Commissioner=s Decision #1298

Décision de la Commissaire #1298

TOPIC: B00, G00, J00, J70, O00

SUJET: B00, G00, J00, J70, O00

Application No. : 2,349,479

Demand n° : 2,349,479

COMMISSIONER'S DECISION SUMMARY

C.D. 1298, Application 2,349,479

Statutory Subject Matter, Obviousness, Utility, Indefiniteness

The Examiner rejected the application for being directed to non-statutory subject matter under Section 2 of the *Patent Act*. The Examiner also alleged that the claims were obvious, lacked utility and were indefinite.

The Board upheld the rejection of the claims for being indefinite, obvious, and for being directed to non-statutory subject matter. The rejection for lack of utility was reversed.

The application was refused by the Commissioner of Patents.

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,349,479, having been rejected by the Examiner under Subsection 30(3) of the *Patent Rules*, the rejection has been considered by the Patent Appeal Board and by the Commissioner of Patents. The findings of the Board and the decision of the Commissioner are as follows:

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Table of Contents

INTRODUCTION

[1] This decision deals with a review by the Commissioner of Patents of the Examiner's Final Action on patent application number 2,349,479 which was filed on May 30, 2001 and is entitled AVEHICLE SERVICE STATUS TRACKING SYSTEM AND METHOD@. This application claims priority from a United States application filed on June 29, 2000. The Applicant is U-HAUL INTERNATIONAL , INC. and the inventor is Gary Good. The Examiner in charge issued a Final Action on February 24, 2004 rejecting the application based on non-statutory subject matter and obviousness. The Applicant submitted arguments in response to the Final Action on August 24, 2004.

[2] A hearing before the Patent Appeal Board was held on September 17, 2008 [Athe Hearing@]. Appearing on behalf of the Applicant was Mr. David McGruder from the firm of Oyen Wiggs Green Mutala. Representing the Patent Office were Mr. Leigh Matheson, the Examiner in charge of the application and Mr. André Gélinas, Section Head.

BACKGROUND

[3] The application sets out a method and a system that allows multiple stations in geographically dispersed locations to monitor and track vehicle repair records and service status information in a coordinated fashion. Figure 1 depicts the overall arrangement of a preferred embodiment of the system. Figure 2 is a functional block diagram of the tracking system.

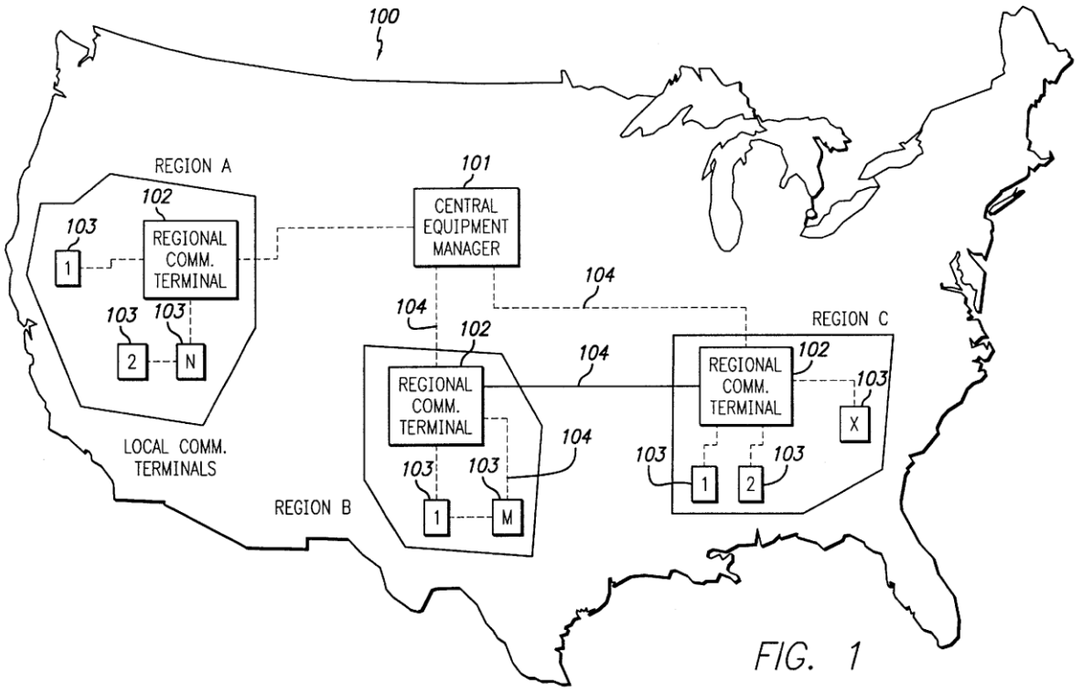

FIG. 1

[4] The vehicle tracking system includes a central equipment manager 101, regional communications terminals 102, and local communications terminals 103. Figure 1 shows three geographical regions (Regions A, B, and C) each having a regional communications terminal 102, which may be located in a regional company office or another location that is responsible for maintaining and servicing the vehicles within a particular geographical region. Each local communications terminal 103 is preferably located in a repair and service station having responsibility for repairing and performing maintenance on vehicles. A local communications terminal 103 communicates with a regional communications terminal 102 within its local region, or it can communicate with one or more regional communications terminals 102 within or outside of its local region.

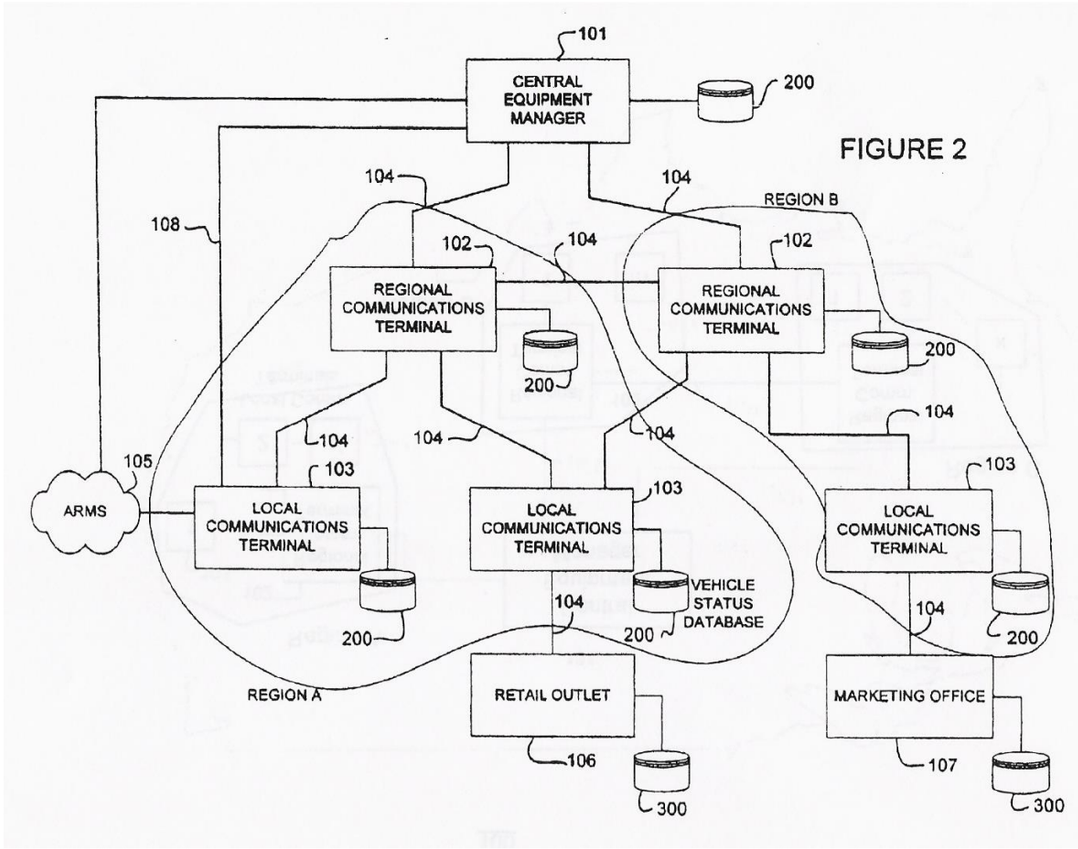

FIGURE 2

[5] As shown in figure 2, each regional communications terminal 102 communicates with central equipment manager 101, which maintains at a single office location vehicle service status information for all regions, and periodically disseminates this information to all regional communications terminals 102 and local communications terminals 103. The vehicle tracking system 100 includes a vehicle status database 200 operably coupled to each local communications terminal 103 and to each regional communications terminal 102. The vehicle status database 200 is also operably coupled to central equipment manager 101. The application states that in a preferred embodiment, central equipment manager 101 can be a mainframe computer system having a frame relay gateway and an Internet interface, or alternatively, central equipment manager 101 can be implemented according to a client-server architecture.

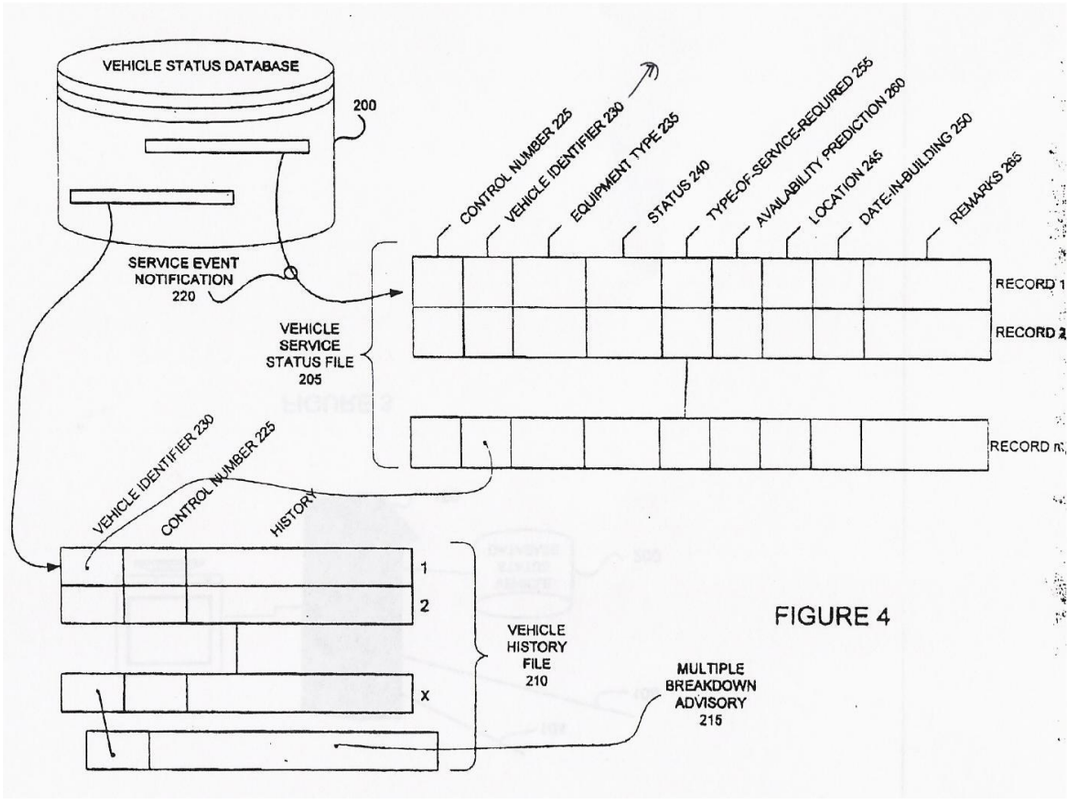

FIGURE 4

[6] Figure 4 describes the contents of the vehicle status database. Vehicle service status file 205 is comprised of one or more service event notifications 220. A service event notification 220 is created or modified by a user, usually a service professional, at a local repair or service location by logging vehicle repair and service information using local communications terminal 103. A service event notification 220 may include, for example, a control number 225, a vehicle identifier 230, an equipment type indicator 235, current status 240, location identifier 245, date-in-building indicator 250, type-of-service-required indicator 255, an availability prediction 260, and remarks 265.

[7] Local communications terminal 103 also provides for generation of availability prediction 260 by calculating an average repair/service time for the particular location and providing this information to the user. According to one embodiment described, to calculate the average repair/service time, local communications terminal 103 retrieves from vehicle status database 200 service event notifications 220 for repair/service activities accomplished at this service location during the past thirty days. Local communications terminal 103 then computes an average repair/service time by averaging the number of days from date-in-building 250 to closing of the service

event notification 220 for each service event notification within the thirty day period. The user can also enter an availability prediction using a keyboard.

[8] Central equipment manager 101 is also capable of transmitting a multiple breakdown advisory 215 to all local communications terminals 103 and all regional communications terminals 102, preferably once per 24-hour period. Central equipment manager 101 transmits a multiple breakdown advisory 215 to local communications terminals 103 and to regional communications terminals 102 as a database file. This permits users at repair/service locations having local communications terminal 103 to be able to withhold rental of vehicles listed on multiple breakdown advisory 215 if the vehicle's file indicates a high likelihood of break-downs.

[9] Local communications terminal 103 includes an interface for receiving an entity master list 280 transmitted from central equipment manager 101, which identifies the current set of regional company offices, retail locations, and marketing offices. Local communications terminal 103 also includes an interface to an Automated Repair Management System (ARMS) 105 for receiving vehicle history file 210 transmitted from central equipment manager 101. The local communications terminal 103 may also interface to retail outlet 106 and marketing office 107 and transmit vehicle service status file 205 to them. Retail outlet 106 and marketing office 107 include an availability database 300 containing information concerning the availability status of vehicles in the fleet.

PROCEDURAL MATTERS

[10] The Applicant=s response to the Final Action on August 24, 2004 provided a new set of claims. The Summary of Reasons by the Examiner maintained the objections under obviousness and non-statutory subject matter, and further noted that some of the amended claims lacked utility (under Section 2 of the *Patent Act*).

[11] On November 9, 2007 the Board sent a letter to the Applicant to clarify the Summary of Reasons by the Examiner. A Supplemental Summary of Reasons was provided from the Examiner to further expand upon the lack of utility (under Section 2 of

the *Patent Act*) objection noted by the Examiner in the Summary of Reasons. Further, the Examiner maintained the objection under indefiniteness for claims 19 to 21 but removed the objection with respect to claim 8.

[12] To ensure the Applicant had a clear understanding of the nature of all rejections so as to be in a position to adequately address them at the Hearing, the Board clarified that the rejection under Section 2 was based on whether the claimed subject matter is non-statutory, to be addressed as a separate ground from the tests for novelty and/or obviousness. The Applicant was given the opportunity to reschedule the Hearing, which was eventually held on September 17, 2008.

[13] Subsequent to the Hearing, in a letter dated October 6, 2008 the Board invited the Applicant to provide additional submissions to the Board with respect to certain documents describing prior art software in the Final Action, and with respect to the date at which the software was made available to the public. The letter also stated that the Board would assess whether the substance of the claimed invention, or what has been added to human knowledge (what has been discovered), was statutory. The letter added that if what has been added to human knowledge in the instant claims were found to be technological in nature, the Board would consider this as an indication that the claimed subject matter falls into one of the categories of invention (under Section 2 of the *Patent Act*).

[14] In another letter dated February 16th, 2009 the Board invited the Applicant to make any submissions that it felt were necessary, in order to address any effect that *Sanofi-Synthelabo Canada Inc. v. Apotex Inc.,* 2008 SCC 61, 69 C.P.R. (4th) 251 [*Sanofi*] may have on the pending obviousness rejection.

[15] Subsequent to the Final Action and to the Hearing, on March 5th 2009 the Commissioner [in CD 1290, *Re Application of Amazon.com*, paragraphs 124-166, *Amazon.com*] set out the approach to be followed when assessing patentable subject matter under Section 2 of the *Patent Act*. In that decision, the substance of the system claims was found to be same as that of the method claims, and both types of claims were assessed for patentable subject matter.

[16] The Applicant submitted a response to the Board on May 15th, 2009. In the response, the Applicant addressed both the form and the substance of the claimed invention. In an email dated June 1st, 2009 the Applicant stated that this response endeavoured to address the approach to patentable subject matter set out in *Amazon.com* and that no further submissions were planned.

ISSUES

[17] The following questions are before the Board:

1 Are claims 1 to 22 obvious under Section 28.3 of the *Patent Act*?

2 Are claims 1 to 22 directed to non-statutory subject matter under Section 2 of the *Patent Act*?

3 Are claims 1 to 7 and 9 to 13 lacking utility under Section 2 of the *Patent Act*?

4 Are claims 19 to 21 indefinite under Subsection 27(4) of the *Patent Act*?

[18] Even though the Final Action objected to only the method claims 1 to 7, 9 to 18, and 22 with respect to the Section 2 rejection, the Board will assess the substance of all of the claims (including system claims) for patentable subject matter. As noted earlier with respect to procedural matters, this approach is consistent with that set out in *Amazon.com*.

CLAIMS

[19] There are 22 claims in the application, amended on August 24, 2004 in response to the Final Action. Claims 1, 2, 7, 9, and 17 are independent method claims while claims 8, 19, and 21 are independent claims directed to a system.

[20] Claim 1 reads as follows:

> 1. A method of tracking and disseminating vehicle repair record and service status information at a plurality of geographically remote service locations,

comprising the steps of:

maintaining vehicle repair record and service status information for a plurality of vehicles at a local communications terminal using a vehicle status database, said vehicle status database operably coupled to at least one of said local communications terminals;

creating a service event notification pertaining to one of said vehicles using said local communications terminals;

collecting a plurality of said service event notifications into a vehicle service status file; uploading said vehicle service status file from said local communications terminals to a regional communications terminal using an electronic network;

generating an availability prediction for each said vehicle contained in said vehicle status database based on the vehicle service status information contained in said vehicle status database, collecting the availability prediction into the vehicle service status file;

collecting a plurality of said vehicle service status files into a vehicle service status report at each of said regional communications terminals;

transmitting said vehicle service status report from each of said regional communications terminals to a central equipment manager; and

transmitting said vehicle service status report from said central equipment manager to each of said local communications terminals and regional communications terminals, such that each local service location having said local communications terminal is provided with current vehicle repair record and service status information regardless of the geographic region in which the vehicle is located.

[21] Independent claim 2 is similar in scope to claim 1, but adds the provision of a regional communications terminal in electronic communication with a plurality of geographically remote local communications terminals, a plurality of regional communications terminals in electronic communications with a central equipment manager, and transmitting the availability prediction to a marketing communications terminal.

[22] Dependent claims 3 to 6 set out the additional features of evaluating service event notifications in a repair history message when the notifications exceed a threshold; generating warnings after a period of time has elapsed; forming a control number for each service event notification; and receiving notifications from an external source.

[23] Independent claims 7 and 9 are more broadly directed at a method for managing a fleet of vehicles (or moving equipment items as in claim 9). Claim 9 reads as follows:

> 9. A method of managing a plurality of moving equipment items comprising the steps of:
>
> maintaining in a moving equipment database information on availability of one or more moving equipment items from the plurality of moving equipment items;
>
> maintaining in the moving equipment database information on repair status of one or more moving equipment items from the plurality of moving equipment items;
>
> creating a service event notification in said moving equipment database pertaining to one or more moving equipment items of said plurality of moving equipment items;
>
> generating a predicted service completion date for said one or more moving equipment items using said service event notification; and

automatically communicating said predicted service completion date for said one or more moving equipment items to said moving equipment database.

Claim 7 is similar in scope to claim 9 and references an availability database instead of a moving equipment database. Method claim 17 is similar in scope to claim 9.

[24] Claims 10 to 16, which are dependent on claim 9 add numerous additional limitations which appear to be conventional.

[25] Claim 8 sets forth a system for tracking and disseminating vehicle repair record and service status information, as follows:

8. A system for tracking and disseminating vehicle repair record and service status information at a plurality of geographically remote service locations comprising:

a plurality of non-collocated local communications terminals;

a plurality of non-collocated regional communications terminals, each one of said regional communications terminals provided in electronic communication with a subset of said local communication terminals within a particularly bounded geographic region;

each one of said local communications terminals and said regional communications terminals provided in electronic communication with at least one marketing communications terminal;

a vehicle status database operably coupled to each one of said local communications terminals and said regional communications terminals, said vehicle status database containing vehicle repair record and service status information for a plurality of vehicles, the vehicle status database stored on a computer readable medium;

said local communications terminals and said regional communications terminals capable of exchanging information with a central equipment manager using an electronic network;

said local communications terminal including means for automatically generating an availability prediction for each said vehicle contained in said vehicle status database based on the vehicle service status information contained in said vehicle status database;

said local communications terminal including means for transmitting said availability prediction to said marketing communications terminal;

said local communications terminals including transmission means for uploading a vehicle service status file from one of said local communications terminals to said regional communications terminal using an electronic network; and

said regional communications terminals including means for collecting a plurality of vehicle service status files received from said local communications terminals and transmitting said plurality of vehicle service status files to said central equipment manager.

[26] Claims 19 to 21 are also system claims. Claim 21, having the broadest scope, reads as follows:

21. A system for managing a plurality of moving equipment items, the system comprising:

a moving equipment database for maintaining information on repair status information of one or more moving equipment items from the plurality of moving equipment items, the moving equipment database stored on a first computer readable medium;

a service event notifier for creating a service event notification in said

> moving equipment database, the service event notifier stored on a second computer readable medium; and
>
> a date generator for automatically generating a predicted service completion date for said one or more moving equipment items using said service event notification, the date generator stored on a third computer readable medium.

[27] In claim 19, the moving equipment database also contains information about availability, the service event notification is specified as pertaining to one or more moving equipment items, and a date dissemination module is provided to automatically communicate the predicted service completion date.

[28] Claim 20 is similar in scope to claim 19, except that a separate availability database and a separate moving equipment database are specified for maintaining information on availability and repair status, respectively. Also, there is no data dissemination module in claim 20.

INDEFINITENESS

[29] The nature of the indefiniteness objection may impact the assessment of other issues under review. Therefore, the Board will first review the rejection of claims 19 to 21 under Subsection 27(4) of the *Patent Act*.

Prosecution history

[30] In his Supplement to Summary of Reasons the Examiner removed the objection to claim 8 (in view of the amended claims) but maintained the objection to claims 19 to 21 under Section 27(4). The Final Action sets out the nature of this objection as follows:

> Claims 19 to 21 describe systems for managing equipment, but are ambiguous. Although they are presented as systems (which are considered as machines under section 2), they appear to be describing software modules and databases. If the claimed matter is software, it must be claimed as an

> manufacture, i.e. a computer-readable medium on which the software and databases are stored. Even if the matter is intended to be claimed as a system (machine), a database (when not described as being stored on some medium) is an abstract concept or data model. Therefore, when a claim describes a machine as comprising an abstract concept as one of its components, it is not possible to determine the boundaries of that claim.

[31] In response to the Final Action, the Applicant stated that claims 19 to 21 were amended to recite that the various components of the systems claimed therein are stored on a computer readable medium. The Examiner considered those amendments in the Summary of Reasons, and stated that Athe databases and software . . . entities of data and code are still being claimed directly as machine components, leaving it unclear where the boundaries of the claims are, and whether or not the media are part of the claimed systems.@

[32] The Examiner=s concern as to the clarity of claims 19 to 21 carries over from an earlier report dated July 8th, 2003 (in reference to the same claims numbered from claims 20 to 22) in which it was stated: (emphasis added):

> . . . it is not clear how such a claimed system could function. The database is described as a separate component existing by itself, rather than as a collection of data recorded on some medium, it is unclear what the Anotifier@ is, or what causes it to create a service event notification, it is not stated where the predicted service completion date that the module communicates comes from, and it is not explained how and where these three components connect to and make up the overall system.

[33] On January 8th, 2004 the Applicant responded stating that Ait is common to describe a database in such a system as a separate element@, and made reference to recently issued Canadian patents using similar claim language.

Legal principles - Subsection 27(4)

[34] Subsection 27(4) of the *Patent Act* states:

> The specification must end with a claim or claims defining distinctly and in explicit

> terms the subject-matter of the invention for which an exclusive privilege or property is claimed.

[35] One statement as to claim interpretation is found in *Kramer v. Lawn Furniture Inc.* (1974), 13 C.P.R. (2d) 231 at 237 (F.C.T.D.) of the Federal Court, where it was stated:

> The claims should be interpreted by reading them and applying common vocabulary of the art to the wording of the claim. They should be interpreted as if read by a person who is possessed of all the technical knowledge required to fully understand the terms used and the principles involved. The specifications and drawings should be read as a whole to provide background to assist in the interpretation of the claim or to supply the vocabulary necessary for the interpretation of the claim but should not be used to vary or enlarge the claims, except in so far as the vocabulary, as supplied by the specifications, reasonably and fairly provides for such a variation or enlargement. As has been often stated, the patentee may act as his own lexicographer.

[36] Even though claims can be construed with reference to the description, reference to the description is only permitted to assist the understanding of terms used within the claims if these terms have a unique meaning, as provided by the inventor. Reference to the description is not permitted for terms that have a plain, common, and unambiguous meaning as these terms would be known to someone of skill within the art, nor is reference to stray phrases within the description generally considered support for terms within the claims. Furthermore, reference to the description cannot be used to vary the scope of the claims.

Analysis

[37] Amended claim 19 reads as follows:

19. A system for managing a plurality of moving equipment items, the system comprising:

a moving equipment database for maintaining information on availability and repair status information of one or more moving equipment items from the plurality of moving equipment items, the moving equipment database stored on a first computer readable medium;

a service event notifier for creating a service event notification in said moving equipment database, the service event notification pertaining to one or more moving equipment items, the service event notifier stored on a second computer readable medium;

a date generator for automatically generating a predicted service completion date for said one or more moving equipment items using said service event notification, the date generator stored on a third computer readable medium; and

a date dissemination module for automatically communicating said predicted service completion date for said one or more moving equipment items to said moving equipment database, the date dissemination module stored on a fourth computer readable medium.

[38] Claims 20 and 21 similarly set out databases and software modules, each stored on a separate computer readable medium.

[39] Claims 19 to 21 appear to be directed to a Asystem@, which in the computer related arts, is generally understood to be a machine. Claim 19 states that the service event notifier creates a service event notification in the moving equipment database; the date generator generates a predicted

service completion date using the service event notification; and the date dissemination module automatically communicates the predicted service completion dates to the moving equipment database.

[40] The Office practice for an acceptable machine claim in this art generally requires that the claim set out physical or tangible elements, components, or means which interact or cooperate to achieve the results of the invention. While the cooperative and functional relationships between the database, notifier, date generator and date dissemination module are claimed, they are not themselves physical or tangible elements, and they are each claimed as being stored on a computer readable medium. The physical elements are the first, second, third and fourth computer readable media.

[41] To meet the requirements for definiteness, the claim should state Aa first computer readable medium for storing a moving equipment database for . . . A; Aa second computer readable medium for storing a service event notifier for . . . @; Aa third computer readable medium for storing a date generator for . . .@ and so on. Further, since each of these modules or programs are claimed as being stored on separate computer readable media, it can be inferred that there is a cooperative element, component (processor) or means operating in concurrence to make each of these programs operate in the desired manner. For greater clarity, the claim should specify the necessary means to operate the media (since a computer readable medium is an article of manufacture, and not a machine, as is being claimed).

[42] Prior to grant, no speculation should be necessary to determine what is covered by each claim of a patent. Having reviewed the prosecution record, we conclude that claims 19 to 21 are indefinite under Subsection 27(4) of the *Patent Act*. If the claims are found to be otherwise acceptable, we would recommend that the claims be amended as noted above.

PRIOR ART

[43] Since the prior art is relevant to the question of patentable subject matter as well as obviousness, we first provide an overview of these documents.

Documents considered from the Final Action

[44] The following references cited in the Final Action are considered:

D1: "LEO network adds eight satellites".
Fleet Owner
PRIMEDIA Business Magazines & Media Inc., 01 February 1998
http://fleetowner.com/mag/fleet_leo_network_adds/index.html

D2: "State of the art"
Fleet Owner
PRIMEDIA Business Magazines & Media Inc., 01 August 1997
http://fleetowner.com/mag/fleet_state_art/index.html

Documents having no verifiable publication date

[45] The claim date of the claims in the instant application is June 29th, 2000. The following documents listed in the Final Action will not be considered by the Board, because the date of publication could not be verified:

i. Description of Fleetwise VB fleet maintenance management software package:
http://www.fleetwisevb.com/
Accessed 28 January 2004

ii. Description of Vehicle Maintenance 2000 software package described in February 1998 magazine article:
http://www.tdsone.comNM2.html
Accessed 03 July 2003

iii. Description of Fleet Assistant software package described in August 1997 magazine article: http://www.fleetassistant.com/SimplePopulation.asp?pageID=63 Accessed 28 January 2004

Documents brought forward at the Hearing

[46] In our letter dated October 6th, 2008 the Applicant was given the opportunity to provide additional submissions to the Board with respect to some additional references brought forward by the Examiner at the Hearing. These references were addressed in the Applicant=s submission dated May 15th, 2009. No issue was raised by the Applicant in regard to the publication dates for these references.

[47] The following additional documents will be considered by the Board:

D3: "Freightliner Debuts Fleet Assistant Software for Windows (3/2/99)" dated 2001/01/07; http://web.archive.org/web/19991109125938/www.freightliner.com/corp/press_release.asp?id=94

D4: "WHAT IS FLEET ASSISTANT?" dated 1999/11/27; http://web.archive.org/web/19991127134632/www.freightliner.com/software/fleet/what/default.asp

D5: "HOW IT WORKS" (Fleet Assistant - overview) dated 1999/11/27; http://web.archive.org/web/19991127152422/www.freightliner.com/software/fleet/what/how.html

D6: "HOW IT WORKS" (Fleet Assistant - functions) dated 2000/01/26; http://web.archive.org/web/20000126181008/www.freightliner.com/software/fleet/what/functions.html

D7: "HOW IT WORKS" (Fleet Assistant - customization) dated 2000/01/26; http://web.archive.org/web/20000126162433/www.freightliner.com/software/fleet/what/customize.html

D8: "Maintenance 2000" (TDS Inc.) dated 1999/10/02; http://web.archive.org/web/19991002031645/tdsvision.com/VM2.html

D9: "Fleetwise VB - Maintenance Management Made Simple"

dated 2000/03/13;
http://web.archive.org/web/20000313000218/http://www.fleetwisevb.com

[48] The above documents describe similar, if not identical, subject matter to that which appears in the aforementioned documents from the Final Action having unverifiable publication dates. The publication dates for these documents is the sequence of numbers after A/web@ and it translates as yyyymmddhhmmss, in accordance with instructions on the website: http://www.archive.org/about/faqs.php#The_Wayback_Machine

OVERVIEW OF THE APPLICABLE PRIOR ART

[49] Before considering questions of subject matter and obviousness, a discussion of each of the references D1 to D9 is in order.

[50] D1, entitled A*LEO network adds eight satellites*@, provides an overview of commercially available networks and software which make use of real-time wireless communication capabilities in order to support truck fleets. The article makes general reference to different software packages in that context and describes the services or functionalities each package can provide, in particular:

i. *Aa variety of services, including untethered trailer tracking, remote vehicle monitoring, and two-way messaging@;*
ii. A*PM scheduling, repair order creation and tracking, warranty analysis, and other basic shop management functions*@;
iii. A*a number of parts-management features including electronic ordering, automatic tracking of superseded parts numbers, and cross-referencing. . . . tire tracking and accounting options . . . will be added to the enhanced maintenance program.*@
iv. A*build wireless links between their host computer systems and drivers or other mobile workers using Dolphin data collection units from Hand Held Products Inc.*@

[51] The Examiner referenced two software packages in D1, namely: *Fleet Manager* and *Vehicle Maintenance 2000*. The relevant excerpts from D1 are reproduced below [emphasis added]:

> Fleet Manager is a Windows-based fleet maintenance management program featuring easy data entry and record navigation as well as powerful search and sort capabilities, according to developer Fleet Concepts of Tupelo, Miss.
>
> The program can create and track vehicle PM schedules, track and automatically update parts and fuel inventories, and store detailed vehicle inventories complete with related information on warranties, purchase data, specifications, and optional accessories.
>
> Other features include a personnel management module, repair-order creation with estimated completion times, and a full range of standard and custom reports.
>
> . . .
>
> A Windows-based maintenance management system, Vehicle Maintenance 2000 from TDS Inc. tracks service schedules, repair histories, parts inventories, permits, work orders, and other vehicle information. It can also import existing files from an earlier DOS version of the program.

[52] D2, entitled A*State of the Art*@ describes capabilities of a commercially available software package known as *Fleet Assistant AS/400 vehicle maintenance software package* made by Freightliner Corp. The functionalities listed in D2 are as follows:

> . . . allows users to track repair costs while a truck is on the road. The module enables breakdown departments to quickly access a vehicle's recent repair history, warranty information, and preventive maintenance records before authorizing road service.

[53] Although not referenced by the Examiner, D2 references capabilities of other software packages, considered relevant, as follows:

> Fuel inventory control on a PC Fuel management software from the Veeder-Root Co. allows fleets to store real-time inventory data on an office PC. A Windows program, TLS-PC collects total site-wide inventory readings and compliance information from single- and double-wall tanks and line installations. Once stored on a PC, the data from various sites can be polled from a central location for data manipulation and improved operations management.
>
> Veeder-Root has also released an upgraded version of RemoteControl, a communications program for monitoring fuel inventories, alarms, and leak detection reports from remote sites. Improvements for the new version include faster site connection times, compatibility with the latest TLS software, the ability to monitor wireless pressurized leak detection systems, and customizable alarm reports.
>
> . . .
>
> Fleet management software for wireless dispatch Intended to complement Geotek Communications' wireless data and voice services, Mobile Manifest helps small to medium-size fleets manage their business. The integrated business program monitors and displays job status updates from vehicles, time stamps and archives all dispatched jobs, organizes daily work assignments, and generates reports on fleet productivity, according to Geotek.
>
> Designed to operate on a desktop PC, Mobile Manifest integrates with Geotek's tracking, messaging, and voice communications software.

[54] D3 to D7 relate to Freightliner Corp.'s Fleet Assistant software, which is referenced in D2. D3 is a press release from Freightliner Corp=s website. D4 to D7 provide additional details about functions and customization.

[55] The Applicant=s view of D3 to D7, set out in the response dated May 15th, 2009, is that *Fleet Assistant* is:

> . . . a vehicle maintenance software for trucks, tractors and trailers. The software

purportedly helps the customer to promptly identify problems, make informed purchase decisions, and increase shop productivity. As understood, disclosed features include:

$ tracking, scheduling, and automatic alerts for preventative maintenance;

$ tracking and controlling parts inventories;

$ flexible reporting and ability to generate 100 to 200 standard reports;

$ scalability for fleet sizes from 10 to 100,000;

$ immediate feedback on fleet statistics;

$ client-server based software architecture that supports multiple users in multiple locations/ business sites; and

$ generating report orders which create, schedule and track repair orders and preventative maintenance.

[56] D8 is a table summarizing the capabilities of *Vehicle Maintenance 2000* software as compared to a full windows version. This software is referenced in D1. The Applicant=s understanding of D8, set out in the May 15th, 2009 letter, is that this software is:

> . . . a preventative maintenance scheduling and work order system for vehicles. As understood, disclosed features include:
>
> $ scheduling preventative maintenance;
>
> $ tracking parts inventories;
>
> $ tracking license and inspection dates;
>
> $ automatically calculating next service;
>
> $ highlighting vehicles needing service; and
>
> $ managing multiple vehicle types (tractors, trailers, vans, cars, buses, etc.).

[57] D9 pertains to FleetWise VB called AMaintenance Management Made Simple@ for fleets. The Applicant=s characterization of D9, as stated in the May 15th, 2009 letter, is that it discloses the following features:

$ scheduling preventative maintenance;

$ tracking licenses and permits;

$ tracking parts inventories;

$ creating work orders;

$ tracking equipment by jobsite/customer;

$ scalability for fleet sizes from less than 40 to greater than 3000; and

$ availability in stand-alone and network systems.

OBVIOUSNESS

Legal principles - Obviousness

[58] A test for obviousness was established by the Federal Court of Appeal in *Beloit Canada Ltd. v. Valmet Oy* (1986), 8 C.P.R. (3d) 289 (F.C.A.), at 294 [*Beloit*]:

> The test for obviousness is not to ask what competent inventors did or would have done to solve the problem. Inventors are by definition inventive. . . . The question to be asked is whether this mythical creature . . . would . . . have come directly and without difficulty to the solution taught by the patent.

[59] Recently, in *Apotex Inc. v. Sanofi-Synthelabo Canada Inc.*, 2008 SCC 61, 69 CPR (4th) 251, at paragraph 62 [*Sanofi*], Rothstein J. had this to say about the *Beloit* test:

> [62] I do not think that Hugessen J.A. in *Beloit* intended that the rather colourful description of obviousness that he coined be applied in an acontextual manner applicable to all classes of claims.

[60] In *Sanofi* [supra] the Supreme Court of Canada further set out a four-step approach for assessing obviousness, as follows:

> [67] It will be useful in an obviousness inquiry to follow the four-step approach first outlined by Oliver L.J. in *Windsurfing International Inc. v. Tabur Marine (Great Britain) Ltd.*, [1985] R.P.C.

59 (C.A.). This approach should bring better structure to the obviousness inquiry and more objectivity and clarity to the analysis. The Windsurfing approach was recently updated by Jacob L.J. in *Pozzoli SPA v. BDMO SA*, [2007] F.S.R. 37, [2007] EWCA Civ 588, at para. 23:

> In the result I would restate the Windsurfing questions thus:
>
> (1) (a) Identify the notional Aperson 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 Astate 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?
>
> [Emphasis added.]

References Applied

[61] The references applied are D1 to D9, as set out in the overview of the prior art.

Are claims 1 to 22 obvious?

The Examiner=s and Applicant=s positions

[62] The Examiner=s and Applicant=s positions are unremarkable at this point and shall be addressed as needed in the analysis below.

Analysis using the approach in Sanofi - claims 1 to 22

(1)(a) Identify the notional "person skilled in the art".

[63] The Applicant characterized the skilled person, which the Board

agrees with, as follows:

> The notional person skilled in the art would be a trained software engineer and/or trained network architect with experience in designing systems for vehicle fleet management.

(1)(b) Identify the relevant common general knowledge of that person

[64] The Applicant characterized the common general knowledge of the skilled person as follows:

> As noted by the Examiner in the final action of February 24, 2004, common general knowledge of the skilled person would include knowledge that general purpose computers are able to process calculations, that databases store large amounts of information for updating and retrieval, and that networks allow communication of data between remote users.

[65] We accept this submission, and add that the common general knowledge of the skilled person includes that it is a matter of routine for vehicle service staff to track vehicle repair statistics and make predictions as to vehicle availability for newly arrived vehicles. In this regard we note that flat-rate manuals, which list the various vehicle repair jobs along with the estimated time and cost, have been in common use in the automotive industry for many years. Further, the skilled person would be aware of various network configurations using the frame relay protocol and three-tiered client server architecture. Examples of such networks are shown in the *Encyclopedia of Networking* (Electronic Edition), Tom Sheldon, 1998 (pages 78, 153, 154-158, 239-240, 675-676, 280-281, 1069).

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

[66] The problem the invention addresses is the apparent inability to effectively manage

vehicle fleets across a geographically diverse area since it was previously difficult (due to a lack of information, incomplete vehicle status files and vehicle status reports, and the manner in which information was shared among the local, regional and central offices) to predict the availability of vehicles after having been returned to a local rental station. It can be appreciated that this problem existed in respect of any one individual vehicle (incomplete vehicle status file at the local level) as well as collectively in respect of the whole fleet (incomplete vehicle status reports at the regional level; incomplete picture of fleet status at the central level).

[67] The Board accepts, based on the Applicant's letter dated May 15th, 2009, the inventive concept in claims 1 to 22 is the following combination of previously known features:

i. automatically generating an availability prediction for a vehicle being serviced;
ii. transmitting this prediction up and disseminating this prediction down a three-tier pyramid network; and
iii. the network comprising, from bottom to top, a number of local communication terminals, a lesser number of regional communication terminals, and a central equipment manager.

(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

[68] The Applicant acknowledged the following capabilities in the cited art:

The Fleet Assistant software includes a repair order module which creates,

schedules and tracks repair orders and preventative maintenance. The cited art also makes some limited reference to the implementation of the Fleet Assistant software and the FleetWise VB software in network environments.

[69] The following differences between the cited art and the inventive concept were pointed out by the Applicant:

A. The prior art does not disclose automatically generating availability predictions for vehicles being serviced;

B. The prior art does not disclose transmitting such predictions up and disseminating such predictions down a three-tier pyramid network comprising local communication terminals, regional communication terminals and a central equipment manager.

[70] With respect to difference A, which pertains to feature (I.) in the inventive concept, we note that reference D1 refers to "repair-order creation with estimated completion times". Further, as noted above, flat-rate manuals, which include estimated times for various vehicle repairs, are part of the common general knowledge. Making a prediction automatically, for example, by using a calculator is something that is also common general knowledge. However, automatically making availability predictions by using a vehicle service status database would appear to be novel.

[71] Regarding difference B, which relates to features (ii.) and (iii.) in the inventive concept, the use of three-tier networks to transmit information in general is also considered to be part of the common general knowledge, as stated above. However, the use of such a network to transmit the particular information of availability predictions for vehicles appears to be novel.

(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? [Emphasis added.]

Automatically generating an availability prediction

[72] While there is nothing in the cited art that specifically teaches making availability predictions by using a vehicle service status database as set out in the claims, we consider that it is not an inventive step to go from manually looking up estimated vehicle repair times in a flat-rate manual to using an electronic database containing similar information for the same purpose. The idea of automating this manual process is not considered to be inventive. And while it is possible there may be inventive ingenuity in the practical application of an idea, the disclosure does not indicate that there were any technical hurdles that had to be overcome in order to effect this change.

[73] There appears to be nothing more than a conventional processor being used for generating an availability prediction in this application, so the Board is unable to conclude that feature (I.) when taken alone provides any degree of invention.

Transmitting and disseminating the prediction

[74] It is well known that communications technologies serve to transmit and disseminate data. In fact, that is the main purpose of electronic communications. That some particular useful information is generated and it is desired to transmit and disseminate this information from one location to another, therefore, cannot by itself supply an inventive step.

A three-tier pyramid network

[75] As discussed in relation to common general knowledge above, it was conventional before the claim date of the instant application to configure networks using the frame relay protocol and three-tier client server architecture with interconnected

local, regional and central structures. We have reviewed the description of the network used in the instant application and there does not appear to be a suggestion of any surprising or peculiar result attributable to the particular three-tier pyramid structure. Nor does the Applicant purport that a three-tier pyramid network, by itself, has been invented. The involvement of the three-tier network in the claimed invention is more accurately framed as a network that is adapted or programmed to transmit and disseminate different information. Therefore, we see the particular network configuration in the claimed invention as being merely one of many possible design variations that can be made based on what was conventional or known before the claim date. We conclude that there is no degree of invention in this aspect of the claimed invention, i.e., a three-tier pyramid network. We find that the problem addressed by the claimed invention, namely improving communication among the local, regional and central offices regarding the availability of vehicles after they have been returned to a local rental station, is precisely the type of problem that such networks were intended to address.

[76] Even though all of the features above, taken individually, have been found to lack inventiveness, the Board must also consider the combination of these features as a whole. This approach is consistent with what was stated by Snider J. in *Procter & Gamble Pharmaceuticals Canada Inc. v. Canada (Minister of Health)*, 2004 FC 204, 32 C.P.R. (4th) 224, at paras. 93-95. Such a combination may supply a degree of invention necessary to justify a patent.

[77] We now turn to the following advantages pointed out by the Applicant as resulting from the claimed invention:

i. Permitting remotely-located reservation agents to look up and book reservations for vehicles currently being serviced.

ii. Having the predictions available at the central equipment manager-level allows for a single (e.g. national) reservation centre to fill reservation

requests for every location and region across the country, obviating the need for reservation centres at the local and regional levels.

iii. Providing availability predictions at the regional and central level provides a more complete picture of future vehicle availability upon which vehicle allocation decisions can be based.

iv. Providing availability predictions at the local level allows a customer directly contacting a particular location to be informed by an agent that an alternative, neighbouring location will have vehicles for which servicing will be complete by the required date.

[78] All of these advantages point to the usefulness of the claimed invention in a fleet tracking business when generating an availability prediction and disseminating this information through a three-tier pyramid network. However, the Board is of the opinion that these are but the expected advantages of automating the process of determining availability predictions for vehicles and sharing the information among the local, regional and central offices. Therefore, we conclude that claims 1 to 22 would have been obvious to the skilled person.

PATENTABLE SUBJECT MATTER

[79] In this section, the expressions Apatentable subject matter@ and Astatutory subject matter@ are used interchangeably. The expressions Atechnical@ and Atechnological@ are similarly used interchangeably.

Legal principles - Statutory Subject Matter

Invention defined

[80] Section 2 of the *Patent Act* sets out the definition of invention as:

> "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.

Approach to assessing subject matter

[81] As noted earlier, the approach to assessing patentable subject matter which will be applied is that which is set out in *Amazon.com* [paragraphs 124-162]. The Applicant stated that his response dated May 15th, 2009 endeavoured to address this approach to assessing patentable subject matter.

[82] For convenience, particulars of the approach set out in *Amazon.com* are reproduced below. The basis of this approach is set out in paragraphs 124-162 of *Amazon.com*.

- *Consider both the form and the substance of the claims*

  An assessment of patentable subject matter involves a consideration of both the form and substance of the claims.

- Form of the claims

  By "form" is meant what the language of a claim, on its face, appears to be defining as the invention.

- Substance of the claims (What has been discovered?)

The approach to assess the substance is to fully understand the nature of the claimed invention, and determine what has been added to human knowledge ["what has been discovered"] by the claimed invention.

- *Subject matter must fit the definition of a category*

The judicial interpretation of each of the terms art, process, machine, manufacture and composition of matter must be considered to assess whether the subject matter of the claims fits under one of these categories.

Change of character or condition

Of particular significance in the present application is the definition of an art. *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct.) [*Lawson*] sets out that a patentable art must cause a change in character or condition of some physical object.

- *Excluded (non-statutory) subject matter*

Certain types of subject matter are excluded from patentability. For example, computer programs if the discovery involved is a method of calculation, methods of medical treatment, higher life forms, business systems and methods and professional skills and methods, have been excluded by judicial interpretation of Sections 2 and 27(8) of the *Patent Act* (*Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34, [2004] 1 S.C.R. 902, at paragraph 133, dissenting [*Schmeiser*]).

- *Non-technological subject matter is not statutory*

Each of the five categories of invention inherently relate to subject matter that is technological in nature. It follows that subject matter that is not technological

is not statutory subject matter, and cannot fit under one of the categories of invention.

[83] To summarize the above, for a claim to be patentable, the form of the claim (the claim on its face) must relate to one of the five patentable categories of invention (art, process, machine, manufacture or composition of matter). Also, the form of the claim must be neither excluded subject matter nor non-technological subject matter. Similarly, the substance of the claimed invention, or "what has been added to human knowledge", must fit under one of the five patentable categories of invention, and must not be directed towards either excluded subject matter or non-technological subject matter.

[84] These three criteria (category of invention, excluded subject matter, non-technological subject matter) largely overlap each other, as subject matter that has been excluded by judicial interpretation of Section 2 was so excluded on the basis that the matter did not fit one of the patentable categories of invention, and most unpatentable subject matter is inherently non-technological. Therefore, claimed subject matter will generally either pass all three or fail all three of these criteria. However, they are not precisely conterminous. For example, a genetically engineered higher life form may be technological in nature, but it is not patentable subject matter.

[85] Under the approach adopted in *Amazon.com*, in determining the question of patentable subject matter, one looks not only at the form of the claim, but also at the substance of the claimed invention, i.e., what has been added to human knowledge. In so doing, a claim the substance of which is held to comprise an unpatentable method cannot be made patentable by the inclusion in the claim of conventional hardware that in no meaningful way contributes to the advance made in the art.

[86] A claimed invention may be excluded for any one or more of the aforementioned reasons. The analysis need not be performed in any particular order.

Determining whether something is non-technological or whether it has a technical effect

[87] When assessing if something is non-technological, finding any technical effect is not enough; it must be a relevant technical effect. Although not binding, we consider the decision in *Shopalotto.Com Ltd, Re Patent Application GB 0017772.5*, [2005] EWHC 2416 [*Shopalotto*] to be guiding in this context. At paragraph 9 of this decision, this requirement is described as follows:

> Suppose a program written for a computer that enables an existing computer to process data in a new way and so produce a beneficial effect, such as increased speed, or more rapid display of information, or a new type of display of information. It is difficult to say that these are not technical effects, and, indeed, that the programmed computer, itself a machine that ex hypothesi has never existed before, is itself a technical article and so in principle the subject of patent protection. The real question is whether this is a relevant technical effect, or, more crudely, whether there is enough technical effect: is there a technical effect over and above that to be expected from the mere loading of a program into a computer? From this sort of consideration there has developed an approach that I consider to be well established on the authorities, which is to take the claimed programmed computer, and ask what it contributes to the art over and above the fact that it covers a programmed computer. If there is a contribution outside the list of excluded matter, then the invention is patentable, but if the only contribution to the art lies in excluded subject matter, it is not patentable.

[88] More recently, in *AT&T Knowledge Ventures LP*, [2009] EWHC 343 (Pat) [*AT&T Knowledge Ventures*] at paragraph 40, the Honourable Mr. Justice Lewison reviewed UK and EPO jurisprudence surrounding technical effect, concluding as follows:

> . . . it seems to me that useful signposts to a relevant technical effect 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 there is an increase in the speed or reliability of the computer;

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

Clarifying the Abusiness method@ exclusion

[89] In *Amazon.com*, the Commissioner stated that business methods are excluded from patentability. That is, when a claimed invention in form or in substance amounts to a scheme, plan or rules for the conduct of business, it is unpatentable. However, the mere fact that a process or machine is intended for use in some branch of business does not necessarily disentitle it to patent protection.

Analysis: Section 2

Form of the claims

[90] Claims 1 to 7, 9 to 18, and 22 set out physical steps of a method and therefore at first

glance, these claims appear to fit the category of an art or process. However, independent claims 7, 9 and 17 set out Aa method for managing@ a fleet of vehicles (or moving equipment items as in claim 9). This phraseology is suggestive of an administrative activity or acts for organizing human activity which is excluded subject matter as a method of doing business, as set out by the Commissioner of Patents in *Amazon.com*. Therefore, claims 7, 9 and 17, on their face, recite excluded subject matter. We would add that if these claims were found, in substance, to be directed to patentable subject matter, the above defect with respect to the form could be rectified by amendment.

[91] Claim 8, on its face, is directed to a system which is a physical object (a machine). As noted earlier under INDEFINITENESS, claims 19 to 21 are ambiguous as to the category of invention being claimed. By form, we will treat these claims as being directed to a system (a machine). Accordingly, claims 8, and 19 to 21, on their face, recite patentable subject matter.

Substance of the claims

[92] At this point, the Board notes that even though we have found the claims are not inventive, this does not mean that it is impossible to identify, for the assessment of patentable subject matter, something that this application has added (or has potentially added) to human knowledge i.e. the substance of the claimed invention. That being said, there will undoubtedly be other cases where the substance of the claimed invention is similar to the inventive step found under obviousness.

[93] In the letter dated May 15th, 2009, the Applicant stated:

> . . . the substance of the claimed invention, or what has been added to human knowledge, is the combination of automatically generating an availability prediction for a vehicle being serviced and transmitting this prediction up and disseminating this prediction down a three-tier pyramid network comprising, from bottom to top, a number of local communication terminals, a lesser number of regional communication terminals, and a central equipment manager.

[94] In contrast, the Examiner=s position on pages 2-3 of the Final Action regarding the substance of the claimed invention is that the claimed invention A*merely proposes using known technology to computerize and facilitate a conventional bookkeeping and fleet management practice. No new technology is described . . .*@ The basis for the Examiner=s position is that A*fleet managers have always had to maintain information on the location and status of their equipment, to predict when certain vehicles will become available, and to share this information with other employees; it would be only logical to take advantage of known tools to facilitate these tasks.*@

[95] Regarding the Examiner=s comments we consider that a claimed invention cannot be considered as statutory subject matter if the feature or group of features that make it new and unobvious are excluded subject matter. This is consistent with what was stated in *Amazon.com* (paragraphs 128 to 129). Recently, in *IGT/Acres Gaming Inc*, Re [2008] EWHC 568 [*IGT*] at paragraphs 21 to 24, Mr Peter Prescott QC (sitting as a Deputy Judge) repeated this concept in view of *Aerotel Ltd v Telco Holdings Ltd & Others*, [2006] EWCA Civ 1371 [*Aerotel*], stating [emphasis added]:

> Although there was some disagreement, both parties accepted that the Patent Office is entitled to do a prior art search and that if it turns out that the alleged contribution was already known, or was obvious, there can hardly be a contribution to human knowledge. In my judgment that is correct. And there will be no patentable

contribution to human knowledge if what is new and not obvious relates solely to a business method as such.

[96] As was noted in *Aerotel* (at paragraph 44), AIn the end the test must be what contribution has actually been made, not what the inventor says he has made. A

[97] At this point we would like to add some comments regarding the nature of the substance analysis. At first glance, it might appear that addressing the question of patentable subject matter by considering only a subset of the claimed features, improperly fails to consider the patentability of the entire combination of claimed features. However, as discussed earlier with respect to technical effect, the assessment set out in *Amazon.com* (see paragraph 184 to 194) includes a check as to whether the features that have been added to human knowledge provide a technical effect in the claimed invention as a whole. This is done when the substance of the invention does not appear to be technological, to ensure that any relevant technological contribution in the claimed combination of features is considered in the assessment.

[98] To establish what is the substance of the claimed invention, we will now consider the features pointed out by the Applicant.

Automatically generating an availability prediction

[99] For a vehicle being serviced, as stated on pages 13-14, generating the prediction involves calculating an average repair/service time for the particular location. The inputs are the vehicle status database 200 and service event notifications 220 for repair/service activities accomplished at the service location during the past thirty days which can be used to determine the time lapsed from date-in-building to completion of the service. As noted on page 13 of the instant application, this average repair/service

time information can also be categorized and computed according to equipment types and type of service required.

[100] The Board considers that before the claim date, it was a matter of routine for vehicle service staff to track vehicle repair statistics and make predictions as to vehicle availability for newly arrived vehicles. In this regard we note that flat-rate manuals, which list the various vehicle repair jobs along with the estimated time and cost, have been in common use in the automotive industry for many years. We also note that reference D1 refers to "repair-order creation with estimated completion times". Therefore, based on what would be widely known before the claim date, we find that making availability predictions in service businesses is well known. It would also appear to be conventional wisdom that a person making such predictions would make use of available computational tools such as calculators and computers to automate the calculations involved. So at first glance there does not appear to be anything in this feature alone that has been added to human knowledge.

[101] However, since the Applicant considers this feature as part of a combination that has been added to human knowledge, and since it is not explicitly found in any of the prior art, we accept it as forming part of the substance of the invention.

Transmitting and disseminating the prediction

[102] Transmitting and disseminating the prediction through a network is something which every skilled person understands to be a conventional capability of networks. It is well known that communications technologies serve to transmit and disseminate data, in fact, that is the main purpose of electronic communications in networks. The only difference in the claims is the particular data being transmitted.

Three-tier pyramid network

[103] Regarding the feature of a three-tier pyramid network with local and regional terminals and a central equipment manager, none of the references D1 to D7 explicitly reference a type of three-tier network. We note that D2 characterizes PC Fuel management software from the Vender-Root Co. as having the capability of storing data on a PC, and data from various sites can be polled from a central location for data manipulation and improved operations management. D1 and D2 make reference to communications over satellite, cellular, packet data, trunked radio, and wireless systems [See D1, Locsys Embedded Operation system, Veedor-Root Co., Geotek Communications; and D2, ARDIS/AMSC].

[104] What the Applicant states is the substance of the invention comprises the transmission and dissemination of information across a three-tier pyramid network in a conventional manner. We have reviewed the description of this network in the instant application and there does not appear to be a suggestion of any surprising or peculiar result attributable to the particular three-tier pyramid structure, which can be said to have been added to human knowledge. Nor does the Applicant purport that a three-tier pyramid network, by itself, is what has been discovered here.

[105] On page 7 (line 4) to page 8 (line 7), in describing the interconnectivity of regional communications terminals with the central equipment manager and local communications terminals, reference is made to features that were commonly known at the claim date of the application, such as: client/server architecture; frame relay packet switched protocol; Wide Area Network (WAN). A three tier pyramid network was also commonly known before the claim date. Our view as to what was commonly known before the

claim date is shown, for example, in –*Encyclopedia of Networking (Electronic Edition)*, Tom Sheldon, 1998, which describes WANs, LANs and frame relay on pages 413 to 424, pages 567-568, and pages 1059-1064. On pages 78, 153, 239-240, 675-676, 280-281, 1069 some three-tier network model is described. Pages 154-158 describe different client server configurations.

[106] We conclude that it was conventional before the claim date of the instant application to configure networks using the frame relay protocol and three-tier client server architecture with interconnected local, regional and central structures. So we see the particular network configuration in the claimed invention as being merely one of many possible design variations that can be used based on what was conventional or known before the claim date, depending on the user=s requirements.

[107] A three-tier pyramid network itself is not part of what has been added to human knowledge. Instead, the three-tier network in the claimed invention is viewed as a known network that is adapted or programmed to transmit and disseminate this particular information.

[108] In view of the above, we conclude that what has been added to human knowledge by the claimed invention is the combination of: automatically generating an availability prediction for a vehicle being serviced, and transmitting and disseminating that availability prediction over a three-tier pyramid network. We further understand that the three-tier pyramid network has been provided with suitable programming in order to transmit and disseminate the prediction information, resulting in better management of a fleet of vehicles.

[109] Claims 1 to 7, 9 to 18, and 22 which set out steps of a method will be assessed to see whether the substance of the claimed invention fits under the category of an art or process. As far as system claims 8 and 19 to 21 are concerned, while by their form they are directed to a system, we consider that the substance of the claimed invention in these claims is the same

as that of the method claims. Therefore, claims 8 and 19 to 21 will also be assessed to see whether the substance of these claims fits under the category of an art or process.

Is the substance of the claims non-technological in nature?

[110] The approach set out in *Amazon.com* will be used for determining whether the substance of the claimed invention is non-technological in nature. This analysis takes into account our conclusion as to what has been added to human knowledge by the claimed invention, set out above.

[111] Regarding generating an availability prediction, we find that this feature is not technological because a predicted date results merely from a calculation based upon given inputs. We note that the Applicant=s view is that the substance includes Aautomatically generating . . .@ (meaning: using a computer to carry out the calculation). Nevertheless, generating an availability prediction is non-technical in nature, and in our view this characteristic is independent of whether such a calculation is carried out by the human mind or by a computer. Computers are machines that are made for making all types of calculations. It is not a material factor, technically speaking, whether the calculations pertain to accounting options [as in D1], tracking repair costs [as in D2], or fleet productivity [as in D2; Geotek Communications AMobile Manifest@].

[112] In general, it is possible for hardware, software or devices that carry out a calculation to supply a technical effect (see our earlier review of technical effect). However, in our review of this application, there appears to be nothing more than a conventional processor being used for generating an availability prediction in a conventional manner.

[113] As we noted earlier, as far as the three-tier network is

concerned, it has been adapted or suitably programmed for disseminating the prediction information. The adaptation or programming of a conventional three-tier pyramid network for the transmission of new information does not itself render the substance of the invention technological in nature. We will next consider the results or advantages of the invention set out in the Applicant=s submission in order to determine whether there is a relevant technical effect.

Do the results or advantages indicate that there is a technical effect?

[114] The result of the claimed invention is that it achieves the widespread dissemination and transmission of availability prediction information across the organization. On its face, there does not appear to be anything technical in this result.

[115] In his letter dated May 15th, 2009, the Applicant provided the following explanation of how the invention works:

> An availability prediction is generated by the local communication terminal, based on vehicle service status information inputted by users into a vehicle status database coupled to the local communication terminal. The prediction is collected into a vehicle status file at the local communication terminal, and the vehicle status file together with vehicle status files from other local communication terminals are collected into a vehicle status report at the regional communication terminal. Vehicle status reports from regional communication terminals are then transmitted to a central equipment manager, where they are then disseminated to the local and regional communication terminals so that the prediction is made available to all local and regional communication terminals regardless of the geographic region in which the vehicle is located.

[116] With respect to collecting prediction data into a vehicle status file and the compilation of vehicle status reports, we have reviewed the description of these features. Such entities for collecting and packaging information are well known in this art (in particular,

see the passages from the *Encyclopedia of Networking* noted in our discussion of the substance of the invention). The particular nomenclature used in the application and the particular prediction data collected does not, in our opinion, create any technical effect in the network. The Applicant=s characterization of the substance of the claimed invention does not suggest otherwise.

[117] The following advantages resulting from the invention were pointed out by the Applicant:

i. Permitting remotely-located reservation agents to look up and book reservations for vehicles currently being serviced.

ii. Having the predictions available at the central equipment manager-level allows for a single (e.g. national) reservation centre to fill reservation requests for every location and region across the country, obviating the need for reservation centres at the local and regional levels.

iii. Providing availability predictions at the regional and central level provides a more complete picture of future vehicle availability upon which vehicle allocation decisions can be based.

iv. Providing availability predictions at the local level allows a customer directly contacting a particular location to be informed by an agent that an alternative, neighbouring location will have vehicles for which servicing will be complete by the required date.

[118] The Board is of the opinion that all of these advantages point to the usefulness in a fleet tracking business arising from generating an availability prediction and disseminating this information through a network. Conveniences arise because the use of a network inherently reduces geographic or location impedance so that one can access (at central, remote, or regional levels) the availability predictions pertaining to other locations. The adaptation of networks for

collecting, disseminating and updating information in different locations is broadly known.

[119] What is new in these advantages is that there is availability prediction data which is being updated and disseminated across a network, which in this Board=s view, is not different from the known advantages obtained from disseminating any type of information using a network.

[120] We conclude that the technological capabilities providing these advantages are inherent in networks whenever any type of information is shared across a network. So there is nothing technological that has been added to human knowledge arising from these advantages of the claimed invention.

[121] From their submissions, the Applicant believes that the substance of the claimed invention is technological in nature because of the A*interplay of a number of technological fields including computer, database, and network technologies*.@ In his supplemental analysis, the Examiner commented that it is A*known that networks of databases and computers can be used to provide information to remote locations - the nature of the information does not patentably distinguish the subject matter*.@ We agree with the Examiner based upon our analysis above.

[122] As a check on our assessment, we consider the guidance on *technical effect* from *AT&T Knowledge Ventures* as being determinative of the matter. Each of the signposts set out by Mr. Justice Lewison is addressed in sequence below:

i. *whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;*

With regards to generating, collecting, disseminating, accessing and using availability predictions, there is no technical

effect on a process which is carried on outside a computer. Any effect concerns the administration of a truck fleet operation or business.

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;

Any possible technical effect does not operate at the level of the architecture of the computer. In fact, the effect of the claimed invention is entirely dependant on the availability predictions being processed.

iii. whether the claimed technical effect results in the computer being made to operate in a new way;

As we noted earlier, any possible technical effects are not a result of a computer or network of computers being made to operate in a new way. The network, in the Board=s view, is operating in a conventional fashion and no new way of operating the network, technically speaking, has been brought forward by the Applicant.

iv. *whether there is an increase in the speed or reliability of the computer;*

Other than the business efficiencies and advantages realized by disseminating prediction data, no increase in speed or reliability of a computer or network has been argued by the Applicant.

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

> The perceived problems in the instant application appear to relate to the administrative difficulties arising due to uncoordinated or not-up-to-date availability prediction data of the vehicles being serviced at geographically dispersed locations. More accurately framed, the technical problem in the instant application is how to disseminate and transmit the generated availability prediction information between these geographically dispersed locations. As we have found in our analysis above, the technical solution proposed in the instant application was known or an obvious design variation of what was known. So, what has been discovered here is not technological in nature. Considering if a perceived problem has been merely circumvented does not apply here.

[123] From our analysis above, claims 1 to 22 do not add anything to human knowledge which is technological and are therefore non-statutory. We have been careful to review the practical implementation underlying the claimed invention, and in our view it does not add to human knowledge anything that is technological in nature.

Is the substance directed to excluded matter ?

[124] The Board will now check whether the substance of the claimed invention relates to excluded subject matter.

Applicable exclusions

[125] We make reference to *Amazon.com* (paragraphs 140-146) setting out the business method exclusion. In it, the Board discussed *Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34, [2004] 1 S.C.R. 902, at paragraph 133, dissenting [*Schmeiser*], *In the Matter of Cooper's Application for a Patent*, [1901] 19 R.P.C. 53 [Cooper=s Application], and *Digest of Canadian Patent Law*, Harold G. Fox, 1957 (Carswell) at p. 11 [*Fox*}. From the list of various exclusions we gather that when the substance of a claimed invention is a method, system, scheme or plan for the conduct of some line of business, it is excluded from patentability.

[126] In the Final Action, the Examiner said Athis application merely proposes using known technology to computerize and facilitate a conventional bookkeeping and fleet management practice.@ In response, the Applicant discussed the tests for patentable subject matter.

[127] The contribution to human knowledge made by the invention is programming which enables a three-tier pyramid network to transmit and disseminate an availability prediction for a vehicle being serviced, which prediction is automatically generated. The invention essentially provides information to fleet managers horizontally and vertically to help them in their daily work. In our view, this type of an advancement is directed solely at an administrative method.

[128] This Board is of the view that where the substance of an invention is a method for processing and producing information having a purely administrative character, or whose sole purpose is for organizing human activity, it is excluded subject matter, as it relates to a business method.

[129] Therefore, the addition to human knowledge set forth in claims 1 to 22 is also non-statutory because it is a business method.

In the substance of the claims, is there some change in character or condition (Lawson test)?

[130] *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct.) [*Lawson*] sets out that a patentable art must cause a change in character or condition of some physical object, as follows:

> An art or operation is an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition. It is abstract in that, it is capable of contemplation of the mind. It is concrete in that it consists in the application of physical agents to physical objects and is then apparent to the senses in connection with some tangible object or instrument.

[131] In *Amazon.com*, what was added to human knowledge had to do with how an order for a product is actually placed and processed. The Board concluded that there was no change either of character or of condition to any physical object itself by the act of ordering the product in one way or another.

[132] Applying what is stated in *Lawson* to what has been discovered here, conventional hardware and/or software is used for generating an availability prediction by making certain calculations in a conventional manner. So there is no change in the character or condition of any process or device being used for making these calculated predictions.

[133] Regarding the three-tier pyramid network, there is no change in character or condition in the network from the acts of transmitting and disseminating this prediction information. More generally, starting from what has been added to human knowledge, since any possible change in the character or condition of the network is wholly dependent upon the

Aavailability prediction@ information only, in our opinion this prediction information lacks the necessary Aphysical agent@ to produce such a change either of character or of condition. That is not to say that there can never be a change in character or condition in a programmed general purpose computer or network; we just don=t see that there is such a change in the instant application.

[134] As to whether there is a change in character or condition of an object external to the network, namely: vehicles and moving equipment items, again there does not appear be a change in the character or condition of those objects attributable to the disseminated availability prediction information. We have reviewed both the substance of the invention as well as the advantages stemming from it. The effect of what has been added to human knowledge has to do with organizing and managing human activity that is associated with these objects only.

[135] We therefore conclude that the substance of the invention does not fit under the category of art or process. Claims 1 to 22 are also non-statutory because they do not fit the category of art or process as defined by *Lawson*.

UTILITY

The Examiner's position

[136] The Examiner alleges that claims 1 to 7 and 9 to 13 lack utility under Section 2 of the *Patent Act* because they include steps that depend on the subjective preferences, reasoning and interpretation of their executors. The Examiner=s concern is that the amended claims 1, 2, 7 and 9 submitted on August 24th, 2004 no longer refer to Aautomatically@ generating an availability prediction. The Examiner feels that the steps would therefore lack predictable results and thus are not reproducible. The supplemental summary of reasons states:

More specifically, claims 1, 2, 7 and 9 each define a method including a step of predicting a date that a vehicle will be available or that a service will be completed. The claims do not specify how each method's executor is to make to such a prediction, leaving it to the subjective reasoning and judgement of the executor as to which factors to consider and how to estimate the date.

The Applicant=s position

[137] In our earlier review of the substance of the claimed invention we noted that the Applicant considered it to include Aautomatically generating . . .@ (meaning: using a computer to carry out the calculation).

[138] At the Hearing, the Applicant emphasized that the claims use specific wording which removes subjectivity from the claims when properly construed. In particular, the wording Abased on the vehicle service status information contained in said vehicle status database . . .@ implied that prediction data is generated automatically within a computer based on records in the local vehicle service status database, therefore, there could be no subjectivity, reasoning or interpretation in that aspect of the invention. The Applicant described that when a vehicle goes in for repair at a station, one way to predict its availability would be based on the average time to repair a vehicle at that location; another would be to use the make/model of the vehicle or to use the type of repair being done to calculate the average time to repair. Finally, another way is to simply pick a number, for example, the computer predicts a certain number. Even in that instance, the Applicant emphasized that the predicted number is that which has been programmed into the system, thus excluding subjectivity of an experienced technician, because the same value would be returned for the same query.

Legal Principles - Mental steps and processes

[139] An invention that relies on the judgement or reasoning of an operator is deemed to lack reproducibility and consequently to lack utility. The involvement of judgement or reasoning of an operator is often characterized as being related to mental steps or processes.

[140] In *Re Application for Patent Containing Claims that Read on Mental Steps* [(1972), 23 C.P.R. (2nd), 93] the Commissioner held that Aa process which includes a mental step, the nature of which is dependent upon the intelligence and reasoning of the human mind cannot satisfy the requirements of operability since the effect of the human feedback or response is neither predictable nor precise whenever the process is worked by its users.@ Other cases where mental steps have been considered are *Re Application 176,809 of Glenn*, (1977) C.D. 398 and *Re Application 269,230 of Itek Corporation* (1981) C.D. 896.

Analysis

[141] As stated earlier, the Examiner=s position concerns the reproducibility of claims 1, 2, 7 and 9.

[142] We agree with the Applicant=s position that the wording Abased on the vehicle service status information contained in said vehicle status database...@ in claim 1 means that prediction data is generated based upon records in the local vehicle service status database.

[143] At the Hearing, the Applicant said that when a vehicle goes in for repair at a station, one way to predict its availability would be based on the average time to repair a vehicle at that location; another would be to use the make/model of the vehicle or to use the type of repair being done to calculate the average time to repair. Finally, another way is to simply pick a number, for example, the computer predicts a certain number. The claim does not specify that only the database information shall be used to make an availability prediction. The claim does not specify that a computer shall be used to make the prediction. At the Hearing, the Applicant emphasized that in all situations the

predicted availability number is that which has been already programmed into the system.

[144] As to the question of reproducibility, the Board is unable to support an objection to reproducibility or utility here. Claims 1 to 7 and claims 9 to 13 promise to track and disseminate vehicle repair records and service status information, including availability predictions. Once a prediction has been made and input (programmed) into the system, the steps in the claims carry out the dissemination process, as set forth in the claims.

[145] The claims do not promise that the same availability prediction will be generated for the same types of situations (for example, identical vehicles and status database information). Nor is it necessary for the prediction to be consistent over time for the method to work. As the Applicant explained, the prediction is a pre-programmed number or a calculation based on numbers in the database. A series of mathematical calculations are reproducible because you get the same result every time. That is not to be confused with a situation where the claimed invention, in substance, is a mental operation or mental process - a question of patentable subject matter, not reproducibility. See, for example, *Schlumberger Canada Ltd. v. Commissioner of Patents* (1981) 56 C.P.R. (2d) 204 at p. 205-206 (FCA) [Schlumberger] where mental operations or processes, although executed on a programmed computer, were not patentable under Section 2.

[146] The Board concludes that the method Claims 1 to 7 and claims 9 to 13 are reproducible and do not lack utility.

FINDINGS

[147] In summary, the Board recommends that:

1 The rejection of claims 19 to 21 for being indefinite under Subsection 27(4) of the *Patent Act* be upheld.
2 The rejection of claims 1 to 22 for being obvious under Section 28.3 of the *Patent Act* be upheld.
3 The rejection of claims 1 to 22 for being directed to non-statutory subject matter under Section 2 of the *Patent Act*, be upheld.
4 The rejection of claims 1 to 7 and 9 to 13 for lacking utility under Section 2 of the *Patent Act* be reversed.

P. Sabharwal — Member

P. Fitzner — Member

E. MacLaurin — Member

[148] I concur with the Patent Appeal Board=s findings and their recommendations that:

1 The rejection of claims 19 to 21 for being indefinite under Subsection 27(4) of the *Patent Act* be upheld.
2 The rejection of claims 1 to 22 for being obvious under Section 28.3 of the *Patent Act* be upheld.
3 The rejection of claims 1 to 22 for being directed to non-statutory subject matter under Section 2 of the *Patent Act*, be upheld.
4 The rejection of claims 1 to 7 and 9 to 13 for lacking utility under Section 2 of the *Patent Act* be reversed.

Accordingly, 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.

Mary Carman

Commissioner of Patents

Dated at Gatineau, Quebec,

this 5th day of January, 2010