Study Question

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Patentability of computer implemented inventions

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I. Current law and practice

1 **Does your current law contain any statutory provisions which specifically apply only to CII?**

Yes

Please Explain

Denmark is a signatory to the European patent convention and has harmonized Danish Laws and administrative regulations with the articles and rules of the EPC in order to ensure that national Danish patent applications are treated on par with patent applications with validity for Denmark filed with the EPO.

Thus, similar to Art. 52(2) (a) and (c) EPC, the Danish Patents Act, Section 1(2)(1) states that discoveries, scientific theories and mathematical methods per se are not considered to be inventions and Section 1(2)(3) states that schemes, rules, methods of doing business, presentation of information – and programs for computers – per se are not considered to be inventions.

Further, it is noted that the Danish Utility Models Act Section 2(2)(2) excludes methods from protection as a utility model, hence, under Danish law, a CII that is claimed as a computer-implemented method can only be protected by way of a patent.

2 **Please briefly describe the general patentability requirements in the written statute based law of your jurisdiction which are specifically relevant for the examination of the patentability of CII.**

Under Danish law, the requirements for patentability of CIIs correspond to the requirements for patentability in general, including in particular the requirements of novelty and inventive step where the latter requires the solution of a *technical* problem; this is in accordance with the articles and rules of the EPC and the practice of the EPO. There are no specific requirements, in particular no specific written statutes, for CIIs beyond the above-mentioned exemption from patentability of programs for computers as such.

3 **Under the case law or judicial or administrative practice in your jurisdiction, are there rules which specifically apply only to CII? If yes, please explain.**

No

Please Explain

Under Danish law and judicial or administrative practice, there are no rules which specifically apply to CII. To the knowledge of the authors, no specific case law on the patentability of CIIs exists from the Danish courts. The Danish Patent Office puts considerable emphasis on EPO Guidelines and case law, such as G 3/08.

In particular, like the EPO, the Danish Patent Office routinely applies the problem-and-solution approach. In this context, the guidelines of the Danish Patent Office state: “In the second step of the ”problem solution approach”, the technical problem to be solved is objectively determined. To do so, the application (or patent) should be studied as well as the closest prior art and the difference in features (also called the differentiating features; structural or functional features) between the invention and the closest prior art. Features which are found not to contribute, neither independently nor in combination with other features, to the solution of a technical problem, are not relevant for the assessment of a considerable differentiation and thereby for the determination of the technical problem (see EPO T 641/00, OJ 7/2003, 352). Such a situation may for example arise if a feature only contributes to the solution of a non-technical problem such as a problem within an area excluded from patenting (see T 931/95, OJ 10/2001, 441). When a claim refers to an objective which is obtained in a non-technical area, this objective may legitimately form part of the formulation of the objective technical problem, as a part of the framework of the technical problem, especially as a limitation to be met (see T 641/00, OJ 7/2003, 352 and T 172/03 – not published in OJ)”.

4 **Please briefly describe the general patentability requirements under the case law or judicial or administrative practice of your jurisdiction which are specifically relevant for the examination of the patentability of CII.**

In Denmark, CIIs are treated as any other invention. As Danish patent law is harmonized with the European Patent Convention, the same requirements for patentability exist: novelty (Section 2 of the Danish Patents Act; Arts. 52 and 54 EPC), Inventive step (Section 2 of the Danish Patents Act; Arts. 52 and 56 EPC), industrial applicability (Section 1 of the Danish Patents Act; Art. 57 EPC), exclusions from patentability (Section 1(2) of the Danish Patents Act; Art. 52 EPC).

In relation to the examination of inventive step, the Danish Patent Office applies the problem-and-solution-approach favoured also by the EPO, including the methodology for treating features that do not contribute to the technical character of the claimed subject-matter as defined in T641/00.

5.a **Exclusion of non-patentable subject matter per se.**
Do the statutory provisions, case law or judicial or administrative practice (hereinafter collectively referred to as Law / Practice) in your jurisdiction exclude any particular subject matter relating to CII from patentability per se?
In this context, “per se” means that the non-patentable subject matter is identified without any implicit or explicit examination of the contribution to the state of the art the claimed CII makes.

If yes, please answer questions 5.b-5.e, if no, please go to question 6.a

Yes

Please Explain

Yes, similar to Art. 52(2) (a) and (c) EPC, the Danish Patents Act, Section 1(2)(1), states that discoveries, scientific theories and mathematical methods **per se** are not considered to be inventions. Section 1(2)(3) states that schemes, rules, methods of doing business, presentation of information – and programs for computers - **per se** are not considered inventions.

5.b **Please describe the subject matter excluded from patentability per se and explain in detail how it is identified in practice**

The Danish Patents Act is harmonized with the EPC and, thus, in Section 1(2) excludes from patenting what only amount to:

(a) discoveries, scientific theories and mathematical methods;

(b) aesthetic creations;

(c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;

(d) presentations of information.

5.c **If there is any subject matter identified in a patent claim relating to CII that is excluded from patentability per se, is it possible to overcome a rejection of the patent claim by adding other subject matter to the claim?**

If yes, please answer questions 5.d-5.e, if no, please go to question 6.a

Yes

Please Explain

Yes. In accordance with the practice of the EPO, all features in a claim not falling within the exclusions described under question 5) a) must be taken into account during examination. A claim that includes a non-excluded feature cannot be refused under the exclusion paragraph.

5.d **Does the "other subject matter" need to have a certain quality, e.g. does it need to be inventive?**

No

Please Explain

The "other subject matter" should not be excluded itself. Inventiveness, however, is not a requirement to overcome a refusal due to the exclusions; this is examined in the context of inventive step instead.

5.e **Can you describe the areas of human endeavour the "other subject matter" needs to relate to?**

No

Please Explain

There are no limits as to the areas of human endeavor, which the "other subject matter" must come from. What is relevant is that the claimed subject-matter as a whole must have technical character in order not to be caught by the exclusion paragraph.

6.a **Requirement of a contribution in a field of technology.**

Does the examination of the patentability of CII in your jurisdiction implicitly or explicitly involve an examination of the contribution the claimed CII makes to the state of the art (such examination may be part of a general "patentability" test or part of the novelty and inventive step/non-obviousness test)?

If yes, please answer questions 6.b-6.d, if no, please go to question 7

Yes

Please Explain

Yes. The examination of a patent claim relates to both novelty and inventive step. If an inventive step is present, a difference exists to the prior art. Thus, a contribution must have been made for there to be an inventive step.

6.b **Does this test implicitly or explicitly involve excluding contributions from areas of human endeavour which are not deemed to be sources of patentable inventions? In other words, does patentability of CII implicitly or explicitly require a contribution from areas of human endeavour which are deemed to be sources of patentable inventions (e.g. engineering, natural sciences)? If yes, please explain.**

No

Please Explain

There are no limits to the areas of human endeavor as such, but the contribution should be technical (not falling under the exclusion paragraph), as non-technical aspects and, in particular, those that are only related to excluded subject-matter, cannot contribute to novelty and inventive step of a claim. This is in line with the EPO Guidelines and case law.

6.c **Does this test also implicitly or explicitly require that the relevant contribution the CII makes to the state of the art qualifies as inventive/non-obvious? This additional test may be integrated into the general inventive step / non-obviousness examination, or may be a stand-alone test. If yes, please explain.**

Yes

Please Explain

Yes. As the contribution is the difference between the prior art and the claimed invention, the contribution should impart novelty and inventive step to the claim. This is in line with EPO case law and Guidelines.

6.d **Is there an implicit or explicit consensus in your jurisdiction as to the areas of human endeavour which are accepted as sources of patentable CII? If yes, are these areas of human endeavour defined, and if so how?**

Yes

Please Explain

The Danish Patent Office follows the Guidelines and case law of the EPO. To the knowledge of the authors, Danish courts have never ruled on a CII, so there is no apparent divergence under Danish law and legal practice from that of the EPO.

7 **Does the Law / Practice in your jurisdiction contain any specific claim drafting or other formal requirements which are applicable to CII, i.e. which deviate from the Law / Practice applicable to inventions which are not CII? If yes, please explain.**

No

Please Explain

No. Claims for CIIs may be drafted as method, device or product claims as for all other technologies. Hence, claims directed to a computer-implemented method as well as claims directed to a computer configured to perform steps of a computer-implemented method may be obtained. Also, claims to data carriers and to a software product may be obtained. It is recalled that utility models may also be obtained for CII inventions other than methods.

8 **Does the Law / Practice in your jurisdiction contain any specific requirements as to sufficiency of disclosure and/or enablement which are applicable to CII, i.e. which deviate from the Law / Practice applicable to inventions which are not CII? If yes, please explain.**

No

Please Explain

No. The usual legal requirements for sufficiency and enablement apply in parallel to the requirements before the EPO.

9 **Do courts and administrative bodies in your jurisdiction apply the Law / Practice for patentability of CII in your jurisdiction in a harmonized way? If not, please explain.**

Yes

Please Explain

The Danish Patent Office follows the Guidelines and case law of the EPO. To the knowledge of the authors, the Danish Courts have never ruled on the patentability of a CII, so there is no apparent divergence under Danish law and legal practice from that of the EPO.

II. Policy considerations and proposals for improvements of your current Law/Practice

10 **Is the current Law/Practice in your jurisdiction regarding the patentability of CII considered by users of the patent system and practitioners to be understandable and workable? If not, please explain.**

Yes

Please Explain

In general, it is a concern that some users, and in particular SMEs, may tend to not seek protection for their CII technology due to a misconceived bar against patenting of all software-related inventions. Not all SMEs know that CIIs are patentable in a number of manners, and a number of lobbyists interpret the exceptions from patentability much wider than the EPO and the Danish Patent Office would.

11 **Does the current Law/Practice in your jurisdiction regarding patentability of CII provide appropriate outcomes, in particular from an economic perspective? If not, please explain.**

Yes

Please Explain

In general, the Danish patent laws and regulations provide appropriate outcomes for applicants and patentees vis-à-vis the interests of 3 rd parties and the public in general.

12 **In your jurisdiction, is copyright protection of CII regarded as sufficient from an economic standpoint? Please state why in either case.**

No

Please Explain

No. Copyright protection is seen as a too narrow protection of a CII, as the same technical function may be implemented using different programming methods. Once the overall idea is known, “re-programming” that idea in a new way would be so simple that the resulting protection is insufficient.

13 **Alternatively, is there an explicit or implicit consensus that patent protection of CII is required to ensure sufficient reward on investments made into the development of CII? If yes, please explain.**

Yes

Please Explain

Yes, the patent professional community as well as most larger companies and SMEs, regard patenting as crucial to ensure a sufficient protection of CIIs due to the extended protection afforded to ideas (patents) over their actual implementation (copyright).

14 **In your jurisdiction, is there an implicit or explicit consensus that availability of patent protection should be limited to contributions from certain areas of human endeavour, excluding contributions from all other areas of human endeavour, no matter how advanced these contributions?**

No

Please Explain

At present, patentability is seen as a general rule, where specific areas are excluded. This is seen as an advantage because it ensures that patent law and the practice by the Patent Office remain sufficiently flexible to be able to adapt to ever evolving technologies. See also 6) b). Conversely, allowing patentability of only certain areas and generally excluding all other areas would render the law and practice too rigid. In particular, it is generally accepted that no emphasis can be placed on the level of ingenuity of a contribution from a non-technical field if the contribution remains non-technical.

III. Proposals for harmonisation

15 **Do you consider that harmonisation regarding patentability of CII is desirable?**
If yes, please respond to the following questions without regard to your Group's current Law/Practice.
Even if no, please address the following questions to the extent your Group considers your Group's current Law/Practice could be improved.

Yes

Please Explain

Yes, harmonization is an advantage in that it would make patent prosecution cheaper for users. Also, it would make the patenting process more transparent and more foreseeable.

16.a **Exclusion of non-patentable subject matter per se.**
Should there be any exclusion from patentability per se of subject matter relating to CII?
In this context, "per se" means that the non-patentable subject matter has to be identified without any implicit or explicit examination of the contribution to the state of the art the claimed CII makes.

If yes, please answer questions 16.b-16.e, if no, please go to question 17.a

No

Please Explain

As long as the presence of a solution to a technical problem remains a prerequisite for inventive step, there appears to be no real need for the per se exclusion of computer programs in the law, in particular as the per se exclusion is difficult to apply and has a tendency to confuse some users.

16.b **Please describe the subject matter that should be excluded from patentability per se and explain in detail how it should be identified in practice.**

16.c **If there is subject matter identified in a patent claim related to CII you consider should be excluded from patentability per se, should it possible to overcome a rejection of the patent claim by adding other subject matter to the claim?**

If yes, please answer questions 16.d-16.e, if no, please go to question 17.a

16.d **Should such "other subject matter" be required to have a certain quality, e.g. should it need to be inventive? Please state why in either case.**

16.e **If yes to question 16.d above, please describe the areas of human endeavour to which such "other subject matter" should relate.**

17.a **Requirement of a contribution in a field of technology.**
Should the examination of subject matter eligibility of CII involve an examination of the contribution the claimed CII makes to the state of the art? If not, please explain.

If yes, please answer questions 17.b-17.e, if no, please go to question 18

No

Please Explain

No. Patentability should be determined based on the claim as a whole and not only on what is novel in relation to a certain prior art reference. Also, the ultimate outcome of CIIs (in particular the outcome of methods) should be allowed to be considered for technical effect.

17.b **Should such examination be made under a test specific to CII, or should it be part of the usual novelty and inventive step/non-obviousness test? Please state why in either case.**

17.c **Under this test, should patentability of CII require a contribution from areas of human endeavour which are deemed to be sources of patentable inventions (e.g. engineering, natural sciences)? In other words, should contributions from areas of human endeavour which are not deemed to be sources of patentable inventions be disregarded? If not, please explain.**

If yes, please answer questions 17.d-17.e, if no, please go to question 18

17.d **Should this test also require that the relevant contribution the CII makes to the state of the art qualifies as inventive/non-obvious? This additional test may be integrated into the general inventive step / non-obviousness examination, or may be a stand-alone test. Please state why in either case.**

17.e **Should there be a non-exhaustive list of areas of human endeavour which are accepted as sources of patentable CII, taking into account the ultimate purpose of patent law (protecting unforeseen, non-obvious subject matter)? If yes, please provide such a list. If not, why?**

18 **Should there be any specific claim drafting or other formal requirements which are applicable to CII, i.e. which deviate from the rules or practice applicable to inventions which are not CII? Please explain why in either case.**

No

Please Explain

No. Claims to CIIs should be treated as claims to inventions within any other technology.

19 **Should there be any specific requirements as to sufficiency of disclosure and/or enablement which are applicable to CII, i.e. which deviate from the rules or practice applicable to inventions which are not CII? Please explain why in either case.**

No

Please Explain

No. Claims to CIIs should be treated as claims to any other technology.

20 **Please comment on any additional issues concerning patent protection of CII your Group considers relevant to this Study Question.**

It would be advantageous if the statutory provisions better reflected the current case-law, so that especially SMEs could better understand the possibility of patenting CIIs. When the current case-law is better understood, the users will protect more CIIs, be more aware of CII patents and probably also file more oppositions to invalidate CII patents, increasing the overall quality of CII patents. If the statutes cannot be changed, more information to SMEs and other less professional users would be desirable in order to allow them to seek better protection of CIIs.

Please indicate which industry sector views are included in part "III. Proposals of harmonization" on this form:

N/A.

Please enter the name of your nominee for Study Committee representative for this Question (see Rule 12.8, Regulations of AIPPI). Study Committee leadership is chosen from amongst the nominated Study Committee representatives. Thus, persons not nominated as a Study Committee representative cannot be in the Study Committee leadership.
Nicolai Lindgreen