectively as a computer;

v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

Arguments and analysis

Step 1 – properly construe the claim

9 Neither the examiner nor the applicant have identified any issues with construing the claim and generally I agree, though it's not entirely clear to me whether the testing with respect to a fail secure mechanism, at the end of the claim, is intended to be one of the first, second or third sets of cyber security criteria, or something in addition

[2] Symbian Ltd. v Comptroller-General of Patents [2008] EWCA Civ 1066
[3] Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application [2006] EWCA Civ 1371
[4] AT&T Knowledge Venture/CVON Innovations v Comptroller General of Patents [2009] EWHC 343 (Pat)
[5] HTC Europe Co Ltd v Apple Inc [2013] EWCA Civ 451

(i.e. a fourth criteria). In light of the description, it appears to be part of the third series of tests. However, nothing hinges on this.

Step 2 – identifying the contribution

10 The examiner and the applicant agree on the contribution. The examiner's pre-hearing report says that the contribution is:

> Providing a cascading series of test sets for an Internet of Things candidate device representative of all devices of the same type, where each test has different cyber security criteria, and issue a certificate for each test set in the series that is passed. Further, one of the tests in a set relates to an assessment of tamper resistance where the candidate device alerts a monitoring system if tampering is encountered, and one of the tests in a set relates to a fail secure mechanism of the candidate device.

11 I am content to adopt this assessment of the contribution; it seems entirely reasonable to me.

Steps 3 and 4 – does the contribution fall within the excluded subject matter, and is it technical?

12 The examiner's view is that the contribution falls within both the business method and computer program exclusions. The applicant obviously disagrees.

13 The applicant's most recent response does not contain any observations on the business method exclusion, but earlier responses do. The argument is essentially that the invention is not concerned with financial or commercial activities, or administrative, organisational or managerial activities, but rather it relates to the technical field of testing and certifying IoT devices.

14 The examiner is of the opinion that the contribution relates to arbitrarily dividing a selection of cyber security tests into three sets to be performed in a sequential manner and granting certificates in dependence on the results of those tests, and that, as such, the invention is entirely administrative in nature.

15 Claim 1 does not actually say what tests are included in the first and second sets, but they are clearly envisaged to include assessing terms of service and privacy policies, password management, authentication practices, access control, patch management, and software upgrade practices. Only for the third set of tests does claim 1 give any indication of what the individual tests might include – physical or software tampering, and fail-secure ability. I can see nothing in the application to suggest that the testing *per se* is anything other than entirely conventional, and the applicant has not argued to the contrary. It may possibly be the case, in principle, that an innovation relating to a genuinely new method of security testing of an IoT device might be capable of patent protection, but the applicant's contribution plainly does not extend to such a method.

16 When the examiner says that the tests are "arbitrarily" divided, the point he is making is that one could just as easily envisage a two-tiered or four-tiered approach to testing IoT devices (and in fact the application acknowledges this at paragraph [0046]). The crux of this, it seems to me, is that the division of the tests into multiple sets with the possibility of issuing multiple certificates is done merely as a means to

allow a user or customer to objectively assess a wide variety of IoT devices with respect to their cyber security capabilities, by simply being able to check whether a particular device carries level 1,2 or 3 certification, or none.

17 Contrary to what the applicant has argued, it seems to me that this application is not really about testing the security features of IoT devices, or providing IoT devices with improved security features. It is about assigning a level of certification to IoT devices which provides users with a simple and consistent way to understand if a given device meets their cyber security requirements. In other words, the contribution is no more than providing helpful product information, obtained in an entirely standard manner from a technical perspective, about the capability of the security features of an IoT device. Though it is not a feature of the claims, this will clearly have an effect on which devices users select and purchase. In my view, the act of choosing to issue multiple levels of certification for a device is administrative in nature and as such the contribution falls within the scope of the business method exclusion.

18 There is no doubt that the method is performed with the assistance of a suitably programmed computer; the claim refers to “an IoT device testing platform coupled to a monitoring system”. As the examiner has correctly pointed out in his pre-hearing report, when a business method is implemented on a computer an applicant often advances an argument that the use of the computer imparts some technical contribution to the invention. That is exactly what the applicant has done here, making observations in respect of signposts (i) and (iii)-(v).

19 The applicant has argued that signpost (i) is met because the issuing of a certificate after the candidate IoT device has passed a cyber security criteria is a technical process carried on outside of a computer. The method does not require the issue of a certificate in paper form (that is clear from the description, which also refers to a “soft virtual format”), but even if it did, I am not persuaded that the printing of a certificate is the sort of “technical effect on a process which is carried on outside the computer” that signpost (i) envisages as being an indicator of patentability. Though the applicant has not argued the point, for completeness I should add that I do not consider the various tests carried out on the IoT device to constitute a process carried on outside a computer; after all they are merely conventional assessments of a computer (the IoT device) carried out by a computer (the IoT testing platform coupled to a monitoring system).

20 Regarding signposts (iii) and (iv) I can see no merit in the applicant’s submission that the computer operates in a new way and that it operates more effectively and efficiently. It is quite clear that the IoT testing platform and monitoring system are merely being used to perform a series of conventional tests, albeit in a particular defined order. The computer is not running in a new way, it has merely been programmed to perform tasks in a new order. The applicant has argued that it is more efficient to perform all of the required tests on a single computer rather than to perform each test on a different computer. I can see why that would be advantageous, but the fourth signpost requires that the computer itself is running more efficiently, not simply that it is doing something more efficiently.

21 The applicant has argued that alleviating concerns regarding privacy and security of IoT devices is a technical problem and that it has been overcome rather than circumvented, so signpost (v) points towards patentability. I do not doubt that the problem of ensuring privacy and security in IoT devices can sometimes have a technical aspect to it, but the applicant has not overcome a technical problem here.

All they have done is to arrange for conventional tests to be performed in a multi-tiered fashion so that different levels of certificates may be issued. This does not actually alleviate any security or privacy concerns about use of an IoT device, but rather it provides a user with certification which indicates whether or not such a concern exists.

22 Having fully reviewed the examiner's objections and the applicant's arguments, I can see nothing to persuade me that the examiner's assessment is incorrect. Accordingly, I share his view is that the application relates to both a business method and a computer program.

Inventive Step

23 I am aware that the examiner has also objected to the application on the grounds that the claims lack an inventive step in view of what is commonly known in the art, but since I have already determined that the invention is excluded from patentability under section 1(2), I see no need to address the obviousness issue.

Conclusion

24 Since the application relates to a business method and a computer program, it is refused under section 18(3).

Appeal

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

Huw Jones
Deputy Director, acting for the Comptroller