

Commissioner's Decision #1431  
Décision du commissaire n° 1431

TOPICS/SUJETS:

J10 (Computer Programs/Programmes d'ordinateur)

J40 (Mental Steps/Processus psychologique)

J50 (Mere Plan/Simple plan)

O00 (Obviousness/Évidence)

Application No.:2,440,173

Demande n°: 2 440 173



IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,440,173, having been rejected under subsection 30(3) of the *Patent Rules*, has subsequently been reviewed in accordance with paragraph 30(6)(c) of the *Patent Rules*. The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Applicant:

Omayma Moharram

225 Spruce Dr RR1

Carleton Place, Ontario

K7C 3P1



## **INTRODUCTION**

[1] This recommendation concerns the review of rejected patent application number 2,440,173, which is entitled “Tool and Method for Operations, Management, Capacity and Services Business Solution for a Telecommunications Network”. The Applicant is Omayma Moharram. A review of the rejected application has been conducted by the Patent Appeal Board pursuant to paragraph 30(6)(c) of the Patent Rules. As explained in more detail below, our recommendation is that the application be refused.

## **BACKGROUND**

### **The Application**

- [2] Patent application 2,440,173 was filed on September 4th, 2003 and published on March 4th, 2005.
- [3] The Application relates to a tool and methodology for telecommunications service providers to determine comprehensively the cost of alternative networking technologies and architectures, and in particular including the various management costs involved such as network management, service and customer management. The tool permits a comprehensive cost comparison of the various alternatives to support a telecommunications service provider’s decision making when growing their network capacity. In one embodiment, the tool consists of a spreadsheet to tally the costs based on selected technologies, architectures and their related management expenses.

### **Prosecution history**

- [4] On February 25<sup>th</sup>, 2015, the Examiner wrote a Final Action (“FA”) pursuant to subsection 30(4) of the Patent Rules. The FA stated that the application is defective on the grounds that claims 1 to 37 are directed to matter outside the categories of

invention within section 2 of the *Patent Act* (non-statutory subject matter) and are directed to subject matter that would have been obvious and therefore non-compliant with section 28.3 of the *Patent Act*.

- [5] In a May 26<sup>th</sup>, 2015 response to the Final Action (“R-FA”), the Applicant filed a set of proposed claims 1-35 and provided arguments as to why the proposed claims complied with the *Patent Act* and *Patent Rules*.
- [6] As the Examiner considered the application not to comply with the *Patent Act*, pursuant to subsection 30(6) of the *Patent Rules* the application was forwarded to the Patent Appeal Board (“the Board”) for review along with an explanation outlined in a Summary of Reasons (“SOR”). The SOR maintained the positions taken in the FA and stated that the proposed claims filed with the R-FA did not overcome the defects outlined in the FA.
- [7] In a letter dated October 6<sup>th</sup>, 2015 (the “Acknowledgement Letter”), the Board forwarded the Applicant a copy of the SOR and offered the Applicant the opportunity to make further written submissions and attend an oral hearing.
- [8] The Applicant responded to the Acknowledgment Letter on December 4<sup>th</sup>, 2015, providing a response to the SOR (“R-SOR”). The R-SOR included a new set of proposed claims as well as arguments in favor of their patentability. The Applicant also accepted the Board’s invitation to an oral hearing.
- [9] This Panel of the Board was formed to conduct a review of this application. Having conducted a preliminary review, the Panel provided its preliminary views to the Applicant in a letter dated July 21<sup>st</sup>, 2017 (“PR”). The Applicant responded to the PR letter (“R-PR”) on August 18<sup>th</sup>, 2017, addressing the Panel’s preliminary views and provided a new set of proposed claims.
- [10] A hearing was held before the Panel on September 8<sup>th</sup>, 2017.

## ISSUES

- [11] The only issues to be addressed are whether a) claims 1-37 lack statutory subject matter contrary to section 2 of the *Patent Act*; and b) claims 1-37 are obvious contrary to section 28.3 of the *Patent Act*.
- [12] As explained to the Applicant at the hearing, if it is the Panel's view that the claims on file (claims 1-37) are defective, then the Panel will consider the most recent set of proposed claims, i.e., claims 1-35 provided with the R-PR on August 18<sup>th</sup>, 2017.
- [13] In order to address the issues, the Panel must first purposively construe the claims.

## LEGAL PRINCIPLES AND OFFICE PRACTICE

### Purposive construction

- [14] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*], essential elements are identified through a purposive construction of the claims done by considering the whole of the disclosure, including the specification and drawings (see also *Whirlpool Corp v Camco Inc*, 2000 SCC 67 [*Whirlpool*] at paras 49(f) and (g) and 52). In accordance with the *Manual of Patent Office Practice* §13.05 [revised June 2015], the first step of purposive claim construction is to identify the person skilled in the art and their relevant common general knowledge ("CGK"). The next step is to identify the problem addressed by the inventors and the solution put forth in the application. Essential elements can then be identified as those required to achieve the disclosed solution as claimed.

## **Statutory subject matter**

[15] The definition of invention is set out in section 2 of the *Patent Act*:

“Invention” means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

[16] Following the Federal Court of Appeal decision in *Canada (Attorney General) v Amazon.com Inc.*, 2011 FCA 328 [*Amazon*], the Office released a Practice Notice (PN 2013-03 “*Examination Practice Respecting Computer-Implemented Inventions*” - available at [www.cipo.ic.gc.ca](http://www.cipo.ic.gc.ca)) that clarified examination practice with respect to the Office’s approach to computer-implemented inventions.

[17] As stated in PN 2013-03, Office practice considers that where a computer is found to be an essential element of a construed claim, the claimed subject matter will generally be statutory. Where, on the other hand, it is determined that the essential elements of a construed claim are limited to matter excluded from the definition of invention (for example, fine arts, methods of medical treatment, features lacking in physicality or claims where the subject matter is a mere idea, scheme, rule or set of rules), the claim will not be compliant with section 2 of the Act.

## **Obviousness**

[18] The *Patent Act* requires that the subject-matter of a claim not be obvious. Section 28.3 of the Act provides as follows:

28.3 The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

- (a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and



(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[19] In *Apotex Inc. v. Sanofi-Synthelabo Canada Inc.*, 2008 SCC 61 at para 67 [*Sanofi*], the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1)(a) Identify the notional “person skilled in the art”;
- (b) Identify the relevant common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

## ANALYSIS

### Purposive Construction

*The claims on file (Claims 1-37)*

[20] For ease of reference, independent claim 1 provides as follows [note that elements (b) and (c) were omitted in the original claim]:

1. A computer program product comprising a non-transitory computer-readable medium having stored thereon instructions for causing a computer to perform a process for assessing business solutions comprising alternative management processes for managing network architectures for a telecommunications network, the computer program product comprising instructions for:

(a) receiving data and options for various management processes which comprise network management processes and service and customer management processes from an analyst;

[(b) and (c) omitted in original]

(d) selecting the network management processes, and the service and customer management processes, based on the data and options received from the analyst, for managing the network architectures;

(e) determining suppliers' management processes costs for the network management processes and the service and customer management processes;

(f) validating and calibrating the data and options and the costs for the network management processes and the service and customer management processes;

(g) determining, based on the costs of the network architectures, network management processes, and the service and customer management processes, business parameters for the business solutions; and

(h) storing and displaying the business parameters for the business solutions for the telecommunications network.

[21] Claim 26 is similar but is expressed as a computer-implemented method and reads as follows:

26. A computer-implemented method for assessing business solutions comprising alternative management processes for managing network architectures for a telecommunications network, the method comprising the steps performed by a computer of:

(a) receiving data and options for various management processes which comprise network management processes and service and customer management processes;

[(b) and (c) omitted in original]

(d) selecting the network management processes and the service and customer management processes for managing the network architectures;

(e) determining suppliers' management processes costs for the network management processes and the service and customer management processes;

(f) validating and calibrating the data and options and the costs for the network management processes and the service and customer management processes;

(g) determining, based on the costs of the network architectures, network management processes, and the service and customer management processes, business parameters for the business solutions; and

(h) charting the business parameters for the business solutions for the telecommunications network.

[22] The remaining claims depend on either claim 1 or 26.

*Preliminary Views on Purposive Construction Adopted*

[23] In the R-PR, the Applicant stated that it agreed with the preliminary views expressed in the PR regarding the person skilled in the art, the CGK, and the essential elements. Though no submission was made in the R-PR regarding the problem and the solution set out in the PR, the purpose of identifying these is to arrive at the essential elements. As there is agreement on the essential elements, there is no need to further consider the problem and the solution. Accordingly, the Panel adopts its preliminary views for the person skilled in the art, CGK and essential elements as set out below.

*Person skilled in the art*

[24] As set out in the PR, the person skilled in the art comprises “a team, including managers, engineers and planners in the role of overseeing the implementation, maintenance and operation of a network architecture for a service provider,” and “...also include[s] programmers.”

*CGK*

[25] As set out in the PR, the CGK comprises:

- a. Knowledge of the principles of network planning and engineering;
- b. Knowledge of how to select, configure, or program software to perform any necessary calculations, reporting, etc. once those needs were determined;
- c. Knowledge of well-known tables and graphical charts capabilities;
- d. Knowledge of validating and calibrating data or cost and standard procedures for performing the validating and calibrating functions for data and costs; and,
- e. Knowledge of financial statistics such as EBITDA, EBIT, OPEX as percentage of revenue, total expenditure as percentage of revenue, and ROI using the following well known formulae.

*The Essential Elements*

[26] The Panel adopts the problem as set out in the PR letter as: “assessing business solutions comprising alternative management processes for managing network architectures for a telecommunications network” and the solution as “a planning and costing method to assess business solutions comprising alternative management processes for managing network architectures for a telecommunications network.”

[27] In light of the above, the Panel adopts the essential elements as set out in the PR, as follows [(b) and (c) intentionally omitted]:

(a) receiving data and options for various management processes which comprise network management processes and service and customer management processes from an analyst;

(d) selecting the network management processes, and the service and customer management processes, based on the data and options received from the analyst, for managing the network architectures;

(e) determining suppliers' management processes costs for the network management processes and the service and customer management processes

[28] As mentioned earlier, in its R-PR, the Applicant agreed to the essential elements as set out in the PR.

[29] The Panel added in the PR that “insofar as any of the elements are implemented via computer, the Panel agrees with the Examiner’s assessment in the FA that any use of a computer is non-essential but rather forms part of the operating context. The computer and/or software themselves do not serve to solve the problem set out above, rather they are tools used for implementation of the network management costing and planning methodology.”

[30] The Applicant expressed agreement in the R-PR stating: “[t]he Applicant agrees with the Examiner and the Panel that any use of a computer is non-essential to resolve the problem described in the original published application. The computer and/or

software themselves do not serve to solve the problem of the claimed invention.”  
The Applicant expressed agreement with the assessment at the hearing as well.

**Statutory subject matter**

- [31] In the PR, the Panel set out its preliminary view that the claims on file, claims 1-37, define non-statutory subject matter. The Panel expressed the view that a purposive construction of the claims showed that the essential elements did not include a computer and further that “none of the essential elements are considered to define ‘something with a physical existence, or something that manifests a discernible effect or change’ (*Amazon*, at paragraph 66). There are no other essential physical features defined in the claims.”
- [32] In the R-PR, the Applicant submitted that the two independent claims, claims 1 and 26 (the R-PR makes reference to the proposed claims of August 18<sup>th</sup>, 2017 rather than the claims on file thus the R-PR refers to claim 25 – and not claim 26 – as an independent claim), are directed to statutory categories of inventions, namely manufacture and process, respectively.
- [33] The Applicant submitted that claim 1 is directed to a manufacture as it recites “a non-transitory computer-readable medium having stored thereon instructions” and submitted that claim 25 (again referring to the proposed claims, the corresponding claim on file being claim 26) is directed to a process as it recites “a method for determining alternative management processes...”. Though the language of the corresponding claim in the claims on file, claim 26, differs somewhat, claim 26 refers to a “...method for assessing business solutions comprising alternative management processes...” in which it recites steps of determining management processes. Thus it is the Panel’s view that the Applicant’s submissions regarding proposed claim 25 apply equally to claim 26 of the claims on file.
- [34] Regarding claim 1 being directed to a manufacture, while the preamble of the claim may suggest that it is directed to a manufacture by reciting a computer-readable

medium, the Panel has determined that the essential elements of that claim do not include a computer-readable medium.

[35] As for claim 26, the PR set out the Panel's preliminary view that a method of determining which processes to use wasn't statutory, stating the following [emphasis in original]:

As submitted by the Applicant, the claimed processes relate to determining the processes and not the network, service, and customer management processes themselves. The Panel is of the preliminary view that determining which processes to use does not itself manifest a discernable effect or change. Such a step appears to be a mental operation, or an operation that may be conducted mentally, and is non-statutory (see MOPOP 12.06.02 and *Schlumberger Canada Ltd. v. Commissioner of Patents* [(1981), 56 C.P.R. (2<sup>nd</sup>), 204 (F.C.A.)] at page 206).

[36] At the hearing, the Applicant suggested that the use of the term "business solution" was potentially the reason for the statutory subject matter defect being raised. The Panel clarified at the hearing that the mere use of this term does not form the basis for the section 2 defect. Moreover, the Panel observes that this term is not included within the language of the essential elements.

[37] At the hearing, the Applicant submitted that the claims recite physical elements relating to a product, e.g., a planning tool. The Applicant described the tool as something you can put on a CD-ROM and build using a spreadsheet or the like.

[38] Though the Panel appreciates that the methodology described in the specification could, practically-speaking, be embodied as software (e.g., a spreadsheet or an application) stored on computer-readable media (e.g., a CD-ROM or other storage means), these features relate to the operating context of the invention and not the essential elements. This point was addressed by the Panel in the PR (see [29] above).

[39] Following the Applicant's submissions at the hearing, the Panel is not persuaded that the essential elements define something other than the underlying mental processes, rules and design steps upon which the tool is based. While physical elements may ensue from implementing a network management plan generated by the tool or its

methodology, the essential elements themselves do not encompass physical elements or results. Instead, the Panel's preliminary view that the methodology encompassed by the essential elements relate to a mental operation was confirmed at the hearing. The Applicant explained at the hearing that planning a simple network architecture could be carried out with paper and pencil (i.e., manually and mentally), however more assistance is required when dealing with hundreds of network elements and nodes.

[40] Accordingly, the claims as construed do not define statutory subject-matter and therefore do not comply with s. 2 of the *Patent Act*.

### **Obviousness**

[41] The Panel set out its preliminary views on the four-step obviousness assessment in the PR.

[42] In the R-PR and at the hearing, the Applicant did not make any submission regarding the first two steps of the *Sanofi* analysis. As such, the Panel adopts its preliminary views on these for this recommendation.

*Step 1- Identify the person skilled in the art and the relevant common knowledge of that person*

[43] The person skilled in the art and the relevant CGK have been presented under the Purposive Construction section (see [24] and [25] above).

*Step 2 – Identify the Inventive Concept of the claims in question or if that cannot readily be done, construe it*

[44] As stated in the PR, in this case, we see no reason why the inventive concept is anything other than the essential elements of the claims (see [27] above).

*Step 3 - Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed*

[45] The Final Action primarily relies on Canadian patent application No. 2,475,103 to Ngi, *et al.* (“D1”), published August 21st, 2003.

[46] D1 is entitled “Method and Apparatus for Integrated Network Planning and Business Modelling”. According to the Final Action, D1 “teaches a software tool for analysing a network that can model many different network architecture scenarios and provide reports of the associated costs and other business parameters”.

[47] In the PR, the Panel took the difference between D1 and the claims on file to be the inclusion of management (network management, service and customer management) process costs in assessing business solutions.

[48] At the hearing, the Applicant explained that D1 does not include service and customer management processes and does not include all parameters relevant to network management. The Applicant also submitted that the cited prior art is based upon estimation; in contrast the Applicant proposes to break down each process to its constituent tasks and compute costs on this basis.

[49] The Applicant’s submissions at the hearing were consistent with the Panel’s preliminary view set out in the PR, in that the Panel considered that the cited prior art did not teach an extensive list of the management costs, although D1 does disclose at least one network management cost related to training for network engineering. The Panel, as set out in the PR, agrees that the cited prior art does not teach the inclusion of costs related to service and customer management.



*Step 4: Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?*

[50] In the R-PR, the Applicant stated that the cited prior art does not “reproduce the key essential elements (a), (d), and (e) in the claims...” The Board agrees that there are differences between the claim as construed and the cited prior art – these are set out above in step 3 of the *Sanofi* analysis.

[51] In the PR, the Panel set out its preliminary view that the claims on file were obvious, stating that the difference between the claims and the prior art would have been obvious to the person skilled in the art [POSITA]:

The Panel is of the view that the difference between the claims on file and the state of the art would have been obvious to the [person skilled in the art].

Referring again to the “Background of the Invention” section of the present specification, the Application states that the prior art estimated the cost (OPEX) of the management processes and that this was a shortcoming addressed by the present application (see present specification at [0006]).

In contrast, the claims propose computing the specific, detailed costs of the management processes rather than using an estimation.

Replacing estimation with detailed costs would not have required any inventive ingenuity. Estimates are a shortcut to simplify more lengthy computations. To choose instead to forgo the shortcut provided by estimation and instead compute costs in detail is not by itself considered inventive.

Moreover, D1 teaches the use of its integrated tool to compute numerous business parameters, including “Total Cost of Operation” – an “Industry accepted measurement of telecom costing” that is “[s]lightly more in-depth than Opex” (see D1, Table 2 at [0123]).

One example of a network management process in the present application is network engineering. D1 appears to suggest a more granular costing of network management as, in one embodiment, the disclosure even teaches including “training costs (network engineering, operational, support)” (D1 at [0121] to [0126]). Reference is also made several times to “total cost of ownership.” Thus there appears to be a suggestion in D1 to not only include management processes in costing an architecture, but to do so by computing very specific costs, such as training involved with network management.

The [ person skilled in the art], presented with the teaching of D1, would understand that a costing methodology can include any number of known costs for the life cycle of a particular network (“training costs” being but one example). Furthermore, the replacement of simple estimates of such overall total costs with more accurate computations using industry standard calculations would be an obvious design choice, depending on the level of accuracy required and the amount of computational resources available.

It is the Panel’s understanding that the network management, service, and customer processes were known in the art – there appears to be no suggestion otherwise. No inventive ingenuity would have been required for the [person skilled in the art] to include in the business parameters an accounting of the specific costs of one or more of those known management processes, rather than simplify costing by way of estimation (as the Application tells us was done in the prior art at [0006]).

[52] As set out in the PR, in the Panel’s view, expanding a model to encompass additional costs in order to provide a more accurate accounting of the total costs does not involve an inventive step. Though it is understood that D1 does not teach service and customer management costs, there are references to the inclusion of certain costs as specific as training for network engineering. Moreover, as stated in the PR, “[i]t is the Panel’s understanding that the network management, service, and customer processes were known in the art – there appears to be no suggestion otherwise.” It is the Panel’s view that no inventive step would have been required for the person skilled in the art to incorporate further known costs in a model. Accordingly, as set out in the PR, the matter defined by independent claims 1 and 26 is considered to lack inventive ingenuity.

[53] No specific submissions were made related to the dependent claims apart from stating that they add details and depend on either claim 1 or 26. As the Panel stated in the PR:

The Panel considers that none of the dependent claims add any inventive limitation to the obvious independent claims, either alone or in combination. We further note that the Applicant has not provided any indication of any specific feature in the dependent claims which overcomes the obviousness defect.

No substantive submissions appear to have been made concerning the obviousness of the dependent claims (2-25 and 27-37 of the claims on file) apart from that the

“add relevant details, elements, and features” and that they “all directly or ultimately dependent from the parent independent claims” (see R-SOR at p.12).

[54] Thus in the Panel’s view, the claims on file (1-37) do not comply with section 28.3 of the *Patent Act* as they would have been obvious to the person skilled in the art on the relevant date.

## **PROPOSED CLAIMS**

[55] In the Panel’s view, amendment to the claims as set out in the proposed claims 1-35 of August 18<sup>th</sup>, 2017 would not remedy either defect.

[56] As explained by the Applicant at the hearing, the amendments in the proposed claims add the feature that each management process comprises a number of processes and these processes comprise a number of tasks for performing certain functions. The Applicant did not provide any specific reasons as to how this addition of processes and tasks would overcome the defects identified in the claims on file.

[57] Looking to proposed claims 1 and 25, they recite manual and mechanized operations modes for the management processes and add further details to the methodology (e.g., reference to each network element, reference to each link of the network architectures and computation of cost by multiplying various values). These changes do not alter the nature of the claims as they make explicit what was understood from the language of the claims on file, as read by the person skilled in the art reading the specification as a whole (including the description). For instance, while claim 1 of the claims on file was silent with respect to “manual or mechanized operations mode[s]” for management processes, the term “management processes” as it appeared in claim 1 on file would have been read to include both manual or mechanized operations modes, consistent with the teachings of the description.

[58] In light of the above, the Panel considers that proposed claims 1-35 do not overcome the defects of the claims on file and therefore the introduction of these claims does

not constitute a specific amendment that is “necessary” pursuant to subsection 30(6.3) of the *Patent Rules*.

## **RECOMMENDATION OF THE BOARD**

[59] In view of the above, the Panel recommends that the application be refused for the reasons that the claims on file define non-statutory subject matter contrary to section 2 of the *Patent Act* and the claims on file are obvious contrary to section 28.3 of the *Patent Act*.

[60] Further, proposed claims 1-35 do not overcome the defects in the claims on file and therefore do not constitute a specific amendment that is "necessary" under subsection 30(6.3) of the *Patent Rules*.

Mark Couture  
Member

Andrew Strong  
Member

Stephen MacNeil  
Member

## DECISION

[61] I concur with the conclusions and recommendation of the Patent Appeal Board that the application be refused for the reasons that the claims on file define non-statutory subject matter contrary to section 2 of the *Patent Act* and the claims on file are obvious contrary to section 28.3 of the *Patent Act*.

[62] Therefore, in accordance with section 40 of the *Patent Act*, I refuse to grant a patent on this application. Under section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Johanne Bélisle

Commissioner of Patents

Dated at Gatineau, Quebec,

this 2<sup>nd</sup> day of November, 2017