

**NASSCOM<sup>®</sup>**

**FEEDBACK ON**

**DRAFT GUIDELINES FOR  
EXAMINATION OF COMPUTER RELATED  
INVENTIONS (CRI)**

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# FEEDBACK ON GUIDELINES FOR EXAMINATION OF COMPUTER RELATED INVENTIONS

## SUMMARY

NASSCOM is a global trade body with more than 1500 members, which include both Indian and multinational companies that have a presence in India. NASSCOM's member companies are broadly in the business of software development, software products, consulting services, Business Process management (BPM), Engineering R&D (ER&D), e-commerce & web services, and animation and gaming. NASSCOM's membership base constitutes over 95% of the industry revenues in India and employs over 3 million professionals. All the leading Indian software companies as well as emerging companies in the field of software development are our members.

The software industry is a global success story from India, expanding vertical and geographical markets, attracting new customer segments and offering a wide spectrum of services over the years. The Industry addresses global markets through 580 global delivery centres across 75 countries

The estimated aggregate revenues for FY2013 is USD 108 billion with exports exceeding USD 75 Billion, according to our Strategic Review, 2013.

The sector is re-inventing their business models and increasing focus on creating Intellectual property around their solutions, rather than purely focusing on delivering services at lower costs. The Indian IT/ITeS industry is leading the drive to design solutions incorporating SMAC (Social, Mobile, Analytics and Cloud) to offer innovative answers.

The industry is at a cross road of a remarkable journey so far and a future that demands high value services and products. The crucial differentiator for the Industry would be its ability to deliver IP-driven multi-platform enterprising solutions.

The draft guidelines related to computer related inventions circulated by the Indian Patent Office have come at an appropriate time. The number of patents filed by Indian IT organisations grew at CAGR 78% over the last 3 years Cumulative patent filing by top 3 Indian IT firms was 150 in 2009, and this has increased to 858 in 2012.

We appreciate the Patent Office's efforts to articulate and scope the applicability of patent protection available to computer related inventions. In the past, the scope of exclusion to computer program in the Patent (Second Amendment) Bill 1999, was substantially modified by the Parliament of India to restrict the exclusion only to the stand alone computer programs, i.e., "computer programs per se." The intent was to allow patents related to computer programs if they are inventions and associated with some technical character and not allow patent protection of standalone programs. We hope that through this consultation the prevailing evaluation methods for computer related inventions will become more efficient and encourage the Industry to file and protect their IP.

However, we have some major concerns related to the draft guidelines. Overall, they appear to be restrictive and may be a hindrance to grant of patents in India, even when such rights would be granted in other countries like Europe, Japan etc. This will not only erode the competitiveness of companies with primary business in India, but over a period of time discourage innovative activities from being carried out in India.

Our concerns are primarily related to the following:

1. The draft Guidelines have interpreted and applied Section 3(k) in a more restrictive manner to conclude as to what is patentable.
  - a. The interpretation of Section 3(k) by the IPO on the basis of the re-instatement of the original phraseology of Section 3(k) by the India Patent Act 1970 (as amended) is restrictive in nature. ***The subject matter eligible for patentability as explained in the Guidelines is inconsistent with the law.***
  - b. Draft Guidelines attempt to define the scope of the different sections (section 3(k)-(n)). The guidelines prescribed in this Draft for examining whether a claim is directed to a “computer program *per se*”, are not in line with the understanding of the Indian Industry at large, and appear to be contrary to the interest of the software industry.
  
2. The Guidelines seem to imply that for computer program related claims to be allowed, the software needs to be “machine specific”.
  - a. New ideas/methods *per se*, which achieve for example increased efficiencies, need to be protected, and the means to achieve this is a Patent. The expression of this idea in terms of code developed may be protected by copyright, but the underlying idea needs protection as well.
  - b. This will unfortunately exclude patent protection for any computer-implemented invention designed to be interoperable across platforms, and not specific to a machine.
  - c. It will further ignore all innovations around virtualization where software applications become hardware independent, narrowing down possible claims.
  - d. In spite of the fact that the Section 2 (ffc) of the Copyright Act defines computer programs, several applications derived out of the computer programs and the effect those programs have on the system cannot be protected under the Copyright Act as the Copyright Act protects only the written code and not the invention underlying the code.
  - e. The ‘no new hardware-no patent’ approach if adapted would render all software based innovations non-patentable. This proposed approach is not used by any other major Patent Office such as EPO, JPO, UK IPO, for examination of CRIs.
  - f. Hence, several innovations in the field of computer science will be orphaned that cannot be protected under either Copyright Act or Patents Act.
  
3. Indian software companies operate in the International markets and are globally competitive. Patenting of computer related inventions should be objectively considered taking into account accepted practices across the world. Indian judiciary, including the Honourable Supreme Court and the Intellectual Property Appellate Board (IPAB) have always relied on the decisions given by common law courts, wherever the provisions of the law are similar. Similar provisions have been

addressed by the patent offices in other countries across the world should be considered relevant.

4. For computer-readable media claims and computer program product claims, the Draft Guidelines do not consider such inventions or claims patentable when the computer program is stored on a storage media, even though it is an invention and is capable of producing a technical effect. However, the same computer program if configured to perform the process is otherwise patentable when claimed as a process or a system.

In the absence of a patent protection for a computer program stored on a media, the inventor has no protection against an infringer who copies the computer program invention and distributes it on a computer-readable media in the market, since such an infringer would not directly infringe either system or method claims. For this reason, in almost all major jurisdictions like the US, the EU, Japan, Australia, Korea, etc., patent protection is extended to computer-readable media claims. By extending the protection to computer-readable media claims, patent protection can become more relevant to the way computer program is actually commercialized and infringed.

Implementing the proposed draft guidelines could impact Indian software related innovations where companies develop software to improve, for example, the technical performance of known communication networks or mobile phones or data centers. All these inventions will be denied patents unless the hardware itself is new.

Similarly, the IPO will also deny patents for inventions implemented by a novel computer program on general purpose computers, for example, for improving its memory performance or optimizing storage capacity of its HDD or reducing the access time of a data base or improving a testing time of an application.

We would request the Patent Office to carefully consider the implications and take into account suggestions from the Industry before finalizing the guidelines.

**The following section gives a detailed feedback on the sections of the Guidelines.**

## SECTION-WISE COMMENTS

### SECTION 2 –LEGISLATIVE HISTORY OF SECTION 3(K)-(N)

#### **Legislative History of Section 3(k)**

The 2002 bill was passed by both the Houses of the Parliament as Patent Amendments Act 2002, with the phrase 'per se' included in Section 3(k). JPC's suggestion

- To modify the phrase "computer program" in the exclusion list of the bill by adding "per se" to the phrase,
- That if the computer program is an invention it should not be denied a patent unless the claim is directed to a standalone computer program.

The acceptance of the phrase "per se" by both the Houses of the Parliament is clear indication of their intent that inventions related to computer programs are not to be denied patents to the extent the claims are not directed to stand alone computer programs.

Grant of patents from across countries are based on the following principles

- Patents are granted for new and useful products and processes and not for abstract ideas which are not in the form of any useful art.
- Patents are granted if the abstract ideas or principles are applied to invent a new and useful process or product.
- Patents are not given for mere discovery of laws of nature or natural phenomenon, but if these laws or phenomenon are applied to invent a new and useful art, then patents are granted.

It is therefore evident that a computer program by itself or computer program per se, like abstract ideas or principles, may be denied a patent, but a computer program which is capable of giving effect to a new and useful art should not be denied a patent. The intent of the parliament, while modifying the Patent (Second Amendment) Bill 1999, is reflected in upholding the practices followed all over the world.

## SECTION 3 – DEFINITIONS

3.4 Computer related inventions (CRI) – This term has been coined by the Patent Office merely as a short-hand for the purposes of the Draft Guidelines. The prohibition under Section 3(k) of the Patents Act, 1970 is limited to “computer programmes per se” and, if at all, efforts must be made to define only that term. We suggest that the draft guidelines should aim to outline the procedure for examination of any invention enabled or implemented by using only a computer program. Such inventions may be termed a “computer program implemented inventions or simply CPII”

3.7. Algorithms – The Draft Guidelines, while defining *algorithms*, relies on a general dictionary meaning. The definition considers *algorithms* as *processes or set of rules to be followed in calculation or other problem-solving operations*, especially by a computer. This definition is very expansive as it is not limited to just calculations, but extends to all “problem solving operations”.

Therefore, we are of the opinion that the definition of algorithm should be defined as “a procedure for solving a given type of mathematical problem.” This definition has been accepted by the US Supreme Court in the landmark cases.

Further, we are of the opinion that if the claim of the invention is directed to a new or an improved algorithm, the exclusion of 3(k) should apply. However, if a known or a new or an improved algorithm is applied to invent a new product or process, the exclusion should not apply.

3.11. Per se - The phrase *per se* has been not been described by the Patent Office in conjunction with the phrase *computer programs*. As per a combined reading of what constitutes a computer program, the phrase *computer program per se* should mean a set of instructions by itself or computer program by itself. This meaning is generally accepted even in the UK and before the EPO.

3.15. Technical Effect – At the outset, we note that though the term has been defined in one section of the Draft Guidelines, it has not been employed anywhere in the guidelines itself.

We suggest that the focus should be to identify the “technical effect” achieved by the invention and where any “technical effect” is achieved, the subject-matter should be considered patentable. Or, if it is established that the claim involves a technical advance, the claim is patentable as the guidelines itself recognizes that the technical advancement comes with technical effect.

3.17. Mathematical Method - The Draft Guidelines define mathematical methods to be acts of *mental faculty*. We suggest that mathematical methods should be defined as *processes or activities that are performed on numbers, and outcome of which are also numbers*.

Further, if the claim of the invention is directed to a new or an improved mathematical method, then only exclusion of 3(k) should apply. However, if a known or a new or an improved mathematical method is applied to invent a new product or process, the exclusion should not apply.

## SECTIONS 5 AND 6 – EXAMINATION PROCEDURE

The test for determining whether any invention falls within the excluded category as enumerated under section 3(k) of the Act, is provided in sub-section 5.4 and 6.1. The Draft Guidelines provide a standard which aims to cover both computer programs per se and algorithms in the same way.

The Draft states that the exclusions in Sections 3(k)-(n) cover those inventions that do not possess such “technical character” and hence, are not patentable. We do not share this view for the following reasons.

1. The Patent Office has taken the stand that a computer program loaded on a general purpose known computer or related devices, would still be considered as “computer programme *per se*.” The only justification provided for this conclusion is that it is justified by the “spirit of the law”. Instead, the Patent Office believes that claims directed to new hardware system, will still be allowed even if the computer programme forms part of the claims. In this respect, Examiners have been directed to carefully consider as to how integrated the novel hardware is with the computer programme. The Patent Office also stipulates that “whether the machine is programme specific or the programme is machine specific is important” to ascertain if the prohibition under Section 3(k) will apply.
2. The Draft Guidelines does recognize that all claims having a “technical character”, i.e., having technical effects, are patentable. However, the guidelines assumes, without any reasons, that only those computer programs that are integrated with a *novel hardware* or computer are not “computer programs per se”, and therefore only such claims are patentable. Therefore, the patent office concludes that any computer program integrated with a known hardware or a known computer does not contribute to a technical effect. There is no basis for such a conclusion.

This principle would yield unwarranted results. For example, a mobile phone implements a new feature, such as displaying on the screen a route-map to the destination, by integrating the mobile phone with the network and the GPS system. Although, the change is implemented by a novel computer program using a known network GPS system, and mobile device, such an invention will not be given a patent. Just because, the creativity or a technical effect is implemented by means of a computer program, the invention is denied a patent. If the same feature is implemented by an electronic circuit, it would qualify for a patent.

3. When software that is new/novel and also inventive runs on an old hardware, the new software makes the hardware function in a new or different way that is already known in the art, thereby allowing one to interpret that the hardware itself can now be considered new when it is in operation. Similarly for most of the embedded systems like navigation systems, mobile phones etc., the hardware is standard and remains same in most of the inventions. There are many inventions which disclose new methods of operating/controlling these devices using software. In such cases, will the

method be denied as patentable even though the complete hardware is already known?

We request that the Patent Office should look into the fallacy of the test proposed for patentability in light of this example

*Recent developments in Electronic Control Units (ECUs) can provide enhanced efficiency to an internal combustion engines, and is related to how the ECU is programmed to control ignition, fuel injection etc.. The ECU however is a known piece of hardware. Such systems would be denied patents under section 3(k) considering that the guidelines broadly defines exclusion only for the processes or systems which use novel hardware.*

Therefore a novel hardware element may not be required for the execution of the software which is developed, unless the new software developed when run on the hardware makes the hardware function in a different way, will be considered as resulting in a new hardware and hence granted patent. .

The effort involved in patenting a computer related invention will have to be a combination of inventions (which are diverse in many cases) – software and an additional effort to invent a new hardware element in order to apply for patent protection (as per the revised draft manual). This is not a level playing field.

The new ideas/methods per se, which the developer comes up with to achieve the above, need to be protected, and the means to achieve this is a Patent. The expression of this idea in terms of code developed may be protected by copyright, but the importance is that the underlying idea needs protection as well, which if not protected this will lead to denial of rights to an inventor.

We, therefore, suggest that every claim should be examined on a case to case basis as to whether it produces technical effect or not. If the answer is yes, it is patentable. A claim for an invention implemented by a computer program on a known hardware or known computer wherein the computer program contributes to the process or a system a technical effect, the claim for the invention should be patentable. Similarly, a computer program product that has computer program encoded on it to implement such a process or which form a part of such a system may also be capable of contributing to a technical effect and, therefore, should also be patentable.

### **Suggestion**

- I. The following test be considered for examining on a case to case basis the computer program implemented or enabled inventions by construing the scope of claims in the context of a specification:
  - a) if an invention as claimed is directed merely to a method of doing a business, the invention should not be given a patent;
  - b) if an invention contributes only to a new or an improved mathematical method or to a new or an improved algorithm, then the exclusion of 3(k) should apply; however, if a known or an improved mathematical method

- or algorithm is used for inventing a new art or process involving a technical contribution, exclusion of 3(k) should not apply; and
- c) if an invention contributes only to a new or an improved computer program without contributing to any known art or process, the 3(k) exclusion should apply. Else the subject matter is patentable.

II. All the illustrations and flow chart mentioned in the draft guidelines show the cases which are not patentable. There need to be also examples of what type of computer related inventions are patentable from patents granted in the past. For example,

**LG 2010**

- Method of exchanging user messages among interactive disk players through a server.
- Novel combination of hardware features viz. content server, first interactive disk player, second interactive disk player and network to perform an inventive step of changing user messages among players reproducing same interactive disk with a time interval, wherein inserting a playback time into messages and comparing the playback times to identify whether the playback times are closer to each other add to technical features of the invention.
- The step of comparing the playback times and sending received messages to second player if the playback times are found closer enough is executed by the content server which correlate with subordinate software features and other hardware features to realize the invention, hence allowable.

**TELECOM ITALIA(2011)**

- device and method for centralized data management and access control to databases in a telecommunication network. The device stored personal profiles and control access thereof from remote entities and comprised of multiple databases and interfaces for managing and centrally controlling the access. The integration of plurality of databases and logical centralized management of information was identified inventive.
- This claim makes clear reference to devices, and more importantly provides use of each of the devices, when dealing with databases with its technical features e.g. server, processor, memories etc. together with their couplings so as to provide for the workability of the inventive device.
- The claim is not rejected on the grounds of software “per se” as it included the needed transformation of the database.

## PROPOSED TEST FOR PATENTABILITY

The Draft Guidelines should clearly distinguish between cases where multiple exclusions under Section 3(k) may be involved (such as computer programs to implement business methods) from cases where only the exclusion “computer programs *per se*” is involved. In the former scenario, the Guidelines must take the approach as laid down by the IPAB in the *Yahoo* decision. The Patent Office may recollect that the IPAB in that case had ruled that business methods, even if implemented using a computer and a computer program, will nonetheless be considered as non-patentable. This approach applies only if the real contribution lies in a new or improved method of doing business, or new or improved algorithms, or new or improved mathematical methods; such claims should be denied the grant of patents.

In the latter scenario, i.e., computer related inventions which do not involve contributions only to in a new or improved method of doing business, or new or improved algorithms, or new or improved mathematical methods, but to a solution of a technical problem, the Draft Guidelines should consider such inventions outside the exclusion of the word “*per se*”.

### **Suggestion**

The scope of the “*per se*” limitation in Section 3(k) is not to be construed as referring to a requirement of “novel hardware”. Instead, this should be changed to cover any hardware features, irrespective of whether the features are novel or not.

## FORM AND SUBSTANCE TEST

Under 6.1, the guidelines discuss the complexity faced with examining whether a claimed invention relates to a computer program *per se* or an algorithm. It equates all method claims and system claims with a means performing a series of steps, as claims towards algorithms.

In coming to this argument, the guidelines consider any sequence of steps performed by a computer to be an algorithm and hence come to the conclusion that any method or system performing a series of steps, even though having a technical effect, would come under the purview of algorithms. This is contrary to the practice in other jurisdictions, such as EP and US, where the ordinary meaning of an algorithm is taken as a procedure for solving a mathematical problem that frequently involves repetition of an operation. Hence, where the claim is not directed towards solving a mathematical problem but relates to a technical problem and produces a technical effect, it is not considered to be an algorithm. Such a stand would also be in line with the definition provided under 3.7 of the guidelines where the algorithm definition is limited to rules or steps performed for calculations or other problem-solving operations, by a computer.

Under 6.2, Applying substance over form test is acknowledged as being acceptable, i.e., the substance of the invention is to be given greater importance over the form in which it is claimed.

However, while assessing the substance, merely looking out for a novel hardware and nullifying technical effect produced by a novel computer program would lead to ignoring the advancements created due to innovative software. By this approach, the IPO is disregarding the approach followed in EP/UK where providing a technical solution to a technical problem where the solution shows a technical effect on the underlying system, irrespective of the fact that the technical advancement is provided by the hardware or the software, is considered sufficient for patentability.

## CONCLUSIONS

Inventions implemented by a computer programs form the heart of innovations that are created today and software inventions play an important role in countless products and systems.

The patent ecosystem in India should nurture the software industry by adopting a receptive approach, to establish a culture of innovation. This will assist the software industry to prosper by developing new products, have improved technical growth, and become a leader in innovation. Most Indian companies are obtaining patent protection for their products in the US and EU jurisdictions,

For the IPO's reference, although some of other major jurisdictions also exclude "computer programs as such" (e.g. Europe and China) or require the hardware portion to be recited in claims of software-implemented inventions (e.g., Japan), none of them has adopted the requirement of "*the hardware portion has to be something more than general purpose machine*".

The IPO should reconsider its interpretation on "computer program per se" under Section 3(k) of the India Patent Act 1970 (as amended). Whether a computer-program-implemented invention is a "computer program per se" should be determined according to the definition of inventions under Section 2(j) of the India Patent Act 1970 (as amended) and technical effect/technology field under Section 3.15 and 5.4.1 of the Guidelines.

It is the invention as a whole, other than the hardware portion, that should have something more than a general purpose machine. Replacing the requirement of "hardware portion has to be something more than general purpose machine" with a technical effect/technology field requirement will better comply with the definition of inventions under the India Patent Act 1970 (as amended), better comply with the trend of technology development, better improve the development of the Indian software industry, and better tally with the practice of other major jurisdictions in the world.