

## Questions for Manny Schechter

1. Specifically as it relates to IBM, what has the current law's impact been on your company's research, development and innovation? What projects has IBM declined to invest in as a result of the current uncertainty?

IBM makes significant investments in research supporting the creation and development of IBM's portfolio of innovative products and services and uses patents, particularly U.S. patents, to protect those innovations. Given IBM's large and diverse portfolio of products and services, the connection between the loss of a particular patent, or a loss in patent value, and corresponding investments in research and development is not immediate and apparent. Nevertheless, all investments are made in view of the anticipated return. Patents are one factor in achieving the overall return on our research and development investments and enable IBM to enter into licensing agreements with others so each party can build upon the other's innovations. Given the rapid pace of innovation in the field of information technology, IBM is likely to continue to make significant investments in research and development even if the uncertainty in Section 101 is not corrected in the near term.

Research and development thrives when there are clear rules of the road. Likewise, uncertainty - like that around eligibility - undermines productivity. Without confidence and clarity, investment dollars may be redirected to less collaborative areas. For example, a strong and reliable patent system provides comfort that innovations can be shared with research partners with confidence; if the partner seeks to commercialize those innovations, IBM will receive just compensation. If companies like IBM are not confident that patents will provide the protection desired, IBM will be reluctant to collaborate with others and likewise our research partners will be less likely to collaborate with IBM. We believe this will happen on a larger scale and the entire U.S. innovation ecosystem will suffer.

Similarly, in the absence of reform, IBM and other companies may be forced to direct research into areas more clearly eligible for patent protection (especially where trade secret protection is not optimal) and we may become more reliant on using trade secrets to protect our innovations (especially in areas less clearly eligible for patent protection). As we and others rely more on trade secret protection, new breakthrough ideas will be hidden from public view and other entities will be unable to build upon these ideas. This constraint on innovation is certain to have an adverse impact on the results of our research investments and the U.S. economy generally.

It has only been five years since the Supreme Court decision in *Alice v. CLS Bank*. Investments in innovation often take years to materialize as the time from invention to patent to commercialization relying on the patent can easily be 10 or 20 years. Thus, we are just beginning to see the impact of the flawed eligibility test established in this decision. The impact will likely grow over time and the longer we wait for reform the longer and harder it will be to recover.

2. Looking ahead ten or fifteen years, if the current uncertainty related to patent eligibility isn't addressed, what do you think the impact will be on IBM's operations and on the United States as a whole?

See above. Furthermore, the impact of the current uncertainty will likely grow over time if not addressed. With less or redirected investments in research and development, fewer people would be employed in our innovation economy. In addition, investments could shift to countries with more predictable and reliable patent protection. Finally, the investments made are likely to be less effective in driving innovation as innovators become increasingly reliant on trade secret protection and more reluctant to collaborate with others due to the uncertainty regarding patent eligibility.

Congressional action is especially needed because of the potential ripple effect throughout the broader economy if this problem is not addressed, as artificial intelligence and other advanced software innovations are increasingly infused across all industries, such as automotive, healthcare, and manufacturing. Further, we see increasing convergence of information and life sciences technologies, especially in breakthrough areas of research. For example, IBM is using artificial intelligence to help physicians improve and find new cancer treatments for their patients, and life sciences companies now use artificial intelligence for discovery of new drugs. In addition, quantum computing systems developed by IBM promise to help analyze and explain fundamental biological processes such as photosynthesis. Other examples of areas of the life sciences heavily dependent on advanced software innovations include bioinformatics, robotic surgery, 3D printing of living tissues, and pillcams.

**Questions for the Record for Manny Schecter  
From Senator Mazie K. Hirono**

1. Last year, Judge Alan Lourie and Judge Pauline Newman of the Federal Circuit issued a concurring opinion to the court's denial of *en banc* rehearing in *Berkheimer v. HP Inc.*, in which they stated that "the law needs clarification by higher authority, perhaps by Congress, to work its way out of what so many in the innovation field consider are § 101 problems."

**Do you agree with Judges Lourie and Newman? Does § 101 require a Congressional fix or should we let the courts continue to work things out?**

I agree that the law of patent eligibility needs clarification by Congress. The current uncertainty in patent eligibility is the result of exceptions solely created by the Supreme Court. The uncertainty has existed for decades, with the scope of what is and is not patent eligible ebbing and flowing and tests for eligibility appearing and disappearing. The courts have on many occasions sought to devise a test for patent eligibility of computer implemented inventions. But even after all that time and effort, as the Federal Circuit noted, there is no "single, universal definition of 'abstract idea.'" See *Amdocs Ltd. v. Openet Telecom*, 120 U.S.P.Q.2D 1527, 1531 (Fed. Cir. 2016).

A recent example of the confusion in the courts and the unworkability of the Supreme Court's test is the decision in *ChargePoint v. SemaConnect, Inc.*, App. No. 2018-1739, 2019 U.S. App. LEXIS 9191 (Fed. Cir. March 28, 2019). In this case, the issue was the eligibility of an invention relating to a distributed network of charging stations for electronic vehicles. The claims recited various hardware elements (such as electric supplies, electric vehicles, transceivers, servers, wide area networks, etc.). After evaluating the conventionality of claim elements, parsing the claims to their gist, and searching for inventive concepts, the Federal Circuit found these network claims ineligible because they were somehow directed to an abstract idea and did not contain an "inventive concept". The patent owner was forced to spend time and money litigating (unsuccessfully) the eligibility of claims that most observers considered to be statutory subject matter.

Another illustration of the confusion is the contrast between the district court and Federal Circuit decisions in *Cellspin Soft v. Fitbit*, App. No. 2018-1817, 2019 U.S. App. LEXIS 18853 (Fed. Cir. June 25, 2019). The district court granted a motion to dismiss the case after finding the claims ineligible. The claims related to connecting a data capture device, such as a digital camera, to a mobile device so that a user can automatically publish content to a website. The district court also held that ineligibility was so clear as to make the plaintiff's case "exceptionally meritless," and the court ordered the plaintiff to pay \$380,000 in attorney fees. The Federal Circuit vacated the dismissal and the attorney fees, because the claims recited a "plausibly inventive way of arranging devices and using protocols rather than the general idea of capturing, transferring, and publishing data." *Id.* at \*28.

These cases are very recent. That courts could still be so confused about patent eligibility, including such varied opinions in the same case, shows a degree of uncertainty that undermines the patent system. Meanwhile, since *Alice v. CLS Bank* was decided, the

Supreme Court has denied certiorari in dozens of cases that might clarify patent eligibility. Even if the Supreme Court eventually grants certiorari, the doctrine of stare decisis would force the Supreme Court to rehash this unworkable jurisprudence. Furthermore, courts are not institutionally equipped to make significant policy decisions such as drawing the bounds of patentable subject matter. “Individual cases, whether heard by [the Federal Circuit] or the Supreme Court, are imperfect vehicles for enunciating broad principles because they are limited to the facts presented.” *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Lourie, J.) (concurring in denial of petition for rehearing en banc). Only action by Congress – as outlined in the draft patent eligibility and disclosure bill text – can establish clarity.

2. The Federal Circuit rejected a “technological arts test” in its *en banc Bilski* opinion. It explained that “the terms ‘technological arts’ and ‘technology’ are both ambiguous and ever-changing.” The draft legislation includes the requirement that an invention be in a “field of technology.”

**a. Do you consider this a clear, understood term? If so, what does it mean for an invention to be in a “field of technology”?**

The term “field of technology” is not precise and could be subject to multiple interpretations. Further clarification of Congress’ intent or meaning would be helpful, but I recognize the challenges of drafting precise language that works across all fields and areas of future innovation. The proposed text would reduce uncertainty by eliminating the vague judicially created exceptions to patent eligibility in a simple, technology neutral way. Members of the patent community, including judges and juries, have an ordinary understanding of whether an invention is in a field of technology. In contrast, there is no experience or training that equips members of the patent community to decide whether an invention is directed to an idea that is “abstract,” or to decide whether the invention nonetheless contains the undefined “something more” that would make it patent eligible.

**b. The European Union, China, and many other countries include some sort of “technology” requirement in their patent eligibility statutes. What can we learn from their experiences?**

The technology requirements in other countries vary and do not provide specific, useful guidance for Section 101 reform. For example, some countries conflate their technology requirement for eligibility with inventive step considerations (known as obviousness considerations in the U.S.). What we can learn from the approach of other countries is that patent eligibility should be a coarse filter, and that the test for patent eligibility should be distinct from inventiveness analysis.

**c. Is a claim that describes a method for hedging against the financial risk of price fluctuations—like the one at issue in the *Bilski* case—in a “field of technology”? What if the claim requires performing the method on a computer?**

The method for hedging in *Bilski* did not recite a computer and did not include any innovation in a field of technology. However, if a claim requires performing a method on a computer, it is in a field of technology. Performing a method on a computer should be patent

eligible and its patentability judged by whether it is unobvious and properly disclosed. If an old method is implemented on a computer in an obvious way it is unpatentable, but if the method is new or implemented on a computer in an unobvious way, it is patentable. IBM understands the current judicially imposed limits on patent eligibility may help to mitigate concerns some have about infringement assertions based on poor quality patents. As patents are sometimes asserted against IBM's products and services, we share those concerns. However, making ineligible all computer implemented methods would throw the baby out with the bathwater. Patent quality is more appropriately addressed by the patent law's other requirements and these requirements already appropriately distinguish patent worthiness and unworthiness.

**d. What changes to the draft, if any, do you recommend to make the “field of technology” requirement more clear?**

It would be helpful to include legislative history to provide guidance to courts about what is included or not included in “field of technology”. Per above, computer implemented methods should be patent eligible. Inventions in the field of artificial intelligence, the purpose of which is to abstract the human brain, should be patent eligible.

Sen. Tillis and Sen. Coons have made clear that genes as they exist in the human body would not be patent eligible under their proposal.

**Are there other things that Congress should make clear are not patent eligible? There are already statutes that prevent patents on tax strategies and human organisms. Are there other categories that should be excluded?**

As outlined in my written testimony to the IP Subcommittee, there is substantial risk associated with codifying specific exceptions to eligibility.

3. I have heard complaints that courts do not consistently enforce Section 112 with respect to claims for inventions in the high tech space.

**a. Are these valid complaints?**

Section 112 is underutilized as a means for challenging the scope and validity of patents. Underutilization contributes to inconsistency.

**b. Do the proposed changes to Section 112 adequately address those complaints and limit the scope of claims to what was actually invented?**

We believe Congressional action is necessary to restore balance and renew clarity to the patent system especially around eligibility and disclosure requirements. If enacted, the proposed text would reduce uncertainty by eliminating vague judicially created exceptions to patent eligibility in a simple, technology neutral way. The disclosure requirements would enhance patent quality and collateral damage to high quality patents would be reduced. The proposed changes to Section 112 will remove the presumption of non-functionality when the terms “means for” and “steps for” in claim language are absent. The proposed changes will

likely encourage avoidance of functional claim language altogether. Although the proposed changes to Section 112 will limit the scope of some claims, this is a policy matter. These changes to Section 112 along with the changes to Section 101 establish a balanced and reasonable compromise.

**c. Are you concerned that the proposed changes will make it too easy for competitors to design around patent claims that use functional language?**

The concern is not unreasonable, but patentees can avoid the concern by refraining from using functional claim language.

4. There is an intense debate going on right now about what to do about the high cost of prescription drugs. One concern is that pharmaceutical companies are gaming the patent system by extending their patent terms through additional patents on minor changes to their drugs. My understanding is that the doctrine of obviousness-type double patenting is designed to prevent this very thing.

The Federal Circuit has explained that obviousness-type double patenting “is grounded in the text of the Patent Act” and specifically cited Section 101 for support.

**Would the proposed changes to Section 101 and the additional provision abrogating cases establishing judicial exceptions to Section 101 do away with the doctrine of obviousness-type double patenting? If so, should the doctrine of obvious-type double patenting be codified?**

All inventors, not just pharmaceutical companies, make inventions which are improvements of their prior inventions, which is why Section 101 refers to an “improvement thereof”. To the extent such improvements are unobvious, they are patentable, subject to the constraint of obviousness type double patenting limiting the patent term to that of the earlier patent. The doctrine of obviousness type double patenting should be retained.

The case law of obviousness type double patenting is not based on the case law of statutory subject matter, which would be abrogated by the proposed reform of 101. As a result, the doctrine of obviousness type double patenting would not be eliminated by the proposed changes to Section 101. As you recognized in stating your question above, “[w]hile often described as a court-created doctrine, obviousness-type double patenting is grounded in the text of the Patent Act...” *AbbVie Inc. v. Mathilda & Terence Kennedy Institute of Rheumatology Trust*, 764 F.3d 1366, 1372 (Fed. Cir. 2014). The text of Section 101 upon which obviousness-type double patenting is grounded is not being changed, and the case law interpreting that text is not being changed. If Congress decides to eliminate any ambiguity, it could discuss this in the legislative history or codify the doctrine under Section 103.

5. In its *Oil States* decision, the Supreme Court explicitly avoided answering the question of whether a patent is property for purposes of the Due Process Clause or the Takings Clause.

**What are the Due Process and Takings implications of changing Section 101 and applying it retroactively to already-issued patents?**

Making any changes retroactive allows them to take effect sooner and have an impact faster. Any potential negative impact on patents, or on public rights should patents previously ineligible be revived, could arguably be considered a violation of the Due Process Clause or Takings Clause. Congress has previously addressed a similar issue with respect to the Uruguay Round Agreements Act (URAA), §514, which restored copyright in foreign works bringing the U.S. into compliance with Article 18 of the Berne Copyright Convention. On the other hand, an argument could also be made that the ability of a member of the public to practice an invention is not a property right that is protected by the Due Process or Takings clauses. In addition, the impact of these reforms on those already practicing the invention could be limited by Congress enacting enhanced prior user rights, which IBM supports in principle.

By contrast, removing the presumptive implication of “means language” by changing Section 112(f) narrows the scope of some patents. Congress could provide that this change only impacts patents issued after the effective date of these reforms. Prior to that date, inventors with pending applications could amend their claims to avoid Section 112(f).