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# Examination Guidelines for Patent Applications

## Computer-implemented Inventions

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Upon publication, this text will be part of Patent Applications Examination Guidelines aiming to set the current understanding of BRPTO concerning examination of computer-implemented inventions. Other inherent exam topics will be listed and discussed in the general guidelines.

Patent Division - July 24, 2012



FEDERAL CIVIL SERVICE

MINISTRY FOR DEVELOPMENT, INDUSTRY AND FOREIGN TRADE

BRAZILIAN PATENTS AND TRADEMARKS OFFICE

EXAMINATION GUIDELINES FOR PATENT APPLICATIONS  
COMPUTER-IMPLEMENTED INVENTIONS

PATENT DIVISION – July 24, 2012

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## 1. INTRODUCTION

The purpose of this document is to present the Patent Application Examination Guideline adopted by the BRPTO for steering the technical examination of patent applications addressing computer-implemented inventions, in compliance with the Industrial Property Law - IP Law (Law N° 9,279/96) as well as the procedures contained in Normative Act 127/97.

A Patent Application addressing computer-implemented inventions, being based on a process, is encompassed only by the nature of the patents of invention. Pursuant to Article 9 of the IP Law, a Utility Model Patent Application must refer to “an object of practical use that presents a new form or arrangement...”, which is not the case for computer-implemented inventions.

Like any application for a patent of invention, applications involving computer-implemented creations must comply with the legal requirements, more specifically, those addressed in the IP Law, notably: novelty, inventive step and industrial application.

## 2. WHAT IS DEEMED TO CONSTITUTE AN INVENTION

In its Article 10, the IP Law does not consider the following matters to constitute inventions or Utility Models: “discoveries, scientific theories and mathematical models; purely abstract concepts; commercial or business schemes, plans, principles and methods of accounting, financial, publishing, lottery or fiscal nature; literary, architectural, artistic and scientific works or any aesthetic creation; computer programs per se; presentation of information; rules of a game; operating or surgical techniques and methods; as well as therapeutic or diagnostic methods for application in the human or animal body, as well as natural living beings, in whole or in part, and biological material, including the genome or germ plasma of any natural living being, when found in nature or isolated therefrom, and natural biological processes”.

A creation is deemed to constitute an invention when the resources used to solve the problem being

addressed are not found in a field included in the items listed in Article 10 of the IP Law. Pursuant to Normative Act 127/97, the invention must be included in a technical sector (item 15.1.2 c) solve technical problems, offering a solution to such problems (item 15.1.2 e) and have a technical effect (item 15 1.2 f). The application must thus clearly prove the technical nature of the problem to be solved, the proposed solution and the effects attained. It must be stressed that, in order to assess the incidence of the claimed matter under Article 10 of the IP Law, the claims must be considered as a whole. For example, a method identifying banknotes through the patterns of their images, colors and texts may well be patentable, as this addresses pattern recognition techniques. In this case, despite the mention of banknotes and its application in the banking network, the method does not fall under item III of Article 10 of the IP Law.

For a Patent Application presenting an computer-implemented invention, the framing of the object of the patent application under the exceptions set forth in the items listed in Article 10, regardless of whether the claim category involves a defined process or product merely through its functionality. For the purposes of analyzing a process implemented through a computer program, it is irrelevant whether this process is run on a computer for general use (personal computer) or for specific use (PIC, FPGA, etc.).

The following items will analyze cases subject to the requirements listed in Article 10 that may involve computer-implemented.

### 2.1 Computer Program per se

The computer program per se addressed by item V of Article 10 of the IP Law refers to the literal elements of the creation, such as the source code, understood as an organized set of instructions written in natural or coded language. The computer program per se is not deemed to constitute an invention and is consequently not open to protection under patent, as it is a mere expression of a technical solution, being intrinsically dependent on the programming language.

A set of instructions in a language, an object code, a source code or a source code structure, even if creative, is not deemed to constitute an invention, even if it provides technical effects. For example, alterations to the source code of the program that endow it with the benefit of faster speed, smaller size (of either the source code or the space occupied in memory), modularity, etc, belong to the field of the computer program per se, despite being technical effects. In terms of objects open to copyright, the computer program is not deemed to constitute an invention and is consequently excluded from patentability.

However, an industrial computer-implemented creation (process or product associated with the process) that solves a problem found in the state of the art and attains a technical effect that is not related only to the manner in which this computer program is written, might be deemed to constitute an invention.

When assessing the technical effect, consideration is given to whether the effects attained through all the steps followed by the computer-implemented invention. Examples of technical effects attained by computer-implemented inventions are: optimization (of run times, hardware resources, memory use, and database access), fine-tuning the user interface (not merely for aesthetics), file management, data switching and others. It is important to stress that, should the technical effects arise from alterations to the computer program code, rather than the method, the creation is not deemed to constitute an invention.

It must be stressed that creations falling under other items listed in Article 10, whether or not they are implemented by computer programs, are not deemed to constitute inventions. For example, a mathematical method implemented by a computer program is not deemed to constitute an invention, not because it is implemented by a computer program, but rather because it is a mathematical method, falling under item I, Article 10 of the IPA.

Mere interaction between the computer program and the hardware (for example: conventional access to

memory, busbars, input and output devices) does not guarantee that the creation implemented by such a program shall be deemed an invention. It is necessary to discern a technical effect beyond this interaction, as the technical effect of an invention must necessarily be intentional and directly controlled by the proposed invention, regardless of whether such technical effect takes place inside or outside the processing unit. Therefore, inventions that, for example, are intended to cause a reduction in memory access time, a better control of a robot's element or a better coding of a radio signal received, satisfy the technical effect criterion even when internal to the computer, because there is a direct causal relationship between the invention and such effects in these cases.

Although modifications in the manner in which the computer program is written may give rise to indirect physical effects, such as variations in electric current, this is not sufficient to confer a technical character on a computer-implemented creation.

Item V of Article 10 of the IP Law, when mentioning that "the computer program per se" is not deemed to constitute an invention, merely separates and distinguishes the protection systems when addressing an invention that might involve computer programs. In other words, a computer program may form part of the process that attains a technical effect, which thus means that there are two objects to be protected: the copyright for the computer program and the patent's rights for the processes solving technical problems, attaining a technical effect unrelated to alterations in the code.

## 2.2 Mathematical Methods

A method solving a problem that is exclusively mathematical (for example, deductions, operations, mathematical equations) is not deemed to constitute an invention, as it addresses a matter excluded by item I of Article 10 of the IP Law. The fact that the mathematical method is implemented by a computer program is irrelevant for the framing of such method under item I of Article 10 of the IP Law.

On the other hand, in order for a method implemented by a computer program involving mathematical concepts to be deemed to constitute an invention, such method must be intrinsically linked to an application with a practical technical nature. Thus, a process involving a mathematical concept is not immediately a matter excluded by item I of Article 10 of the IP Law. During the examination of the claimed object, should this process deploy the mathematical concept in order to obtain a technical solution to a technical problem, such process might be deemed to constitute an invention, provided that the resulting effects are technical rather than purely mathematical.

For example, a specific numerical integration method is not deemed to constitute an invention as its outcomes are purely mathematical, which is the integration operation, consequently, not being open to patent protection. However, a motor control system that uses this numerical integration technique in a manner that results in faster operating speed or better stability, might be deemed to constitute an invention, as it is applied to a technical problem, produces a technical effect and consequently is not classified as a mathematical method. In this case, the numerical integration technique is not protected, and remains in the public domain, open to use in other solutions to different technical problems.

Creations involving mathematical concepts may be deemed to constitute inventions when applied to practical technical problems and dealing with information associated with physical magnitudes or abstract data. The seismic data filtering method that allows for noise reduction, the image processing method that compacts the data or generate special effects such as zooms, a method that implements a control resulting in a substantial upgrade in the dynamic behavior of a specific vehicle or robot, constitute examples of methods dealing with information associated with physical magnitudes, respectively: seismic data, image data and movement sensor measurements.

Methods involving encryption or data compacting may

also be deemed to constitute inventions, even if referring to abstract data, when addressing technical problems such as data security and optimization of hardware resources, and not specifically the mathematical method. Thus, an encryption method using abstract data in a specific manner, and whose outcome is a virtual product (data protected by a security key) might be deemed to constitute an invention, as it solves a problem of ensuring the security of information transmitted through a communications channel.

### 2.3 Commercial, Accounting, Financial, Educational, Publishing, lottery or fiscal nature Methods

In general, a commercial, accounting, financial, educational, publishing, lottery or fiscal nature method might be implemented by a computer program. However, item III of Article 10 of the IP Law stipulates that schemes, plans, principles or methods that are commercial, accounting, financial, educational, publishing, lottery or fiscal nature related are not deemed to constitute inventions. The fact that this method is implemented by a computer program is irrelevant for the framing of such method under item III of Article 10 of the IP Law. Examples of creations that fall under item III of Article 10 of the IP Law include: business feasibility analyses, market analyses, auctions, consortia, incentive programs, point of sale methods (POS), fund transfers, banking methods, tax processing, insurance, patrimony analyses, financial analyses, auditing methods, investment planning, retirement plans, medical aid schemes, on-line purchase methods, air ticket sales methods over the Internet, among others.

Should the matter claimed be a method presenting financial, accounting, educational, publishing, lottery or fiscal nature stages, then this method will fall under item III of Article 10, not being deemed to constitute an invention. For example, an international fund transfer method (through a banking network or E-cash) whose functional steps include foreign-exchange and service fee calculations is not deemed to constitute an invention, as the financial steps of this method are so intrinsically linked to the object that it would not be possible to imagine its existence separately therefrom.

However, when some of the steps of the process fall under item III of Article 10 of the IP Law, it might be deemed to constitute an invention, provided that these steps are removed and the remaining matters can be applied in a technical field, producing technical effects.

An operating method for an automatic teller machine characterized by the stages of reading the user bankcard, identification and comparison of the password with the information on the card, provide a technical, non-financial solution for confirming the identity of the user. Thus, this method might be deemed to constitute an invention. Other solutions related to communication protocols, encryption applied to bank accounts or data format conversion may also be deemed to constitute inventions. On the other hand, the operating steps of an automatic teller machine, for the financial part of the method, such as the fund transfer method or the balance checking method, are not deemed to constitute inventions.

#### 2.4 Therapeutic or diagnostic methods for application in human or animal bodies

Method in which one of the described steps addresses a therapeutic or diagnostic procedure for application in human or animal bodies are not deemed to constitute inventions (item VIII, Article 10 of the IP Law).

A method for processing electrocardiograph signals that optimizes the calculation of non-stationary signals, allowing parameters to be obtained that may assist the physician in diagnosing the pathology, might be deemed to constitute an invention, as this method is not conclusive in terms of the outcome of the diagnosis, and might also not be considered as applied in human or animal bodies. Should the proposed method reach a conclusion on the diagnosis of the disease, but have no steps describing its application in human or animal bodies, it may be deemed to constitute an invention.

#### 2.5 Presentation of Information

Any computer-implemented creation comprised solely of its information content, such as music, text

or images, is deemed to constitute the presentation of information. Consequently, it falls under item VI of Article 10 of the IP Law. However, creations presenting technical functionality that are not mere presentations of information may be deemed to constitute inventions. The method associated with the functional aspects of a user interface that provides technical effects might be deemed to constitute an invention. For example, a mechanism that combines the number of mouse clicks with the selection of a specific on-screen object.

The matter addressed in the claim that defines a graphic interface where the icons are presented on the upper screen with a roll-bar on the right side, with no functionality, is deemed to constitute the presentation of information. On the other hand, a claim addressing a graphic interface associating personal annotations with segments of an electronic document through XML tags may constitute a technical solution that is open to patentability.

When a creation that generates coded information has a technical character, it might be deemed to constitute an invention. Moreover, if the encoded information has a functional and structural relationship to a recording medium, process or device, these can also be deemed to be considered invention. This is because the claimed object refers to the support, the process or the device presenting information, and not just to the presentation of the information. A data recording process with specific coding on a support (HD, CD, DVD, etc) or a recording process using volumetric support characteristics, thus enhancing the storage capacity, or a recording device (recorder) using these processes might be deemed to constitute inventions. However, a support comprised only of its information content falls under item VI of Article 10 of the IP Law. Other information on claims involving recording support is found in section 6.4.

### 3. PROCESS CLASSES FOR COMPUTER-IMPLEMENTED INVENTIONS

As set forth in the previous Section, it is concluded that there are three classes of processes related to

computer-implemented inventions. It must be stressed that, like any invention, the processes listed below must comply with the Industrial Property Act IP Law (Law N° 9,279/96) in order to be patentable, as well as Normative Act 127/97, achieving a technical effect and solving a technical problem that dismisses the possibility of awarding patents to purely abstract creations.

- i. Process using physical magnitudes to generate a physical effect or product

This class encompasses processes that work with physical magnitudes in order to attain the transformation or reduction of a product to a different state, or result in a new product. The fact that a process belongs to this class is an indication that this computer-implemented creation might be deemed to constitute an invention.

**Examples:** *temperature control of a kiln or furnace to transform a product; stabilization of the dynamic behavior of a vehicle during a pre-set course; an automatic transmission system in vehicles; print control; industrial machine control;*

- ii. Process using physical magnitudes to generate a virtual product:

This class encompasses processes working with physical magnitudes converted into digital signals, in order to transform these signals into a product stored on a device.

**Examples:** *the processing of data, representing physical characteristics (size, color, delay) generating a virtual product (video, music, image), image and audio treatment involving the physical magnitudes of amplitude and phase delay;*

- iii. Process using abstract magnitudes to generate a virtual product:

The processes included in this class work with abstract magnitudes, created within the process environment without representing physical magnitudes, in order to

transform a virtual product into another virtual product stored on a device.

**Examples:** *data compression, encryption, database management, data communication protocols.*

#### 4. ALGORITHM, ON-BOARD SOFTWARE AND TEXT PROCESSORS

The concepts of algorithms, on-board software and text processors are found recurrently in applications involving computer-implemented creations, and may prompt doubts regarding the framing of the creation under the items set forth in Article 10 of the IP Law.

##### Algorithm

An algorithm is deemed to be a sequence of logical steps to be followed for solving a specific problem. According to this definition, an algorithm consists of a method or process, and must consequently be claimed as such. In order to constitute an invention, this method or process may not fall under the items set forth in Article 10.

For example, an algorithm (claimed as a method) that stabilizes the movement of a robot arm through control techniques is intended to solve a technical problem, producing a technical effect, and is deemed to constitute an invention. However, an algorithm that is intended to merely solve a mathematical function is deemed a mathematical method, and is consequently not deemed to constitute an invention, as it falls under Article 10 of the IP Law.

##### On-board software

The concept of on-board software that has been adopted addresses a computer program that controls the behavior of a dedicated device. In this context, both the functionality associated with the behavior of this device might be patented as a process (provided that this process is deemed to constitute an invention), just as the dedicated device might be patented in the form of a product. However, the computer program is not patentable, as it is not deemed to constitute an invention.

The fact that a creation is onboard does not constitute a definitive criterion for its exclusion from Article 10 of the IP Law, as a method associated with the behavior of the device may not be deemed to constitute an invention. However, if the contribution to the state of the art is encompassed by the structural characteristics (rather than in the functional aspects) of the dedicated device, it might be open to patentability, even if the method is not deemed to constitute an invention.

### **Text processors and processing**

Text processors are deemed to consist of the software or computer program used to edit texts. As a computer program, text processors are not deemed to constitute inventions as they fall under item V of Article 10 of the IP Law.

On the other hand, text processing is deemed to constitute a process applied to a text, and might be deemed to constitute an invention, similar to an audio or video processing method. For example, a text compression method that uses statistical information to represent the text in a more efficient manner is deemed to constitute an invention. However, the text correction method, even if claimed as a set of linguistic rules, is not deemed to constitute an invention under item II, Article 10 of the IP Law, as it constitutes a purely abstract concept related to the construction of the language as such.

Text processing methods that introduce technical effects implemented through text processors may be deemed to constitute inventions. For example, a word search method in a text processor using indexes, following a specific methodology that can provide faster and more efficacious results, might be deemed to constitute an invention.

## **5. PATENTABILITY CRITERIA**

### **5.1 Novelty**

For the purposes of examining the novelty of applications for patents of computer-implemented invention, the same rules are applied as for the

examination of novelty in any patent of invention.

### **5.2 Inventive Step**

Pursuant to Article 13 of the IP Law, “the invention shall be taken to involve inventive step when, for a person skilled in the art, it does not derive in an evident or obvious manner from the state-of-the-art”.

The fact that the invention is solving new technical problems and attaining new functionalities is an indication of inventive step. Even when the technical problem is not new, it is nevertheless possible that inventive step may be present. An computer-implemented invention for a product / process formerly run by specific hardware does not present inventive step, when the outcomes are merely equivalent.

Furthermore, the mere automation of an existing manual method (that involves only human agents) by a computer-implemented invention is also not endowed with inventive step. Mere automation is understood as a direct link between the manual and automated method.

A method is deemed to be known at the state of the art when comprised of blending compound X with compound Y. An application claiming an inventive industrial robot consisting of gears A, B, and C, which allows this process to be automated might be patented. Furthermore, the functioning method on the robot and the manner in which the elements that constitute the robot must interact in order to implements this blend might be protected, provided that it is deemed inventive. In this case, the protection conferred on this method addresses the operability of this robot, rather than the blending method known at the state of the art. Consequently, this does not constitute protection for mere automation, but is instead deemed to be inventive compared to the state of the art. However, a claim for a “method implemented by a robot characterized by blending compound X with compound Y” might not be protected, as the claimed method is not deemed to be inventive, as it constitutes the mere automation of a method that is already known.

For a CAD program that, based on a list of electronic components, defines the best route for conduction wires on a printed circuit board that carries a desired electronic circuit, a claim addressing the routing method for these paths based on the component hierarchy and optimizing the path constitutes a matter open to patent. The patent awarded must thus refer to the functionality attained by the hardware assembly and process implemented by a computer program that is responsible for the technical effect attained, rather than a computer program, even if all the hardware described is already found at the state of the art.

For the purposes of inventive step, technical effects intrinsic to the computer-implemented invention must be taken into account. Indirect technical effects are attributes of the computer system, rather than of the invention. Some of the technical effects attained are more the outcome of the qualities of the computer used rather than resulting from the invention, particularly with regard to processing speed, capacity to process large quantities of data and the uniformity and accuracy of the results. Thus, it is necessary to distinguish the technical effects achieved by the invention from the legacy technical effects handed down by the computer system used.

### 5.3 Industrial application

Computer-implemented inventions may be claimed as methods and / or products. The fact that a method is implemented by a computer program does not undermine the possibility of its industrial application. Consequently, the same rules are applied to the examination of an industrial application for any patent of invention.

## 6. STRUCTURE OF A PATENT APPLICATION FOR AN COMPUTER-IMPLEMENTED INVENTION

### 6.1 Title

The title must be concise, clear and accurate, identifying the object of the application and listing the categories of the claims presented. Expressions or words such as:

software, computer program, method of doing business, therapeutic method, and financial method, which fall directly under the constraints set forth in Article 10 of the IP Law are not accepted.

### 6.2 Specification

The description of the invention must be clear and sufficient, whereby a person skilled in the art could reproduce the invention. Small portions of the source code may be presented, if deemed useful for understanding the invention.

It is of fundamental importance that the state of the art deemed relevant is described, highlighting the technical problems in a clear and accurate manner. Next, the objectives of the invention must be defined and the solution proposed for such problems, or limitations for which no solution has yet been found, must be necessarily set forth in a clear, convincing and detailed manner.

Except when a respected technical term in Portuguese is found in common use among persons skilled in the art, technical terms or abbreviations in a foreign language should not be translated. Thus, terms that are usual at the state-of-the-art, such as, for example: bitmap, boot, buffer, byte, cache, CDMA, default, desktop, dial-up, drivers, firewall, host, HTML, login, hub, mouse, online, pixel, plug-in, prompt, QPSK, RAM, among others, must not be translated. Once such words develop the corresponding terms in Portuguese that are commonly used at the state-of-the-art, they are preferred. Other terms already in common use must be used in Portuguese, such as browser (*navegador*), bus (*barramento*), device (*dispositivo*), database (*banco de dados*), floppy disk (*disquete*), hard disk (*disco rígido*), multimedia (*multimidia*), network (*rede*), password (*senha*), router (*roteador*) and switch (*comutador*), among others.

### 6.3 Drawings

Drawings are optional, although, if applicable, a computer-implemented invention may be described in its main blocks in terms of their functionalities,

meaning the flowchart of inventive steps of the method implemented by computer programs must be presented through key words and / or brief sentences presenting these functionalities, such as for example: “Has the user inserted the card?” For a better understanding of the invention, drawings must thus be presented that provide a general overview of the system in physical terms, with flowchart describing its main functionalities and data structures and, should the invention involve a user interface, some of the main presentation screens.

## 6.4 Claims

For computer-implemented inventions, claims may be presented for processes (method) or products (system, device or equipment associated with the process), necessarily indicating clearly the type of claim in question.

A process claim must address a set of actions and consequently may not contain the expression “means to” when such expression may be construed as a “device for”. A product claim must address the technical means used, and not a set of actions. Otherwise, both claims will lack clarity in terms of the claim category. It must be stressed that the expression “means to” does not necessarily result in a lack of clarity and poor definition due to the simple fact that it is included in a process claim (method). For example, an independent process claim addressing a “wireless data transmission method” may contain among various sub-stages “A, B, C, D, etc.” a sub-stage “B” in which “the data are shared through a Code Division Multiple Access (CDMA) network that includes the means to compress data using symmetrical arithmetic coding algorithms;”, with a simple fact of this sub-stage containing the expression “means to” does not automatically result in the claim being undefined or not clear, as a person skilled in the art might easily discern that the matter for which protection is requested is limited to the use of the “means” handling the data compression.

Claims may not contain segments of source code, in order to avoid problems caused by doubtful interpretation under item V of Article 10 of the IP Law.

Computer program claims are not accepted, as this wording falls directly under item V of Article 10 of the IP Law.

Claims involving matters addressed by Article 10 are not deemed to fall under this Article merely because they describe that the function or desired outcome is achieved by the use of, for example, a computer or a computer component (such as a processor) or through the Internet.

Some claims do not describe a solution of the problem, but instead describe the problem itself. Such wording should not be included in the claim Chart, as the protection must address the proposed solution, rather than the problem presented.

### 6.4.1 Process Claims

Process claims must be written as a sequence of steps, describing the functionalities attained. For example: “*method for the automatic control of gears characterized by the steps of measuring the engine speed, generating a slip reference signal, comparing the engine speed and the entry speed, controlling the gear action*”. Such claims must be worded as a method or process, as both refer to a set of steps for attaining a technical outcome.

### 6.4.2 Product Claims

Product claims must be written in terms of their physical elements (devices, memory etc.) or in terms of means plus functions. “Means plus functions” are considered as expressions in which the construction contains means (modes) or devices for performing such functions, without defining the specific technical characteristics thereof. For example, “means for coding”, “device for coding”, “coder for coding”. It must be stressed that a product claim must always refer to its physical elements, and not just to its functions. In cases where the invention refers to different items of equipment working together, the invention must be defined in a system claim, clearly explaining the relationship between such items of equipment and their functions.

A device associated with a computer-implemented creation is not patentable, when defined in the form of means plus functions, in which the entire contribution comes from an aspect addressed by any item of Article 10 of the IP Law. Thus, a device for calculating the solution to a differential equation comprised only of the means for performing the fourth order Runge Kutta method is not endowed with patentability as its contribution lies in the mathematical method, which is encompassed by item I of Article 10 of the IP Law. A device that merely handles the numerical implementation of a breakdown of a specific function through the use of Transformed Wavelet is similarly not endowed with patentability, also addressed by Article 10 of the IP Law.

However, if a device associated with a computer-implemented creation that includes an aspect addressed by Article 10 of the IP Law is also characterized by its physical components which, through their interconnection or specific technical characteristics perform such functions or methods, this might be open to patent. In this case, it is necessary to ascertain whether there is a contribution in the device characteristics. For example, a pre-paid tariff-charged utility consumption manager that is connected to a remote-controlled device in order to allow the monitoring and control of utilities thereby (water, gas, electricity), although presenting a monetary aspect, namely tariff charges, this is a control system deemed to constitute an invention.

Furthermore, a claim for a device that implements a method falling under Article 10 of the IP Law contains in its descriptive part only the structural characteristics of the device or defines the interconnections between devices might also be open to patent.

The use of terms such as “means to” in the product claim category must not be used when resulting in a lack of definition and clarity. In this case, the claim must specify technically the means claimed, instead of using the expression “means to”, and must include numerical references to the drawings.

If any absence of grounds is noted, the use of the

expression “means to” to improperly expand the scope of the protection is forbidden. For example, the use of the expression “data storage media” may not be allowed when the specification defines that, in order for the proposed invention to attain the desired outcome, it is necessary to use a “DRAM memory”, and there are no reasonable grounds for assuming that the invention might function adequately with any type of memory.

When a system claim cannot be defined in structural terms, it may be described in terms of its functionality.

**Example:** “*system for the automatic control of a mechanical gear change transmission, comprised of a fuel choke and a mechanical gear change transmission characterized by the fact that: i) device to detect the effective gear ratio use during each start-up operation; and ii) memory to store the effective gear ratio used during each start-up operation*”.

#### 6.4.3 Support Claims

A memory or recording media claim, characterized by contain a computer program is not deemed to constitute an invention as its contents fall under Article 10 of the IP Law. For example, claims of the following type are not accepted: “*Recording support read by a computer with a recorded data structure characterized by the above-mentioned computer program, comprised of structures A and B*” or “*recording support read by a computer characterized by a computer program*”. However, memory read by a computer with recorded instructions for running on a computer and encompassing the X, Y, Z steps is deemed to be patentable, if such steps do not fall under Article 10 of the IP Law.

A claim addressing physical support (CDROM, ROM, etc.) containing a mathematical, financial, commercial, accounting, educational, , therapeutic or diagnostic method (or a computer program implementing it) does not constitute an invention under item I of Article 10 of the IP Law, as the method is already addressed by this item. However, claims are accepted when referring to a physical support characterized by the fact that it contains the recording of the method addressed

in a previous claim, provided that this method is deemed to constitute an invention. In this case, the physical support is not considered to contain a mere presentation of information or computer program.

Should an invention address the physical support itself used to record data, it must be claimed through its physical characteristics and not by the content of the information recorded thereon. Furthermore, supports already known at the state-of-the-art, such as CD, DVD, Blu-ray, pen drive, etc., with an alteration to the data structure, may be deemed to constitute inventions. The use of the expression “means of recording” in the claim is not accepted, as it makes the claim too broad-ranging and ambiguous, as it refers to both the recording method and the physical medium (recording support).

## 6.5 Summary

The Summary is an effective tool when searching documents, and must allow fast and correct location thereof. The Summary must be concise, presenting the main technical characteristics of the invention and must indicate the technical sector to which it belongs, allowing a clear understanding of the problem and the proposed solution. When illustrated by drawings, the Summary must contain reference marks in brackets, corresponding to the technical characteristics.

## 7. DEFINITIONS

Device claim – a product claim category that is a machine or a device described in terms of its functional capacities or structural characteristics, used to manufacture a product or perform a non-manufacturing activity or process.

**Computer** – machine or equipment able to process data automatically by a program and generating results. It usually consists of input, output, storage media and arithmetic, logic and control units.

**Firmware** – computer program recorded in non-volatile memory, for example EPROM, E2PROM (EEPROM) or FLASH memory that handles lower level routines in

a microprocessor system, such as BIOS routines, for example.

**Flowchart** – a graphic representation of a specific workflow or process.

**Hardware** – physical components, peripheral devices and items of equipment that constitute a computer system, for example: boards, CPU, drives, modem, etc.

**Internet** – set of networks interconnected by gateways and protocols that allow it to function as a single virtual network.

**Methods of doing business** – related to commercial, business, accounting, financial, advertising publishing, lottery or fiscal nature methods listed in item III of Article 10 of the IP Law.

**Recording media** – Physical support, such as floppy disk, CD-ROM and DVD that can be read by computers, where the computer program or data are recorded.

**Protocol** – set of rules and formats used by two or more computers to exchange information between them.

**System** – set of units interacting among themselves in order to obtain result(s) that cannot be obtained by any of them working alone.

**Virtual** – what is done or simulated through electronic media.





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