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RECENT DEVELOPMENTS AND CHALLENGES IN THE PROTECTION OF
INTELLECTUAL PROPERTY RIGHTS
NEW DEVELOPMENTS IN BUSINESS METHODS AND SOFTWARE PATENTS

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INTRODUCTION

1. I am happy to be here in order to talk about the recent developments and challenges regarding the patent protection of business methods and software inventions. This is a topic that continues to generate much discussion around the world. Indeed information technology has become the latest buzzword of the new millennium.
2. In the past few years the world has witnessed the beginning of a revolution in the way people around the world communicate with each other, process and disseminate information, educate each other, conduct business and so on.
3. Business methods and software patent protection is a basic element, along with the continued growth of the Internet and e-commerce, of our transition into an innovation-driven, knowledge-based economy.
4. As more people begin to have access to the Internet, and as more businesses begin to see the value of selling their goods on it, we are beginning to realize the importance of protecting Internet-related inventions.
5. I should like to begin with an overview of the eligibility requirements for the patent protection of business method inventions in the United States. I shall then discuss the additional patentability requirements for eligible inventions and the advantages of vigorous protection of these inventions. I should also like to talk about some of the administrative challenges arising in patent offices the world over, and the recent developments in the USPTO response to these challenges.

PATENT ELIGIBILITY IN THE UNITED STATES

6. There is some confusion as to what constitutes a business method invention or a software invention vis-à-vis other method or process inventions. Indeed the USPTO does not specifically define the term business method, nor is there any United States classification in this regard.
7. Business method is in fact more of a generic term that has been used to describe many different types of process and apparatus invention. As such, the USPTO classifies business methods according to the particular fields in which the invention lies.
8. Therefore, so-called business methods, including finance-related business method inventions, are treated in the same manner as any other process or method invention under the United States patent laws.
9. Let me now describe the basics of our patent law and its applicability to this emerging yet somewhat controversial subject matter. First I would like to note that, unlike in some other patent systems, there is no “technical effect” or “technical contribution” requirement for patent eligibility under United States law.

10. Our system is based in the United States Constitution. The Constitution authorizes our Congress to “promote the progress of . . . the useful Arts by securing for limited times . . . to inventors the exclusive right to their discoveries.” Therefore, in order to be eligible for patenting, a claimed invention must fall within the category of the “useful arts.” This concept forms the foundation for our Federal patent law.

11. The United States patent statutes were implemented by our legislature by virtue of their authority under the Constitution. Section 101 of Title 35 of the United States Code (35 USC 101) limits the availability of patent protection to any “new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof.”

12. The threshold inquiry, therefore, for determining whether the claimed subject matter is statutory, is whether an invention is new and useful and fits into one of the enumerated categories of: process or method; machine or apparatus; manufacture; composition; or whether it is an improvement on any of those.

13. Our courts have recognized the breadth of this inquiry. The United States Supreme Court, in the landmark case of *Diamond v. Chakrabarty*, 447 US 303 (1980), acknowledged that the Congress intended the statutory subject matter under our patent law to include “anything under the sun that is made by man.”

14. There is caveat to this rule, however. In the case of *Diamond v. Diehr*, 450 US 175 (1981), the Supreme Court also identified three specific areas of subject matter that are not patentable. Those are (1) laws of nature, (2) natural phenomena and (3) abstract ideas.

15. Therefore, in order to be eligible for patenting, a business method invention must be more than a manipulation of an abstract idea.

16. The USPTO and the United States courts analyze the claimed business method invention “as a whole,” then investigate whether the claimed invention has a practical application that produces a useful, concrete and tangible result in order to determine whether it embodies patentable subject matter.

17. The analysis resulted from a number of cases decided by United States courts in the 1990s, culminating in the case of *State Street Bank v. Signature Financial*, 149 F.3d 1368 (Fed. Cir. 1998). The most significant rulings came from our Court of Appeals for the Federal Circuit, or CAFC. The CAFC is a Federal appellate court of special jurisdiction that was created to hear appeals from all patent cases. This was done in order to create stability in the interpretation of our patent law.

18. I should like to mention two key findings of the CAFC that relate to business method inventions.

19. First, *in re Alappat*, 33. F.3d 1526 (Fed. Cir. 1994), in 1994, the CAFC found that inventions including mathematical formulas or algorithms are not unpatentable if they contain otherwise patentable subject matter.

20. This was important because a pure algorithm or formula would be considered an abstract idea and outside the scope of our patent laws. The court found however that the mere presence of an algorithm as an element of a claimed invention does not exclude the entire invention from patent eligibility.

21. The key question to be answered is whether the claimed invention “as a whole” is an abstract idea or a practical application providing a “useful, concrete and tangible result.”
22. However, the best-known case with regard to business methods is the case of *State Street Bank v. Signature Financial*. The *State Street* case involved a patented data processing system that transformed discrete dollar amounts into a final share price by manipulation of data.
23. The CAFC found that the data processing system in question constituted a patentable invention because it produced a “useful, concrete and tangible” result and therefore was not merely an abstract idea or a manipulation thereof.
24. *State Street* expressly rejected the notion that a “business method exception” existed in US patent law. In doing so, the CAFC emphasized that business methods should be treated similarly to any other method inventions. This decision also laid to rest any notion that inventions deemed to be “business methods” according to whatever criteria would be excluded from patentability on that basis alone.
25. While this practical application test is relevant to the topic of business methods, the same criteria are in fact applied across the board to inventions in all categories when patent eligibility is determined. However, the criteria govern only whether an invention is patentable subject matter.
26. The fact that business method inventions, which provide a useful, concrete and tangible result, are recognized as eligible for patent protection does not mean that all such inventions will be patented.

PATENTABILITY OF ELIGIBLE BUSINESS METHODS AND SOFTWARE INVENTIONS

27. Once a business method invention is considered eligible for patent protection, it has yet to meet the other requirements of patentability under US law, including: utility, novelty, and non-obviousness.
28. However, those other requirements determining patentability need only be addressed if the invention is eligible for patent protection according to the standards that I have just mentioned. Utility is a statutory requirement of US law. It requires a credible assertion of specific and substantial utility that attributes “real world value” to the claimed subject matter.
29. Then, of course the business method invention must be novel and non-obvious in relation to the prior art, and must comply with all the formal requirements in order to be patented under US law, as in the case of any other invention.

FILINGS

30. As I mentioned previously, the *State Street Bank* case confirmed the patentability of the business method claim under US patent law. In doing so, the Federal Circuit created a new

awareness of the business method claim as a viable form of patent protection. This has had a dramatic effect on the number of business method applications filed with the USPTO.

31. Our classification area 705 includes inventions within the subject matter area of computer-implemented processes related to e-commerce, the Internet and data processing involving finance, business practices, management and cost/price determination. This covers much of what is commonly referred to as business method inventions.

32. In the fiscal year 1998, the year of the *State Street* decision, there were about 1,300 filings in US class 705. Then in 1999 there were approximately 2,600 filings and in the 2000 fiscal year that number grew to 7,800. So the field is growing rapidly.

33. However, I have to add that this represents only a fraction, approximately 2.6 per cent, of the more than 290,000 patent applications received in the USPTO in the 2000 fiscal year.

HISTORY

34. While there have been many developments recently in the policies and practice of the USPTO with regard to these inventions, the fact remains that method patents, including those in the financial and business fields, date back to the very beginning of our patent system.

35. Our first patent statute actually dates back to 1790, having been passed by the first US Congress. Only nine years later, the very first financial patent in the US was issued in 1799 for an invention for “detecting counterfeit notes.”

36. The automating of financial or management business data in the US did not start to be patented in the 1990s: in 1889 Herman Hollerith obtained a patent on a method for tabulating and compiling statistical information for businesses.

37. This patent and other related patents helped his fledgeling “Tabulating Machine Company” to survive and thrive. In 1924 the name of Mr. Hollerith’s company was changed to International Business Machine Corporation (IBM). Hollerith’s methods for processing business data, and the related punch cards, were used until the birth of the personal computer.

ADVANTAGES OF VIGOROUS PROTECTION

38. The United States patent system encourages innovation and allows for the growth of emerging technology that could not have been foreseen in the past. For over 200 years, it has allowed American industry to flourish.

39. Currently, computers and the Internet have created a new information age giving people new ways of working, shopping, learning and doing many other things that were never previously available.

40. This has led to an increase in investment and development in the field of computer-related processes, particularly with regard to electronic commerce and the Internet. It is only natural that this has led developers in these areas of emerging technology to seek patent protection for their innovations.

41. After all, patents are vitally important for the protection of investment in new research and ideas. This encourages competition and the development of ways of doing things in an ever more innovative manner.
42. The protection of software and business method inventions is important today, just as the protection of inventions relating to mechanical devices and industrial processes was important in the past. Arbitrary hurdles to patentability, based on the terminology of the patent, may raise barriers to otherwise deserving inventions, particularly in emerging fields of innovation.
43. As I mentioned earlier, the USPTO does not provide a particular classification or definition of the term business method, nor is any special treatment given to these types of method invention. They are considered simply another type of “process” under our patent statute.
44. Up to now, attempted definitions of what is and what is not a business method have been unclear at best, and seem to include a lot of subject matter that is traditionally undisputed as patentable subject matter.
45. Moreover, dividing claim limitations into problem and solution requirements, or other similar analyses, may cause a loss of protection for inventions that, when considered in their entirety, are deserving of patent rights.
46. Any attempt to relegate so-called business method inventions to a less significant status, or to analyze them differently from other types of invention, would therefore be likely to make deserving inventions go unprotected and deserving investment go unrewarded.
47. However, some have suggested that any increase in the issue of business method patents might stifle innovation and investment generally. Others are concerned that patents may have been granted that are overly broad or not truly novel. While these concerns relate to honest issues, we believe that intellectual property protection does support innovation.
48. Patent protection is critical to the development and commercialization of new ideas. For small businesses in particular, patent protection may be the only source of bargaining power against larger competitors, and in many instances the availability of patent protection in cutting-edge technology has facilitated the birth of entire industries.
49. We believe that the patent system encourages innovation in the field of business method inventions, as it does in other fields. The patent system is neutral on the matter of the field of endeavor, and is designed to evolve in response to the demand for protection.
50. The US patent system has continuously responded to wave after wave of new innovations in ever-changing fields, but without appearing to slow America’s economic progress.
51. We should also bear in mind that international agreements, in particular the World Trade Organization’s TRIPS Agreement, require that, with very few exceptions, all inventions be protected without discrimination as to the field of endeavor.

EXAMINATION TOOLS - USPTO RESPONSE TO ADMINISTRATIVE CHALLENGES

52. The recent growth in business method and software inventions has, however, created novel administrative challenges for intellectual property offices the world over. For example, the USPTO recognizes that the prior art search files available to our examiners may not be complete.

53. This is important because, if an examiner does not have access to all the relevant prior art, there is a risk of patents being granted for old inventions.

54. To remedy this, the USPTO has embarked on an ambitious program to ensure that its knowledge and understanding of emerging technology is itself at the cutting edge.

55. The US has established “electronic information centers” that provide examiners in the field of computer-related technology with access to over 900 databases. In the context of business methods, it is noted that over 300 of those databases contain business and financial information. In addition to the databases, examiners have access to over 5,000 full-text technical journals.

56. Aside from the databases, training for our examiners is a prime concern. We have expanded our training efforts to include additional instruction on our statutory requirements under 35 USC 101 and other provisions, on searching in the prior art relating to business methods and on the writing of reasons for allowance to clarify the prosecution history in allowed cases.

57. We are in addition currently developing an electronic chat room for business method examiners to provide a more flexible means for these examiners to consult with peers on searches and before ruling on a case. The chat room mechanism, along with our other training and prior art initiatives, will, we hope, help us identify the most relevant technology-specific prior art.

58. In March 2000 the USPTO announced its Business Methods Patents Initiative. As part of this plan, the USPTO is extending its outreach and improving examiner access to the most relevant prior art available.

59. The first thing is that the USPTO now provides for a mandatory search of US patents, foreign patents and non-patent literature in areas relevant to business method patents. This includes non-patent literature searches that are correlated to the US classification system, in order to provide a more fully developed prior art record. For example, an examiner searching insurance-related patents will perform a mandatory search of non-patent literature in addition to a classified search of both US and foreign patents. Then there is an optional search of other databases. These resources allow an examiner to find the most relevant prior art in a more expeditious manner.

60. An examiner working in the art of insurance must search all of what are called “core” journals, which are applicable to all financial business method applications, as well as a number of journals specific to the subject of insurance.

61. In addition to these stringent search requirements, the USPTO has increased its outreach efforts to those in affected industries, such as electronic commerce, in the form of partnership meetings, roundtable discussions and various forms of feedback so that the USPTO may share in the expertise of our private sector.

62. As part of this outreach effort, we recently held our first Business Methods Partnership meeting on March 1, 2001, one year after we implemented our Action Plan. This meeting between USPTO staff and members of our private sector was a profitable meeting at which many important ideas were exchanged, and it will be the first of many.

63. Our Business Method Action Plan also instituted a second-layer review of many business method applications. That is a review by what we call a "second pair of eyes" other than those of the primary examiner who normally reviews the application before grant.

64. Since the Plan has been implemented, our allowance rates in Class 705 have gone down. The allowance rate at the end of the first quarter of the 2001 fiscal year was measured at 47%, down from 57% before the Business Method Patent Initiative was put into effect.

65. The Plan has been operational for over a year now, and we have seen results. Indeed the USPTO, as in years past, has responded to yet another new emerging technology, and is encouraging innovation in that field.

66. It appears that most of the criticism of the patenting of business method inventions revolves around the notion that the claims are unduly broad and therefore lack novelty, or are merely obvious in view of the prior art. The solution to this should not be to take away the protection of innovative and deserving inventions, but rather to put in place procedures to improve searching and examination.

CONCLUSION

67. Patent protection has been shown to be an indispensable element of innovation, development and commercialization. The competitiveness and growth of industries relying on software and business method technology depends on the strength of the intellectual property protection available. As I stated earlier, the availability of patent protection in cutting-edge technology has facilitated the birth and growth of entire industries. Such protection is necessary in these emerging areas in order to justify the investment necessary to move on from the current state of the art.

68. Processing applications in ever-changing areas of innovation is always a challenge to the performance of patent offices throughout the world. However, effective administrative procedures have been developed at the USPTO to help us perform better.

69. We should not hesitate to encourage the growth of new industries and new technology. Patent protection should be maintained for these new areas and not be restricted arbitrarily.

70. In today's world, dominated as it is by computer technology and the rise of the Internet, this type of patent protection is crucial to the development and success of the global marketplace in the age of information technology.

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