COMMENTS ON 2019 REVISED SUBJECT MATTER ELIGIBILITY GUIDANCE

ALICE CORPORATION

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Would the claims in *Alice* be patent eligible under the USPTO's revised subject matter eligibility guidance?

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On January 7 2019, the United States Patent and Trademark Office (USPTO) issued its revised subject matter eligibility guidance ('revised guidance') to address, to the extent it believes it can, mounting industry concern about the systemic implications of the United States Supreme Court's (SCOTUS) decisions on the subject, especially its 2014 *Alice* decision.[2] [3]

The USPTO is seeking public comment on its revised guidance; this document is partially of this nature. This document is principally a plea to all three branches of the US government to quickly build on the USPTO's initiative to devise a SCOTUS-led, whole-of-government *single* set of *solid principles-based*, yet also *Realpolitik*-based, patent eligibility tests.[4] A patent issued by the USPTO has to stand for something over its entire legal life. Otherwise, what is the point of obtaining it in the first place?

The revised guidance is not unexpected as Director Iancu had been foreshadowing it for months. The thrust of the revised guidance is not unexpected either – carve out SCOTUS' patent ineligibility decisions in *Bilski* and *Alice*, subtly neutralize the Court's ruling in *Mayo* and articulate a comprehensive restatement of the Court's five other rulings in the past 50 years. Furthermore, do this in a way that seemingly delivers on the increased simplicity patent professionals have been calling for, whilst keeping SCOTUS' 'laws of nature, natural phenomena or abstract ideas'[5] scaffolding in place.

While the revised guidance is seemingly straight-forward it raises profound questions. For example:

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[2] "The 2019 Revised Patent Subject Matter Eligibility Guidance revises the procedures for determining whether a patent claim or patent application claim is directed to a judicial exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the USPTO's Subject Matter Eligibility Guidance in two ways. First, the 2019 Revised Patent Subject Matter Eligibility Guidance explains that abstract ideas can be grouped as, e.g., mathematical concepts, certain methods of organizing human activity, and mental processes. Second, this guidance explains that a patent claim or patent application claim that recites a judicial exception is not "directed to" the judicial exception if the judicial exception is integrated into a practical application of the judicial exception. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim." Extract from Department of Commerce, United States Patent and Trademark Office "2019 Revised Patent Subject Matter Eligibility Guidance" [Docket No. PTO-P-2018-0053].

[3] SCOTUS handed down its ruling in respect of the patentable subject matter case, *Alice Corporation Pty Ltd v. CLS Bank International et al* [*Alice*], on June 19, 2014. The question the Court had asked the parties to address in their briefing was: "Whether claims to computer-implemented inventions – including claims to systems and machines, processes and items of manufacture – are directed to patent-eligible subject matter within the meaning of 35 U.S.C. 101 as interpreted by the Court".

In its determination, the Court ruled that Alice Corporation's [AC's] claims – every one of its method, system and CRM claims - were patent-ineligible by virtue of being "drawn to a patent-ineligible abstract idea" - the use of a third party to mitigate settlement risk. Additionally, and more broadly, the Court ruled, in effect, that claims to computer-implemented methods and related systems are not eligible for patenting under 35 U.S.C 101 unless they contain a non-conventional "inventive concept," and that a generic reference to a general purpose computer, or even "purely functional and generic" hardware components, does not make an otherwise patent-ineligible invention patent-eligible.

[4] These terms are described later in the document

[5] My understanding is that this term was first used in 1978 by Mr Justice Stewart (joined by Chief Justice Burger and Mr Justice Rehnquist), in dissent , in *Flook*: "It is a commonplace that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter". The term "physical phenomena" subsequently morphed into "natural phenomena" and, logically, the term "and abstract ideas" has to mean "or abstract ideas".

(a) Why doesn't the revised guidance embody any notion of *unreasonable preemption of possible future inventions*?[6] Why, for example, should not a claim that reflects 'an improvement in the functioning of a computer' be assessed in much the same way as was done in the Court's 1972 ruling in *Benson*?

(b) If a claim, *any* claim, including one considered to be *directed to* a "fundamental economic principle", is found to be novel (102), non-obvious (103) and sufficiently enabled (112) – and, I'll add here, also not unreasonably preemptive of possible future inventions – how could it possibly be considered patent ineligible under the revised guidance?

(c) Reflecting the concern SCOTUS expressed in *Mayo*, is it reasonable for patents to be granted on *discoveries* alone (for example, to new drugs) without the patent claims to these discoveries also involving some form of *inventive concept*?

(d) With respect to evaluating a claim, does 'or' in the phrase 'a law of nature, natural phenomenon *or* abstract idea' really mean this? [7] Consider a claim that is judged to recite a law of nature. Under the revised guidance, does this mean that the claim is then *solely* to be judged as to whether it integrates this judicial exception [a law of nature] into a practical application, essentially using the Office's 'exemplary considerations' as a guide to doing this? [8] But if the law of nature is expressed in the claim as 'a mathematical relationship, formula, equation or calculation' [one of the three enumerated possible types of abstract ideas], should the claim not then be explicitly assessed as to whether the claim also involves one or more *meaningful* limitations to an expression of something that is a *fundamental truth* [9] [10] [11]?

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[6] Section 8, clause 8 of the Constitution reads: "*The Congress shall have the Power To promote Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries*". Surely these words imply that a claim that is considered likely to unreasonably restrict *Progress of Science and useful Arts* should be judged patent ineligible.

[7] Note again that the term "and abstract ideas" as it was first used in *Flook* logically has to mean "or abstract ideas"

[8] Only one of the exemplary items on this list has direct relevance to a 'law of nature'-based claim, this being "an additional element that applies or uses a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition".

[9] In the revised guidelines, the *only* first-order tests of *a mathematical relationship, formulae, equation or calculation* are whether the claim further describes (a) fundamental economic principle or practice; (b) a commercial or legal interaction, or (c) managing personal behavior or relationships or interactions between people.

[10] A fundamental truth can be thought of as a claim to a specified relationship (discovered or otherwise by the inventor) that exists in principle apart from any human action; it can be either a scientific truth or a fundamental truth that is not a scientific truth. A scientific truth can be either (a) an expression of a 'discovered' law of nature (LON) or natural phenomena (NP), other than as a mathematical formula/algorithm; or (b) an expression of a 'discovered' LON or NP as a mathematical formula/algorithm (for example, $E=mc^2$). By deduction, a fundamental truth that is not a scientific truth can be considered to be *any form of* mathematical formula/algorithm other than a mathematical expression of a LON or NP. This form of fundamental truth does not have to be discovered because it has to be considered to have always existed, even if this existence is unknown by, at the extreme, everyone.

(e) Whilst under the revised guidance more computer-implemented invention patents can be expected, will the more commercially valuable of these additional patents turn out to only have fleeting value?[12] Consider the situation when a new patent holding entity identifies an industry incumbent infringing their patent. How many of these entities now understand that, after so doing, there is a good chance that they will find themselves in a US court as a defendant in a summary judgment hearing for patent ineligibility, where SCOTUS' rules-of-the-game apply, not the USPTO's rules? Given this, regardless of its content, what is the value of the revised guidance beyond it offering an ethereal palliative to inventors?

Although I no longer have a personal stake in the US patent system, I have been concerned in recent years about the challenges the current system presents for inventors and product/service consumers worldwide. This concern crystalized with the release of the revised guidance.[13] The gymnastics a reader of the revised guidance is required to perform suggests a more deep seated cause of the pervasive confusion around patent eligibility, especially in respect of computer-implemented/business method inventions. And might this more deep seated cause possibly be a combination of:

(a) cascading conceptual flaws in SCOTUS' reasoning in each of its *Diehr, Bilski* and *Alice* cases; [14] [15] and

(b) SCOTUS' attempt in *Alice* to establish a *single* patent eligibility test for its "laws of nature, natural phenomena or abstract ideas" trilogy,[16] even though *abstract ideas*, other than fundamental truths, are conceptually different to laws of nature and natural phenomena? [Abstract ideas other than fundamental truths are *created* by humankind whilst laws of nature and natural phenomena are *discovered* by humankind].

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[11] Arguably, 'meaningful' should, in this context, be considered to mean something like *beyond those limitations that would simply have to exist for this fundamental truth to be used in the manner implied by the wording of the claim.*

[12] Issued patents without commercial value will remain just this.

[13] I appreciate that most patent attorneys/IP lawyers and current patent applicants are likely to be pleased with the revised guidance; however, from a public policy perspective, this is beside the point.

[14] This is not to suggest that SCOTUS' conclusions in *Diehr* and *Bilski* were incorrect.

[15] SCOTUS' reasoning in *Diehr* and *Bilski* inappropriately addressed the subject matter of the two patents, not the claims contained in these patents.
Although Diehr's patent involved subject matter that could be characterized as pertaining to 'the transformation of matter into a different state or thing', Diehr's claims were directed to a computer-implemented method by which the involved computer, upon obtaining various data inputs and applying an algorithm to this data, determined the time at which a conventional physical action (the opening of a press door) should occur.
Although Bilski's patent involved the subject of 'hedging', Bilski's claims did not claim hedging, nor did they describe hedging per se. Bilski's claims related to methods for managing the *consumption risk* costs of a commodity sold at a fixed price, rather than managing price risk, which, at the time Bilski's claims would have been drafted, was relatively easily managed using then-existing futures and options contracts. But then-existing market mechanisms did not provide for the management of consumption risk. Arguably, Bilski's claims were patent ineligible for the simple reason that were in the nature of a thought, concept or principle in that they are divorced from any form of physical object or activity.

[16] The Court's 'laws of nature' test having been articulated in *Mayo.*

Since the announcement of the revised guidance, I have wondered how I might add value to the current situation. I have decided that the best thing I can do is to simply pose and address the question: *Would the claims in Alice be patent eligible under the USPTO's revised subject matter eligibility guidance?*[17] One would expect the answer to be a resounding 'no'. How could it be otherwise? And yet …..

The complexity of the subject of patent eligibility gives one pause. Under the seemingly-most-applicable *exemplary considerations* on page 19 and 20 of the revised guidance, the specific 'Would the claims in Alice be patent eligible?' question I pose here is this:

> Referencing Alice Corporation's (AC's) claims in *Alice*, do these claims, as a whole, integrate the *Alice* judicial exception (the use of a third party to mitigate settlement risk) into a practical application of this exception in the sense that AC's claims incorporate an additional element that (a) "[reflects] …. an improvement to [an]other technology or technical field"; and/or (b) "applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception"?

The remainder of this document incudes background information that is highly relevant to the question. This is information I am uniquely able to provide as the founder of AC, inventor of the claims at issue in *Alice*, primary fundraiser of the millions spent working to commercialize AC's inventions, and as both defendant and litigant in AC's subsequent patent dispute with CLS.[18]

I have organized this information under nine headings, all in respect of the claims at issue in *Alice*:

1. Background
2. The foreign exchange industry problem addressed by AC's patent claims/CLS' system
3. AC's early years
4. AC's claims and the Company's CLS litigation
5. AC's CLS-related claims
6. CLS the sole infringer of AC's claims
7. Media coverage of the significance of CLS' asserted invention

[17] Ignoring here the practical matter that, as SCOTUS determined that AC's claims were patent ineligible and time has moved on, the USPTO's revised guidance need have no regard for the question

[18] CLS Bank International.

8. The degree to which AC's claims could be considered to have monopolized or significantly restricted progress in the field of "intermediated settlement"

9. The media context in which SCOTUS considered the patent eligibility of AC's claims.

Except for the basics, none of the information that follows was considered by *any* of the three United States courts that dealt with the CLS-AC litigation.[19]

Background

AC is a Melbourne-based financial markets research and development company. CLS is a New York-based specialist bank.[20]

The priority date of the AC's first CLS-relevant patent claim – claim 33 of its '479 patent[21] - was May 1993. CLS' founder banks began shaping the design of the CLS system in late 1994. CLS commenced operation in September 2002. AC contacted CLS in October 2002 advising the Bank of its apparent infringement of claim 33 of its '479 patent and offered the Bank a patent license. Between late 2002 and early 2007 CLS and AC periodically communicated about CLS' infringement of AC's claims – claims that, within this period, had extended beyond claim 33 of the '479 patent. In May 2007, CLS instigated a declaratory judgment action against AC in the United States District Court for the District of Columbia (District Court). AC countersued.

After its initial hearing in the District Court, AC's case progressed to a panel of the United States Court of Appeals for the Federal Circuit (CAFC), then to an *en banc* hearing of this Court, before being considered by SCOTUS.

The foreign exchange industry problem addressed by AC's patent claims/CLS' system

AC's claims/CLS' system *architecturally* solved a key *technological* problem that commercial and central banks grappled with in the early 1990s and arguably still grapple with today. This problem, known as the "Herstatt Risk" problem in foreign exchange settlement, was/is the inability to achieve electronic record

[19] The principal reason for this is that these courts dealt solely with the question of patent eligibility as a matter-of-law, not one of law *and* fact; yet SCOTUS considered case facts – its own facts - in its determination. These selected case facts are addressed later in this document [Interestingly, in 2018, the United States Court of Appeals for the Federal Circuit (CAFC) found in *Berkheimer* that the second part of SCOTUS' *Alice* test *could* be considered to be a question of law *that may contain underlying facts* [italics and underlining added]].

[20] CLS is part of the Swiss-based CLS Group, which is owned by most of the world's major financial institutions. CLS settles interbank foreign exchange transactions in just under 20 currencies and accounts for just over 50% of global foreign exchange transactions.

[21] US Patent # 5,970,479.

updates in real-time using available computing and telecommunications technology, especially where these records are maintained in different countries, on disparate electronic systems, accessible at different times of the day (on a 24 hour basis) and under different legal regimes. Creation of the global settlement utility, CLS, in 2002 was the end result of an effort by a consortium of banks, 'encouraged' by regulators worldwide in the mid to late 1990s to find a solution to this problem.

AC's CLS-relevant claims were directed to achieving a very specific outcome: the irrevocable real-time exchange of bi-directional payment obligations between parties in a fully-electronic, multi-transactional and time-critical environment. The claims described *one way* of achieving this result – through real-time updates to shadow-style records[22] maintained by the underlying, structurally-specified and specially-programmed computer system.

AC's early years

AC's four independently-examined US patents share the May 1993 priority date – just over 25 years ago. In 2014, the year in which SCOTUS ruled in *Alice*, AC's claims were either in, or about to be in, the last year of their legal life.[23] Today, of course, the notion of real-time, secure and anonymous electronic transacting is relatively well understood. But this was not so in 1993, the priority date of the 'parent' claims in question. The year 1993 predates the first significant commercial use of the internet by three years, predates the commencement of Google by six years and predates the commencement of Facebook by 12 years. It was also at least a year and a half before the concept underlying the 'CLS system' was first considered by CLS' founder banks and nearly 10 years before the system actually commenced operating.

In the mid to late 1990s, AC invested many millions of dollars building a computer system and associated organizational arrangements that involved the use of shadow records. In fact, AC built *substantially more* than those steps/operations reflected in the claims at issue in the litigation. AC's developed system allowed parties to transact with one another anonymously in real-time and effect (simulated) money transfers using its shadow accounting system. AC did not build the exact system that was the

[22] The purpose of AC's shadow records/accounts was to enable a decoupling of the so-called *finality* of an electronically-created transaction with the ultimate act of *settlement* (sometimes referred to as *delivery*). AC's claims ensured that settlement risk is eliminated by checking the available balance on the shadow record and then *effecting* the exchange on the shadow records (such that the exchange is legally *final*), and *then* generating instructions to the exchange institutions to ultimately provide delivery of the exchange to each party. Importantly, finality on the shadow records is accomplished on a gross basis (transaction by transaction), whereas the subsequent stage of generating an instruction to the exchange institution can be done either on a gross basis, or a net basis.

[23] To the best of AC's knowledge, prior to its *Alice* ruling, SCOTUS had *never before* made a ruling in respect of a patent eligibility matter where the involved patents were at the end of their legal life.

subject of its CLS litigation;[24] doing this was not its chosen commercial path at the time. The working system was about 95% complete when the tech crash of 2000 forced the final development phase of the system to be postponed. When taking stock of its predicament in 2001, AC became aware of CLS' likely commencement and, after some research, determined that CLS' forthcoming operation appeared likely to infringe claim 33 of AC's '479 patent.

AC's claims and the Company's CLS litigation

When SCOTUS made public its *Alice* decision on June 19 2014, AC held eleven US patents. The claims contained in these patents are of two types: *exchange of obligation* claims and *broader financial market* claims.

AC's exchange of obligation claims (AC's claims) were the subject of the Court's 2014 ruling. Based on an initial patent filing in 1993, successively over many years, the USPTO judged all of these claims to be patent-eligible and issued four patents containing the claims:

- Patent number 5,970,479 "*Methods and Apparatus Relating to the Formulation and Trading of Risk Management Contracts*", issued 19 October, 1999;
- Patent number 6,912,510 "*Methods of Exchanging an Obligation*", issued 28 June, 2005;
- Patent number 7,149,720 "*Systems for Exchanging an Obligation*", issued December 12, 2006; and
- Patent number 7,725,375 "*Systems and Computer Program Products for Exchanging an Obligation*", issued May 25, 2010.

AC's '479 patent – the parent of the three subsequent exchange of obligation patents, and all of AC's other US patents – broadly cover an innovative way in which parties can contract electronically and anonymously with each other in a real time and secure environment for the purposes of hedging known risks. Other patents in AC's portfolio cover investing in known risks for profit, lending/borrowing and exchanging value (this for this exchanges), anonymously, electronically and in real time. Claim 33 & 34 of the '479 patent specifically describes an innovative way of substantially reducing settlement risk in

[24] In the early 1990s, AC did not set out to solve the Herstatt Risk problem; rather AC then sought to design a financial market infrastructure that would enable entities worldwide – individuals and institutions – to be able to *directly and anonymously* contract electronically with one another. The infrastructure was particularly designed to support contracts that would pay out funds to one or other of two contracting parties depending on the future value of a specified risk event (for example, rainfall in a defined area within a defined time period). The only way such a market can function without a party being exposed to the risk of not ultimately being paid by its counterparty is for both parties to maintain their worst-case potential losses with an intermediary, preferably a risk-free intermediary (termed, say, an 'exchange institution'). Necessarily therefore, the system/facilitating organization – termed, say, a 'supervisory institution'- needs to be able to continually know, with certainty, the quantum of funds – which can be in multiple currencies - potential contracting parties have with their respective exchange institutions. Because the system would function in real time, this gave rise to the need for a system that enables the supervisory institution to continually have access to fully accurate 'shadow' account balances of all relevant exchange institution balances. One instance of this broader invention is a mechanism by which the contracting part of the regime is assumed to occur 'off-system', yet the infrastructure is used to ultimately settle these transactions in the above-outlined manner - thus, AC's solution to the Herstatt Risk problem and its ultimate intellectual property collision with CLS.

obligation exchanges. The claims in AC's subsequent '510, '720 and '375 patents expand on claims 33 & 34. All three claim sets were filed and prosecuted for very specific reasons.

The exchange of obligation method claims in AC's '510 patent are essentially equivalent to AC's claim 33 of its '479 patent, but include the word "electronically". There could be no doubt that the '479 patent described *only* fully-electronic contracting and fully-electronic obligation exchanges, even though claim 33 did not explicitly state this (and, at the time, the USPTO did not require that AC do so). However, AC judged in the early 2000s that it would be prudent to file a continuation application making this explicit.[25] The exchange of obligation system claims in AC's '720 patent are also essentially equivalent to all of AC's then-prior 'exchange of obligation' claims. In the context of AC's then-ongoing negotiations with CLS, these claims were drafted to respond to the United States Court of Appeals for the Federal Circuit's NTP-RIM decision in August 2005 which, in essence, stated that all steps of a method must be performed in the United States for infringement to occur, but there can be infringement of a 'system' that is owned, managed and controlled in the United States, even if the (computer) system itself is located outside of the United States.[26]

The exchange of obligation computer readable medium (CRM) claims in AC's '375 patent are similarly essentially equivalent to all of AC's then-prior exchange of obligation claims. Still in the context of AC's then-continuing pre-litigation negotiations with CLS, these claims were drafted to deal with issues concerning induced versus direct claim infringement.

On the four separate occasions that they were independently assessed by different USPTO examiners between the mid-1990s and 2010, AC's claims were not considered to fail on novelty (102), obviousness (103) or sufficient-enablement (112) grounds, let alone on patent eligibility (101) grounds.

<u>AC's CLS-related claims</u>

A representative claim of AC's portfolio of CLS-related claims was claim 68 of AC's '720 patent, which read:

> *"A data processing system to enable the exchange of an obligation between parties, the system comprising: a data storage unit having stored therein (a) information about a first account for a first party, independent from a second account maintained by a first exchange institution, (b) information about a third account for a second party, independent from a fourth account maintained by a second exchange institution; and a computer, coupled to said data storage unit, that is configured to (a) receive a transaction; (b) electronically adjust said first account and said third account in order to effect an exchange obligation arising from said transaction between said first party and said second party after ensuring that said first party and/or said second party*

[25] This was because AC then assessed that there was a possibility that, sometime in the future, its claims might be assessed by decision makers other than the USPTO.

[26] 392 F.3d 1336 (Fed. Cir. 2004) (*NTP I*), *withdrawn*, 418 F.3d 1282 (Fed. Cir. 2005) (*NTP II*), *cert. denied*, 126 S. Ct. 1174 (2006).

have adequate value in said first account and/or said third account, respectively; and (c) generate an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account in accordance with the adjustment of said first account and/or said third account, wherein said instruction being an irrevocable, time invariant obligation placed on said first exchange institution and/or said second exchange institution"

Moreover, CLS-relevant dependent claims based on independent claim 68 of AC's '720 patent comprised:

> 69. The data processing system of claim 68, wherein said first and/or second exchange institution is a central bank
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> 70. The data processing system of claim 69, wherein said exchange obligation involves currency
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> 71. The data processing system of claim 70, wherein said first exchange institution and said second exchange institution operate in different time zones
>
> 74. The data processing system of claim 68, wherein said exchange obligation involves currency
>
> 76. The data processing system of claim 68, wherein adequate value requires that said first account and/or said third account have a positive balance
>
> 77. The data processing system of claim 68, wherein said period of time is a part of a day
>
> 78. The data processing system of claim 68, wherein said instruction to said first exchange institution and/or said second exchange institution represents adjustments to said first and said third account netted throughout a period of time

<u>CLS the sole infringer of AC's claims</u>

The 'claim chart' basis on which AC assessed that CLS infringed independent claim 68 of its '720 patent, let alone claim 69 (and others), was as follows:

> *"A data processing system to enable the exchange of an obligation (<u>a foreign exchange settlement commitment</u>) between parties (<u>two CLS Bank members</u>), the system comprising: a data storage unit having stored therein (a) information about a first account for a first party (<u>one CLS Bank member's account with CLS Bank</u>), independent from a second account maintained by a first exchange institution (<u>the member's account at the central bank responsible for one side of the applicable foreign exchange transaction pair</u>), (b) information about a third account for a second party (<u>another CLS Bank member's account with CLS Bank</u>), independent from a fourth account maintained by a second exchange institution (<u>the member's account at the central bank responsible for the other side of the applicable foreign exchange transaction pair</u>); and a computer, coupled to said data storage unit, that is configured to (a) receive a transaction (<u>a</u>*

foreign exchange transaction pair); (b) electronically adjust said first account and said third account in order to effect an exchange obligation arising from said transaction between said first party and said second party after ensuring that said first party and/or said second party have adequate value in said first account and/or said third account, respectively; and (c) generate an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account in accordance with the adjustment of said first account and/or said third account, wherein said instruction being an irrevocable, time invariant obligation placed on said first exchange institution and/or said second exchange institution"

In early 2014, AC believed that CLS even more specifically infringed each of the above-mentioned *dependent* claims of claim 68 of its '720 patent.[27]

To the best of AC's knowledge, *only* CLS infringed the above-mentioned claims. Also to the best of AC's knowledge, prior to or after the date on which CLS began its operations in November 2002, no other entity has infringed these claims. Additionally, no other entity has infringed *any* other of AC's '720 patent claims, nor comparable claims in its '479, '510 or '375 patents.

Media coverage of the significance of CLS' asserted invention

There was widespread media coverage of CLS' asserted invention in the late 1990s and early 2000s. Two particular media reports in this period are noteworthy:

The following was the opening paragraph of an article in The Economist magazine on November 19 2000, about the soon-to-commence CLS: "*The water closet, patented in 1819, was not a particularly exciting invention, but it certainly proved useful. The same may soon be said of continuous linked settlement. The past few weeks have seen a long-awaited revolution in the foreign-exchange market, the biggest market in the world. Banking customers may not notice the difference, unless - as the water closet sometimes does - it goes wrong. But such a big change has not occurred in international banking since the introduction in 1974 of SWIFT messaging, which gave banks instant and secure worldwide communication with one another.*"

On CLS Group's website on July 3 2007, CLS posed and answered the question "What is CLS?": "*CLS is a unique process that enables cross-border currency transactions to be settled intra-day. CLS represents the most dramatic change in settlement for over 300 years as it enables settlement to be final with pay out from central bank funds. As it is a real-time, global settlement system it will significantly reduce the settlement risk caused by delays arising from differences in time zones, legal jurisdictions and opening procedures.*"

[27] Naturally, CLS' operations/systems include wide-ranging additional functionality; however, the core of its operations were covered by AC's claims.

The degree to which AC's claims could be considered to have monopolized or significantly restricted progress in the field of "intermediated settlement"

Other than the above-described AC/CLS way, there are at least two other ways of achieving the irrevocable real-time exchange of bi-directional payment obligations between parties in a fully-electronic, multi-transactional, and time-critical environment. The first alternative involves a supervisory institution system where the exchange of obligations is given effect on the exchange institution accounts, and no supervisory institution shadow records are kept independently. This is the scenario where all parties exchanging an obligation hold accounts at, using AC's claim terms, a single exchange institution. The second alternative involves a supervisory institution system where the exchange of obligations are effected on the exchange institution accounts, and supervisory institution shadow records are kept independently, but only for the purpose of checking whether the exchange can occur (that is, whether there is sufficient value in the accounts so as to allow an obligation exchange to occur). This is the scenario where the exchange of an obligation is given effect on the exchange institution accounts, and the supervisory institution system only generates instructions to the exchange institutions if all the parties exchanging an obligation have sufficient value in their accounts to meet their obligations. This way would require synchronous account updates at the involved exchange institutions. The public record is clear that both ways were assessed by CLS in late 1994/early 1995[28] – at least a year and a half *after* the priority date of AC's parent '479 patent. AC's way of achieving the object of its claims involves a supervisory institution system maintaining an independent set of accounts for effecting the exchange of an obligation – independently of the exchange institution (real) accounts where the obligations to be exchanged are held.

AC's claims also did not pertain to all types of obligation exchanges between parties. AC's claims were only in respect of exchange obligations between parties that (a) were in a form that can be maintained in electronic accounts for these parties; and (b) could ultimately be given effect on accounts at, what AC termed, Exchange Institutions. The invention dealt with the practical problem that EI-type electronic accounts can rarely be given effect simultaneously on typically-remote accounts, such that obligation exchanges can be achieved with finality at a single place and time. Added to the difficulty is the fact that the parties concerned are typically remotely located, and anonymous to one another. The invention solved the *technological* difficulties this presented – and still presents - by interposing a set of accounts (the Supervisory Institution accounts) that can be considered the place where obligations are made final at a single point in time. Necessarily, given the electronic nature of the obligations to be exchanged, the invention also required an electronic method to exchange them (this being because it makes no sense to interpose a manual method of hand-recording the finality of electronic obligations at a Supervisory Institution, whilst exchanging the obligations on exchange institution accounts electronically). To the best of AC's knowledge, there was no financial system in the past that exchanged electronic obligations between remotely-located parties and CLS was the only financial system to do so in 2014.

AC in no way sought to claim the abstract idea of intermediated settlement. AC also did not claim escrow using a computer. AC's claims were to the immediate settlement of obligations between two

[28] http://www.econbiz.de/Record/continuous-linked-settlement-history-and-implications-schaller-alexandra/10005858137.

parties in a way that reduces settlement risk. Escrow is a way of reducing settlement risk, but does not require immediate settlement between two parties. One could implement AC's claims within an escrow environment, but one need not do so. In AC's regime design, delivery could occur between accounts held by the parties to the transaction, or they could occur between the account held by the Supervisory Institution and the parties. Delivery occurs as a result of instructions being generated to an exchange institution to make these deliveries. More specifically, delivery of the obligation occurs after the transaction has been effected, as simultaneous settlement of obligations has to occur on accounts prior to delivery in order to be truly simultaneous (and irrevocable). AC did not attempt to patent the delivery of an obligation (as one would if one were seeking to patent escrow), but rather, AC focused on the invention, which was the simultaneous exchange of obligations using shadow accounts. There is no need to simultaneously exchange obligations in an escrow environment, nor to do so using shadow accounts.

In its 2014 ruling, SCOTUS cited three references that it believed supported the Court's conclusion that AC's claims do no more than describe *a fundamental economic practice long prevalent in our system of commerce*. However, two of these references were written more than 15 years *after* the priority date of AC's claims and the third, dated 1896 (yes, 1896), discussed the use of a 'clearing-house' as an intermediary to reduce settlement risk, which in no way described a regime anything like that disclosed in AC's claims.

<u>The media context in which SCOTUS considered the patent eligibility of AC's claims</u>

In SCOTUS' oral hearing on March 31 2014, CLS advanced the argument that "*intermediated settlement of financial exchanges*[29] *is an abstract idea and therefore not patentable without the addition of an inventive concept to transform that abstract idea into a patent-eligible application"*.[30] CLS' argument before SCOTUS included:

> "*The asserted claims recite the basic economic concept of intermediated settlement or escrow. Thus, like the ineligible claims in Bilski, they purport to monopolize "a fundamental economic practice" of "protecting against risk." The asserted claims are not eligible for patenting under 35 U.S.C. § 101. Any other outcome would lead to severe and unwarranted disruption in the inventive community and the economy, including the foreign currency market."*[31]

[29] As CLS <u>itself</u> practiced this form of settlement.

[30] CLS' position was supported by briefs from, amongst others, Google Inc., Amazon.com Inc. and Facebook, Inc. The Solicitor General, on behalf of the US Government, also supported CLS' position.

[31] If AC's claims were so sweeping, might one reasonably expect there to be at least one entity somewhere, other than CLS, that previously infringed, or now infringes, AC's claims?

"*Alice, which has provided no service or product to the marketplace, wants to use its patents to hold hostage a systemically important financial institution that developed, at great effort and expense, a global network that makes possible the safe and efficient settlement of the vast majority of transactions in the world's major currencies. For the price of a patent application, Alice is putting at risk CLS's billion-dollar investment—and with it the largest financial market in the world.*"

Meanwhile, outside of the Court after March 31 2014, CLS' trade media provided contextual flavor to SCOTUS' deliberations. Extracts from an FX Week article on April 4 2014 are illustrative of this:

"These demands not only directly threaten an entity that is vital to the functioning of the largest and most liquid market in the world – foreign exchange – but also the multitude of electronic systems captured by the claimed process"

"This is a shakedown of the world's financial system, starting with an attack on a systemically critical component"

"Alice is seeking to claim an infinite array of potential types of financial intermediation, including many daily operations by commercial banks, investment banks, mutual fund complexes, insurance companies and others"

"A few industry participants regard the Australian firm as a 'patent troll' – an entity that buys up patents in the hope of suing users in the future"

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The revised guidance attempts to navigate a path between SCOTUS' judicial exceptions to patent eligibility, particularly the tests laid out in its *Alice* decision, and the needs and realities of today's inventions. Sadly, amongst other things:

(a) In respect of the processes the USPTO controls, the revised guidance will not address the fundamental question of whether a claim is unreasonably pre-emptive of worthwhile future inventions; and

(b) Considering the USPTO and US court ecosystems together, the revised guidance will not deliver consistent results.

There is now an overwhelming need to replace the *Alice* tests with a *single* set of *solid principles-based,*[32] yet also *Realpolitik-based,*[33]patent eligibility tests to be applied by all three branches of the government. The tests should be formulated by SCOTUS.[34] SCOTUS should then terminate its future judicial exception declaratory powers.[35]

But what of the question I posed at the outset: *Would the claims in Alice be patent eligible under the USPTO's revised subject matter eligibility guidance?* More particularly, given the facts marshalled above, what are the implications if AC's claims *would not* be patent eligible under the revised guidance? And what are the implications if AC's claims *would* be patent eligible under the revised guidance?

To conclude that AC's claims *would not* be patent eligible under the USPTO's revised guidance would imply that the USPTO considers it reasonable for to:

1. effectively disregard AC's validly-issued patents – issuances that were consistent with SCOTUS' then-relevant (*Diehr*) judicial exceptions in respect of a computer-implementation - even though SCOTUS in *Alice* did not expressly state that the USPTO erred in its original issuance decisions;

[32] I am sure that in making its *Alice* ruling SCOTUS assessed that its methodology was *principles-based* – establishing a single patent eligibility test for its "laws of nature, natural phenomena or abstract ideas" trilogy. Yet this single principle lacked robustness. *By* the term *solid principles-based*, I mean a set of patent eligibility tests that are based on solid, Constitution-based, public policy thinking – thinking that especially addresses the range of questions posed in this document and does so having regard for the possible forms of innovation in the future, not just those innovations that have been reflected in case law.

[33] *Realpolitik-based* tests are particularly pertinent to these three eligibility considerations: (a) If at the time a claim is being examined by the USPTO it is found to be novel (102), non-obvious (103), sufficiently enabled (112) and not unreasonably preemptive of possible future inventions, can the claim possibly be judged patent ineligible?; (b) In a summary judgment court hearing in respect of non-patentable subject matter, is it not reasonable that the Court place considerable weight on the presumption of a claim's patent eligibility, and where it feels it cannot do so it gives the patent holder an opportunity to respond to this, including by requiring the Court to undertake a claim construction hearing and/or the Court's consideration of factual matters in respect of the claims?; and (c) Should not the notion of unreasonable claim preemption of possible future inventions incorporate explicit consideration of the US' national interest, as challenging as this would be?. The field of patenting has changed dramatically in recent years (consider, for example, international competition in the development of 5G telecommunications technologies), yet a possible return to the situation in 1793 when only US citizens could claim US patent protection would be a step too far.

[34] The legal doctrine of *stare decisis* notwithstanding, I suggest that SCOTUS needs to formulate *Alice*-replacement patent eligibility tests in light of its long-standing judicial exceptions to patent eligibility ruling powers [The rights of SCOTUS to itself determine what is new and useful and thereby merit the granting of a limited monopoly was first set out in a letter from Thomas Jefferson to Isaac McPherson in 1813. In this letter, Jefferson urged that the determination of what is new and useful justifying limited monopoly be "turned over to the *judiciary* to be matured into a system under which everyone might know when his actions were safe and lawful". Congress agreed that the Courts should develop the conditions of patentability and although the Patent Act was amended, revised or codified 50 times between 1790 and 1950, "Congress steered clear of a statutory set of requirements other than the bare novelty and utility tests reformulated in Jefferson's draft of the 1793 Patent Act": *Graham v John Deere Co. at 10*]. SCOTUS, not Congress, nor the Executive Branch, is the judge of the meaning of the words in respect of patents in Section 8, clause 8 of the Constitution.

[35] After it has formulated its *Alice*-replacement patent eligibility tests (and these are adopted by Congress), I suggest that SCOTUS should then terminate its future judicial exception declaratory powers. At this point, the Court's work of creating 'a system under which everyone might know when his actions were safe and lawful' could be considered to be done, leaving it to limit itself to evaluating US law in light of the Constitution, not making it.

2. allow a determination of invalidity on subject matter eligibility (101) grounds to trump a determination of a claim's novelty (102), obviousness (103) and sufficient enablement (112), especially as its revised guidance does not embody any test of unreasonable preemption; [36]

3. judge AC's claims to be patent ineligible when the sole *factual* basis of SCOTUS' 2014 ineligibility decision – its three cited references that the Court believed supported the conclusion that AC's claims do no more than describe 'a fundamental economic practice long prevalent in our system of commerce' – was erroneous;

4. judge AC's claims to be patent ineligible because the facts presented in the body of this document – those supporting the contention that AC's (fully computer-implemented) claims *were* directed to a *specific and highly practical application* of the abstract idea of 'intermediated settlement' (where the involved computer is *intrinsic* to the utility of the claims[37]) - are unpersuasive; and

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[36] And even if the revised guidance did include a test of unreasonable preemption, because AC's claims had reached the end of their legal life at the time they were judged patent ineligible by SCOTUS, they could not possibly have been judged unreasonably preemptive. This is especially so because, from this point onwards, the claims have constituted restrictive prior art to subsequent possible non-inventive claiming attempts.

[37] As should be self-evident from the above-presented material, the referred-to computer in AC's claims was *intrinsic* to the claims in the sense of it 'belonging naturally/being essential' to them. I use this occasion to suggest here that the notion of the involved computer in a [*computer-implemented invention*] claim being *intrinsic* to the claim can be considered to be the case when it is possible to answer 'yes' to *each* of the following four questions about the claim:

(a) Substituting 'in a person's mind' for 'computer', if the claim could be performed this way, would the re-written claim achieve a different object to that achieved by the claim involving the computer?;
(b) Is the utility provided to the claim by the computer both *quantitatively* and *qualitatively* different from that which could be provided by a person or persons with pen(s) and paper?;
(c) If the claim is written as a method or computer readable medium (CRM) claim, could the claim be written as a 'machine' claim and still achieve the object achieved by the method/CRM claim?; and
(d) Is the claim consistently replicable?

But what is a *computer implemented invention* (CII) claim? I suggest that it is:

(a) A claim that explicitly or implicitly involves one or more programmed computers and is a process type of claim; or
(b) A claim that explicitly or implicitly involves one or more programmed computers and is not a process type of claim and is not to the computer(s) per se, rather is to a system that operates on this/these computers, but involves one or more non-computer machines, but these machines are not more central to the claim than the computer(s); or
(c) A claim that explicitly or implicitly involves one or more programmed computers and is not a process type of claim, nor a claim to the computer(s) per se, rather is to a system that operates on this/these computers, and the claim *does not* involve any other non-computer machines; or
(d) A claim to a computer readable medium (CRM) type of article of manufacture (AMO) and, thus one that implicitly or explicitly involves one or more programmed computers to have utility.

So might not a set of *solid principles-based*, yet also *Realpolitik-based*, patent eligibility tests of a claim that involves a computer and is a CII claim – a reasonable characterization of all of AC's claims - simply be tests of whether:

(a) The involved computer is *intrinsic* to the claim?; and
(b) Looking forward, could the claim be considered highly likely to:
    i. unreasonably pre-empt subsequent worthwhile inventions; and/or
    ii. be substantially contrary to the US' national interest?

5. Use the terminology 'well-understood, routine, conventional activity' in its Step 2B test in respect of claims to inventions in the distant past – up to 20 or so years ago – even though doing so surely discriminates against the interests of such patent holders.

To conclude that AC's claims *would* be patent eligible under the USPTO's revised guidance would imply that:

1. the USPTO's revised guidance is legally at odds with SCOTUS' ruling in *Alice*;

2. SCOTUS erred in its determination; or

3. the USPTO's attempt to carve out AC's claims within its more liberalized revised guidance has failed.

Building on the USPTO's initiative, the need for SCOTUS to now be formulating a whole-of-government *single* set of *solid principles-based*, yet also *Realpolitik-based*, patent eligibility tests is unambiguous.