

NAVIGATING THE SHOALS OF JOINT INFRINGEMENT, INDIRECT INFRINGEMENT, AND TERRITORIALITY DOCTRINES: A COMPARATIVE ANALYSIS OF CHINESE AND AMERICAN PATENT LAWS

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Abstract

The patent laws of both China and the United States have joint infringement and indirect infringement doctrines, and both countries obey territoriality principles in applying intellectual property rights (IPRs). These doctrines and principles, however, are construed and applied differently on the two sides of the Pacific. This Article compares and contrasts the two legal regimes and identifies potentially significant gaps in patent coverage for patented but divisible systems that are practiced in separate legal jurisdictions.

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INTRODUCTION

The internet, a global system of interconnected computer networks, has proven itself to be a reliable backbone for communications among computer systems spread across the globe. The expansion of the internet promotes the creation of increasingly sophisticated technologies that enable the participation of remotely linked computer systems operating in separate legal jurisdictions. Traditionally, the doctrines of joint infringement and indirect infringement have provided a means for patent holders to seek redress from infringers that, acting alone, do not practice each element of a patent claim. These claims rest on allegations that the accused infringer acts in concert with, lends assistance to, or encourages others who practice individual elements of the claims. But increasingly, companies are implementing patented methods and systems that are easily divisible and that provide accused infringers with a means for avoiding patent infringement by exploiting disparate patent regimes and conflicting territoriality principles.

Part I of this Article examines the joint and indirect infringement doctrines of two countries—the United States and the People’s Republic of China (“China”)—that increasingly find themselves at the center of disputes involving patented systems that operate in global networks. Part II compares and contrasts the territoriality principles that define the reach of the patent regimes in America and China when applied to extra-territorial conduct. Part III discusses how complex global networks can be designed—and contractually implemented—to circumvent the current patent protections of both countries. The Article’s conclusion discusses alternative theories of infringement liability that may provide relief to holders of American patents.

I. JOINT AND INDIRECT INFRINGEMENT: COMPARING AND CONTRASTING THE AMERICAN AND CHINESE APPROACHES

Under American law, “for a court to find [direct] infringement, the plaintiff must show the presence of every element or its substantial equivalent in the accused device.”¹ Chinese patent law similarly requires a direct infringer to practice every limitation of a claim:

第七条 人民法院判定被诉侵权技术方案是否落入专利权的保护范围，应当审查权利人主张的权利要求所记载的全部技术特征。

¹ *Wolverine World Wide, Inc. v. Nike, Inc.*, 38 F.3d 1192, 1199 (Fed. Cir. 1994). This principle has been articulated in different ways given the form of the patent claim. See, e.g., *Centillion Data Sys., LLC v. Qwest Comm’n Int’l, Inc.*, 631 F.3d 1279, 1284 (Fed. Cir. 2011) (“[D]irect infringement by ‘use’ of a system claim ‘requires a party . . . to use each and every . . . element of a claimed [system].’”).

被诉侵权技术方案包含与权利要求记载的全部技术特征相同或者等同的技术特征的，人民法院应当认定其落入专利权的保护范围；被诉侵权技术方案的技术特征与权利要求记载的全部技术特征相比，缺少权利要求记载的一个以上的技术特征，或者有一个以上技术特征不相同也不等同的，人民法院应当认定其没有落入专利权的保护范围。

Article 7. The people's court in determining whether an accused technical solution is within the scope of protection of a patent shall examine all of the technical features the patent claim asserted by the right holder contains.

Where the accused technical solution contains technical features either identical or equivalent to all of the technical features the patent claim contains, the people's court shall confirm that the accused technical solution is within the scope of protection of the patent. Where, in a comparison of the technical features of the accused technical solution with all of the technical features the patent claim contains, one or more of the technical features the patent claim contains is lacking or one or more of the technical features is not identical or equivalent, the people's court shall confirm that the accused technical solution is not within the scope of protection of the patent.²

Significantly, one of the most momentous technological shifts in computing over the last ten years has been the transition of computing systems to “the cloud.” In simple terms, cloud computing involves running software functionality over a network—a local area network, a wide area network, or the world-wide-web—from remotely located servers. The servers may be located in a closet down the hall or in a server-farm on the other side of the world.³ Complex systems often permit software components to run on servers in different countries subject to different legal regimes. Increasingly, software and hardware-based systems and methods practiced in “the cloud”

² Guanyu Shenli Qinfan Zhuanli Quan Jiufen Anjian Yingyong Falü Ruogan Wenti de Jieshi (关于审理侵犯专利权纠纷案件应用法律若干问题的解释) [Explanations Regarding Several Issues Concerning the Application of Law in the Trial of Patent Infringement Dispute Cases] (promulgated by the Sup. People's Ct., Dec. 28, 2009, effective Jan. 1, 2010) art. 7, SUP. PEOPLE'S CT. GAZ., Feb. 1, 2010, at 5 [hereinafter Explanations on the Application of Law in Patent Infringement Dispute Cases], available at http://www.court.gov.cn/qwfb/sfjs/201001/t20100129_759.htm. For the uses and role of the judicial explanation within Chinese law, see Shizhou Wang, *The Judicial Explanation in Chinese Criminal Law*, 43 AM. J. COMP. L. 569 (1995).

³ Eric Knorr & Galen Gruman, *What Cloud Computing Really Means*, INFO WORLD (Apr. 7, 2008, 3:00 AM), <http://www.infoworld.com/print/34031>.

implicate the conduct of several actors performing claim steps in different legal jurisdictions, with no individual entity performing each and every element of a patented invention. To reach an accused infringer who practices such divisible systems and methods, patent holders have typically looked to the doctrines of joint or indirect infringement.

A. Scope of Joint and Indirect Infringement in American Courts

Direct infringement of a claim under 35 U.S.C. § 271(a) requires one actor to perform each step of a patented method or system.⁴ Joint infringement, also under § 271(a), applies where two or more actors practice a patent claim in coordination. Under American law, “control or direction” is “required . . . for a finding of joint infringement.”⁵ Alternatively, a party may be found to be an indirect infringer of an American patent even when some elements of a patented system or method are performed by a separate entity. The Patent Act of 1952 codified an indirect infringement doctrine that had developed in the American courts.⁶ Sections 271(b) and (c) are complementary provisions that define inducement and contributory infringement, respectively.

At the time of this writing, the specifics of the American joint and indirect infringement doctrine are in a state of flux. The Federal Circuit recently granted two petitions for en banc rehearing,⁷ which presented a battery of

⁴ “A determination of [direct] infringement involves two steps: First, the court determines the scope and meaning of the asserted patent claims. The court then compares the properly construed claims to the allegedly infringing device to determine whether all of the claim limitations are present, either literally or by a substantial equivalent.” *Innovention Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1318–19 (Fed. Cir. 2011).

⁵ *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1363, 1381 (Fed. Cir. 2007). The language of *BMC* suggests that the joint infringement standard is limited only to process or method claims, but the Federal Circuit has applied the standard to system claims as well. *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367, 1381 (Fed. Cir. 2010).

⁶ *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065–66 (2011) (“As we recognized in *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U. S. 476 [1964] [*Aro II*], [t]he section was designed to codify in statutory form principles of contributory infringement which had been part of our law for about 80 years.”).

⁷ The order for the en banc hearing for *Akamai Tech., Inc. v. Limelight Networks, Inc.* vacated an opinion holding that, “as a matter of Federal Circuit law . . . there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps,” and also that “for an agency relationship to exist, and thus, for infringement to be found, both parties must consent that the agent is acting on the principal’s behalf and subject to the principal’s control.” *Akamai Tech., Inc. v. Limelight Networks, Inc. (Akamai I)*, 629 F.3d 1311, 1320 (Fed. Cir. 2011), *vacated, en banc reh’g granted*, No. 2009-1372, 2011 WL 1518909, at *1 (Fed. Cir. Apr. 20, 2011).

questions: (1) “If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?”⁸; (2) “If separate entities each perform separate steps of a method claim, under what circumstances, if any, would either entity or any third party be liable for inducing infringement or for contributory infringement?”⁹; and (3) “Does the nature of the relationship between the relevant actors—e.g., service provider/user; doctor/patient—affect the question of direct or indirect infringement liability?”¹⁰ The Federal Circuit, sitting en banc, chose not to change the current standard for joint—or “divided”—infringement under § 271(a).¹¹ The joint infringement inquiry under § 271(a) will continue to focus on the relationship between the jointly accused infringers, and courts will likely require at least some contract or agreement

The Federal Circuit also vacated and granted an en banc rehearing in *McKesson Tech. Inc. v. Epic Sys. Corp.*, 98 U.S.P.Q.2d 1281 (Fed. Cir. 2011). In its original opinion, the Federal Circuit gave the following explanation why unrelated parties should not be found joint infringers:

Patent law is a creature of statute and “expanding the rules governing direct infringement to reach independent conduct of multiple actors would subvert the statutory scheme for indirect infringement.” The notion of indirect patent infringement, encompassing contributory and induced infringement, already addresses the joint tortfeasor problem. Indeed, an indirect infringer is a type of joint tortfeasor because, while his actions alone do not harm the patentee, his actions along with another cause a single harm to the plaintiff. That “single harm,” however, is direct patent infringement, a strict liability offense limited to those who practice each and every element of the claimed invention. Absent direct infringement, the patentee has not suffered a compensable harm. Finally, in patent law, unlike in other areas of tort law, the patentee specifically defines the boundaries of his or her exclusive rights and provides notice to the public to permit avoidance of infringement. This stands in sharp contrast to the circumstances surrounding a joint tort where the victim has no ability to define the injurious conduct upfront and where, absent joint liability, the victim would stand uncompensated as a consequence.

Id. at 1284–85 (Fed. Cir. 2011) (citation omitted), *vacated, en banc reh’g granted*, 2011 WL 2173401, at *1 (Fed. Cir. May 26, 2011) (No. 2010-1291).

⁸ *Akamai I*, 2011 WL 1518909, at *1.

⁹ *McKesson Tech. Inc. v. Epic Sys. Corp.*, No. 2010-1291, 2011 WL 2173401, at *1 (Fed. Cir. May 26, 2011).

¹⁰ *Id.*

¹¹ *Akamai Technologies, Inc. v. Limelight Networks, Inc. (Akamai II)*, 2009-1372, 2012 WL 3764695, *3 (Fed. Cir. Aug. 31, 2012) (“[W]e have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271[a].”).

(or other clear indicia of agency or control) between accused infringers for a finding of joint infringement.

Rather, the Federal Circuit focused its decision on the doctrine of induced infringement. According to 35 U.S.C. § 271(b), “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” The Supreme Court interprets “induce” to mean “[t]o lead on; to influence; to prevail on; to move by persuasion or influence.”¹² Thus, § 271(b) recites in broad terms that one who promotes and encourages direct infringement is liable for induced infringement. The Supreme Court recently held that inducement under § 271(b) further “requires knowledge that the induced acts constitute patent infringement” and also “knowledge of the existence of the patent that is infringed.”¹³ In *Akamai II*, the Federal Circuit found it “well settled” that “there can be no indirect infringement without direct infringement.”¹⁴ The Court also found it “well supported in the court’s law” that “liability for direct infringement requires that a single party commit all the acts necessary to constitute infringement” (what the court describes as “the single direct infringer requirement”).¹⁵

Overturing earlier decisions,¹⁶ however, a majority of the Federal Circuit sitting en banc drew a distinction between (i) *liability* for direct infringement under § 271(a),¹⁷ which requires that “the accused infringer . . . perform all of the steps of the claimed method, either personally or through another acting under his direction or control,”¹⁸ and (ii) the act of direct infringement supporting a claim of inducement under § 271(b), which requires only that all

¹² *Global-Tech*, 131 S. Ct at 2065.

¹³ *Id.* at 2068. From the language of its opinion, the Supreme Court does not appear to have focused on the fact that “knowledge of the existence of the patent that is infringed” is not the same as “knowledge that the induced acts constitute patent infringement,” and that an accused inducer can have one sort of knowledge but not the other. The confusion is apparent in page 10 of the slip opinion of *Global-Tech*, where the Court states that “[it] would thus be strange to hold that *knowledge of the relevant patent* is needed under 271(c) but not under 271(b). Accordingly, we now hold that induced infringement under 271(b) requires *knowledge that the induced acts constitute patent infringement.*” *Id.* (emphasis added). The court in *Akamai II* adds to this confusion by recognizing *Global Tech’s* requirement that “the accused inducer act with knowledge that the induced acts constitute patent infringement” in Section II.B, but then ignoring this scienter requirement altogether in the tests it applies in Section III. Compare *Akamai II*, 2012 WL 3764695, at *3, with *id.* at *14.

¹⁴ *Id.* at *4.

¹⁵ *Id.*

¹⁶ *Id.* at *1.

¹⁷ *Id.* at *4.

¹⁸ *Id.* at *2.

the steps claimed by the method are performed by any number of actors.¹⁹ By removing the single direct infringer requirement from the inducement analysis, the Federal Circuit relaxed the test for infringement for inducement claims compared to direct infringement.²⁰

Contributory patent infringement is explicitly defined and codified in 35 U.S.C. § 271(c):

Whoever offers to sell or sells . . . a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.²¹

As the Supreme Court noted, “[before] 1952, both the conduct now covered by 271(b) (induced infringement) and the conduct now addressed by 271(c) (sale of a component of a patented invention) were viewed as falling within the overarching concept of ‘contributory infringement.’”²² Accordingly, § 271(c) “was designed to ‘codify in statutory form principles of contributory infringement’ which had been ‘part of our law for about 80 years,’” and to ensure that courts will “recognize or hold liable one who has contributed to the infringement of a patent” through the acts proscribed by the section.²³

The Patent Act does not explain the relationship between § 271(b) and (c). In the absence of statutory command, courts look to the character of acts the defendant has committed. The Supreme Court has held that § 271(b) applies to cases where the defendant took “‘active steps . . . to encourage direct infringement,’ such as advertising an infringing use or instructing how to

¹⁹ *Id.* (“[T]here is no reason to immunize the inducer from liability for indirect infringement simply because the parties have structured their conduct so that no single defendant has committed all the acts necessary to give rise to liability for direct infringement.”).

²⁰ *Id.* at *5 (“[N]othing in the text of either subsection suggests that the act of ‘infringement’ required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a).”). In his dissent, Judge Linn observed that “the majority impermissibly bends the statute to define direct infringement differently for the purposes of establishing liability under §§ 271(a) and (b).” *Id.* at *37 (Linn, J., dissenting). Judge Linn’s dissent appears to set the stage for further review at the Supreme Court.

²¹ 35 U.S.C. § 271(c) (2006).

²² *Global-Tech*, 131 S. Ct. at 2068.

²³ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U. S. 476, 486 n.6 (1964) (citation omitted).

engage in an infringing use.”²⁴ In contrast, § 271(c) applies to cases where the defendant sells “an article [that] is ‘good for nothing else’ but infringement.”²⁵ That one is not a contributory infringer, however, does not mean that one is not an inducer.²⁶ The opposite is also true.²⁷

B. Scope of Joint and Indirect Infringement Under the Umbrella of Joint and Several Civil Liability in Chinese Patent Law

China does not have a joint or indirect infringement doctrine specific to patents. Rather, infringement of all forms of intellectual property rights (IPRs), including patent rights, are explicitly defined in the Tort Liability Law.²⁸ In IPR infringement disputes, Chinese courts apply the general definitions set forth in the Tort Liability Law for joint and several liability. The first of these is Article 8:

第八条 二人以上共同实施侵权行为，造成他人损害的，应当承担连带责任。

Article 8 Two or more persons who jointly commit a tortious act and who cause harm to another shall bear joint and several liability.²⁹

²⁴ Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913, 936 (2005).

²⁵ *Id.* at 932.

²⁶ *Id.* at 935 n.10 (“Nor does the Patent Act’s exemption from liability for those who distribute a staple article of commerce, 35 U. S. C. 271(c), extend to those who induce patent infringement, 271(b).”).

²⁷ *Id.* at 932 (“[W]ith no evidence of stated or indicated intent to promote infringing uses, the only conceivable basis for imposing liability was on a theory of contributory infringement . . .”).

²⁸ The word “tort” is used here to translate “侵权” (*qinquan*) because of common translation practices. But a “tort” in western law is a breach of civil duty, while “侵权” is explicitly defined as a “violation of civil rights and entitlements.” *Qinquan Zeren Fa* (侵权责任法) [Tort Liability Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Dec. 26, 2009, effective July 1, 2010) art. 2, 2010 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ. 4, available at http://www.gov.cn/flfg/2009-12/26/content_1497435.htm, translated in http://www.ssd.com/pdf/chinaupdate/Tort_Liability_Law_of_PRC_Chinese_English.pdf.

²⁹ Article 8 of the new Tort Liability Law is a recodification of Article 139 of the General Principles of the Civil Law. *Minfa Tongze* (民法通则) [General Principles of the Civil Law] (promulgated by Nat’l People’s Cong., Apr. 12, 1986, effective Jan. 1, 1987) art. 139, 1986 SUP. PEOPLE’S CT. GAZ. 15, available at http://www.law-lib.com/law/law_view.asp?id=3633.

In the context of patent infringement, Article 8 is the Chinese counterpart of the joint infringement doctrine. In applying the Article 8 definition of joint and several liability, the Chinese courts focus on whether the accused IPR infringers performed acts of infringement jointly or whether the acts were independent in character. In a trademark dispute where a seed manufacturer sued a number of accused infringers, the Supreme People's Court stated:

In this dispute, the combination of each respondent's acts of infringement did cause large quantities of seeds passing off as [the plaintiff's] seeds to enter the market. But the respondents' acts of infringement are each different, and possess clearly independent character. Moreover, each act of infringement does not cause the full extent of the harm. Therefore, the acts of each respondent do not constitute joint infringement.³⁰

The second general definition of joint and several liability in the Tort Liability Law is found in Article 9:

第九条 教唆、帮助他人实施侵权行为的，应当与行为人承担连带责任。

³⁰ Henan Jin Boshi Zhongye Gufen Youxian Gongsi yu Shenzhen Shi Mengwang Keji Fazhan Youxian Gongsi, Cangnan Xian Shuntai Suliao Youxian Gongsi, Wenzhou Mengning Yinze Youxian Gongsi, Cangnan Xian Chuangfa Fangwei Keji Youxian Gongsi, Wang Qisheng Qinfan Shangbiao Quan Jiufen Yi An (河南金博士种业股份有限公司与深圳市梦网科技发展有限公司、苍南县顺泰塑料有限公司、温州孟宁印业有限公司、苍南县创发防伪科技有限公司、王祁生侵犯商标权纠纷一案) [Henan Goldoctor Seeds Co. v. Shenzhen Montnets Technology Co.] (Sup. People's Ct. 2010), available at http://ipr.court.gov.cn/zgrmfy/sbq/201008/t20100812_122402.html. It may be worthwhile to consider these two articles from the Tort Liability Law:

第十一条 二人以上分别实施侵权行为造成同一损害，每个人的侵权行为都足以造成全部损害的，行为人承担连带责任。

Article 11 Where two or more persons cause the same harm while separately committing tortious acts, and where each person's tortious act is sufficient to cause the whole harm, all of the tortfeasors shall bear joint and several liability.

第十二条 二人以上分别实施侵权行为造成同一损害，能够确定责任大小的，各自承担相应的责任；难以确定责任大小的，平均承担赔偿责任。

Article 12 Where two or more persons cause the same harm while separately committing tortious acts, each person shall bear his proportion of liability where it is possible to ascertain the measure of liability, but each person shall bear an averaged compensatory liability where it is difficult to ascertain the measure of liability.

Article 9 Anyone who abets or aids another to commit a tortious act shall bear joint and several liability with the tortfeasor.³¹

When applied to patent infringement, Article 9 is the Chinese counterpart to the American doctrine of inducement codified in 35 U.S.C. § 271(b). In a case considered by the Supreme People's Court, summarized here (with simplified facts),³² Chen Jun, the owner of a furniture retail store, sold furniture violating Landbond Furniture's design patent. Liao Xiaohua loaned Chen his own furniture company's official seal so Chen could stamp invoices with the seal. The Supreme People's Court found that Liao "[had] not directly manufactured or sold the accused product, and his act of loaning out the official invoice seal does not directly constitute a violation of the design patent." But because Chen's act of selling the product "directly infringed the design patent [of the plaintiff]," Liao was held jointly and severally liable with Chen and the other defendants for design patent infringement.

Contributory torts, as understood in the Western sense, have not been defined generally under the umbrella of joint and several liability in the Tort Liability Law or specifically within Chinese patent law. In 2009, the Supreme People's Court circulated a comment-seeking draft of a judicial explanation concerning patent trials, which included this definition for joint and several liability for patent infringement:

第十六条 行为人知道有关产品系只能用于实施特定发明或者实用新型专利的原材料、中间产品、零部件、设备等，仍然将其提供给第三人以实施侵犯专利权的行为，权利人主张该行为人和第三人承担连带民事责任的，人民法院应当支持；该第三人的实施不是为生产经营目的，权利人主张该行为人承担民事责任的，人民法院应当支持。

³¹ Article 9 of the Tort Liability Law is a codification of Article 148 of a Supreme People's Court judicial explanation concerning the General Principles of the Civil Law. Guanyu Guanche Zhixing <Zhonghua Renmin Gongheguo Minfa Tongze> Ruogan Wenti de Yijian (Shixing) (关于贯彻执行<中华人民共和国民法通则>若干问题的意见[试行]) [Opinions on Several Issues Concerning the Implementation of the General Principles of the Civil Law (Trial Version)] (promulgated by the Sup. People's Ct., Jan. 26, 1988, effective Jan. 26, 1988) art. 148, SUP. PEOPLE'S CT. GAZ., June 20, 1988, at 16, available at http://www.law-lib.com/law/law_view.asp?id=203. It should be noted that rules and regulations and judicial explanations labeled as "trial versions" are still enforced regardless of the appellation.

³² Foshan Shi Shunde Qu Lecong Zhen Shabian Wanshida Jiaju Chang, Ma Runji yu Guangdong Lianbang Jiasi Jituan Youxian Gongs, Chen Jun, Liao Xiaohua Qinfan Waiguan Sheji Zhuanli Quan Jiufen Yi An (佛山市顺德区乐从镇沙边万事达家具厂、马润基与广东联邦家私集团有限公司、陈军、廖晓华侵犯外观设计专利权纠纷一案) [Shunde Hengji Furniture Co. v. Guangdong Landbond Furniture Group] (Sup. People's Ct. 2010), available at http://ipr.court.gov.cn/zgrmfy/zlq/201008/t20100818_122493.html.

Article 16 Where a tortfeasor knows that the relevant good could only be used as raw material, intermediate good, part, equipment, etc., for practicing a specific patented invention or patented utility model and still provides such good to a third person to commit acts of patent infringement, the people's court shall decide in favor of the right holder when the right holder asserts that both the tortfeasor and the third person bear joint and several civil liability. But where the third person's commission [of acts of patent infringement] is not for the purpose of manufacture or sale, the people's court shall decide in favor of the right holder when the right holder asserts that the tortfeasor should bear civil liability.³³

This proposal, which would have tracked the standard for contributory infringement set forth in 35 U.S.C. § 271(c), was not included in the final version of the judicial explanation promulgated in 2010.³⁴

C. Comparing and Contrasting the Chinese and American Joint and Indirect Infringement Doctrines

With respect to the joint infringement doctrine, Article 8 of the Chinese Tort Liability Law presents a different standard from that of the American statutes. Article 8 focuses on the “independent character” of the “acts of infringement,” which effectively requires some unity of action and coordination amongst the accused infringers. In contrast, § 271(a) of the American Patent Act looks less at the actual acts performed by the accused joint infringers and more at the relationship between the accused parties. In either case, coordinated conduct in complex systems typically requires parties to define roles and responsibilities through contract. To the extent that the “standard . . . for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement,”³⁵ the doctrines of the two countries are aligned. The Chinese joint infringement standard, which requires the joint infringers to commit their acts of

³³ Guanyu Shenli Qinfan Zhuanli Quan Jiufen Anjian Yingyong Falü Ruogan Wenti de Jieshi (Zhengqiu Yijian Gao) (关于审理侵犯专利权纠纷案件应用法律若干问题的解释 [征求意见稿]) [Explanations of Several Issues Concerning the Application of Law in the Trial of Patent Infringement Dispute Cases (Comment-Seeking Draft)] art. 16, available at <http://ip.people.com.cn/GB/9505611.html>, translated in <http://www.ccpit-patent.com.cn/News/2009070702.pdf>. “Tortfeasor” is used instead of “infringer” in the translation to maintain consistency with the Tort Liability Law.

³⁴ Explanations on the Application of Law in Patent Infringement Dispute Cases, *supra* note 2.

³⁵ *BMC*, 498 F.3d at 1381.

infringement together, likely permits contracting parties to steer clear of the strictures of Article 8 of the Tort Liability Law by retaining an “independent character” in their coordinated activities.

Chinese patent law is vague with respect to the acts that constitute inducement. As illustrated by the case of *Shunde Hengji Furniture Co. v. Guangdong Landbond Furniture Group*, discussed above, the “abets or aids” language in Article 9 of the Tort Liability Law is sufficiently broad that joint and several liability attaches even when a party does nothing more than loan out an official seal for stamping sales invoices.³⁶ American courts also similarly give the inducement doctrine an expansive reading, thanks in part to the Supreme Court’s adoption of the Webster’s Dictionary definition of the verb “induce”: “[t]o lead on; to influence; to prevail on; to move by persuasion or influence.”³⁷ In *Metro-Goldwyn-Mayer Studios v. Grokster*, the Supreme Court describes a range of acts that may constitute inducement: “demonstrations by sales staff of infringing uses,” “[demonstrations] and [recommendations of] infringing configurations’ of [the accused] product,” and depictions of infringing uses in “promotional film and brochures.”³⁸

Still, there are subtle but important differences in the scope of acts that constitute inducement under the two patent regimes. The United States Supreme Court has held: “[w]hen a person actively induces another to take some action, the inducer obviously knows the action that he or she wishes to bring about.”³⁹ Thus, in American courts,⁴⁰ there is an extra element of “bringing about” which goes beyond Article 9’s “abets or aids.” Loaning an official seal for use on sales invoices may be said to “aid” the sale of infringing

³⁶ *Shunde Hengji Furniture Co.*, *supra* note 32.

³⁷ See, e.g., *Global-Tech*, 131 S. Ct. at 2065.

³⁸ *Grokster*, 545 U.S. at 936.

³⁹ *Global-Tech*, 131 S. Ct. at 2065.

⁴⁰ In *Akamai II*, the Federal Circuit appears to omit the *Global-Tech* scienter requirement when laying out tests for the district courts to apply on remand. *Akamai II*, 2012 WL 3764695, at *14. For instance, the test laid out for *McKesson* was: (1) knowledge of the patent; (2) inducement of a third party to perform all the steps; and (3) actual performance of all the steps. *Id.* For *Akamai*, the test was: (1) knowledge of the patent; (2) performance of all but one step of the claimed method; (3) inducement of a third party to perform the last step; and (4) actual performance of the last step. *Id.* This omission may have been inadvertent, or the court may have conflated the scienter requirement with the knowledge requirement, or the court may have intended to remove the scienter requirement along with the single-actor requirement. Notably, the Federal Circuit explicitly acknowledges the *Global-Tech* scienter requirement earlier in the opinion and clarifies that the accused inducer must “possess[] specific intent to encourage another’s infringement.” *Id.* at *3. But if courts applying the tests articulated in *Akamai II* read the opinion as diluting or eliminating the scienter requirement, inducement liability may be read as extending to those that reasonably believe they do not infringe or “even [those] unaware that others are practicing some of the steps claimed in the patent.” *Id.* at *48 n.1.

products—the seal may provide the buyer with some added confidence that the purchased goods are authentic—but it is more difficult to establish that the seal “brings about” those sales.⁴¹ Accordingly, such ancillary activity is arguably not an act of inducement as contemplated by the Supreme Court.⁴²

The key distinction between the American and Chinese inducement doctrines is the American requirement, as the Supreme Court recently held, that inducement “requires knowledge that the induced acts constitute patent infringement” and also “knowledge of the existence of the patent that is infringed.”⁴³ In contrast, in the case of *Shunde Hengji Furniture Co. v. Guangdong Landbond Furniture Group*, discussed above, the Supreme People’s Court never considered whether the accused inducer knew of the existence of the infringed patent or that he was aware he was helping a third-party infringe patents. Rather, the court applied strict liability in determining that Liao induced infringement. Accordingly, the inducement standard in Chinese patent law appears to reach inadvertent conduct that the American standard does not touch.

II. IPR TERRITORIALITY: COMPARING AND CONTRASTING THE AMERICAN AND CHINESE APPROACHES

The general principle of patent law territoriality is the same throughout the world—a patent confers a monopoly only within the jurisdiction whose sovereign grants the patent. As the Supreme Court stated:

The presumption that United States law governs domestically but does not rule the world applies with particular force in patent law. The traditional understanding that our patent law “operate[s] only domestically and d[oes] not extend to foreign activities,” is embedded in the Patent Act itself, which provides that a patent confers exclusive rights in an invention within the United States.⁴⁴

⁴¹ There is no American equivalent to a Chinese official seal, which serves an identification function similar to that of a signature.

⁴² In his article *Inducing Patent Infringement*, Mark Lemley identifies three definitions for inducement: “(1) inducement is limited to causing infringement on a respondeat superior theory; (2) inducement extends beyond causing infringement to include *efforts* to cause infringement, such as urging or encouraging infringement by another; and (3) inducement includes anything a defendant does to help a third party to infringe.” Mark Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV. 225, 229 (2007). *Global-Tech’s* “bring about” language tracks Lemley’s second definition, while the Chinese “aids or abets” definition of inducement in Article 9 of the Tort Liability Law more closely matches Lemley’s third definition.

⁴³ *Global-Tech*, 131 S. Ct. at 2065–66.

⁴⁴ *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454–55 (2007).

The Guangdong High People's Court tracks the language of the Supreme Court when articulating the Chinese territoriality principle: "patent rights possess strictly territorial character, and the patent rights granted according to the laws of a country will only be legally protected within the borders of that country."⁴⁵ But these expressions of judicial modesty must be reconciled with the more expansive interpretation of national territoriality principles as applied by courts in both China and America.

A. The Territoriality Principle Under American Law

Under American patent law, a court first establishes the "situs of the [direct patent] infringement," which "is wherever an offending act [of infringement] is committed."⁴⁶ The situs depends on the form of the claim itself. With regard to method claims, "a process cannot be used 'within' the United States as required by section 271(a) of the Patent Act unless each of the steps is performed within this country."⁴⁷ That is, process claims may not be asserted against accused direct infringers when some of the alleged acts of infringement take place overseas.

The situs of induced infringement is less clear. In *Akamai II*, the Federal Circuit implies that the act of "infringement" carries a different meaning in the context of induced infringement.⁴⁸ The Federal Circuit divorced "infringement" from "liability for infringement."⁴⁹ If the relevant situs for an inducement claim is where the various actors "commit all the acts necessary to constitute infringement,"⁵⁰ each of the steps of the method must be completed within the United States. The Federal Circuit's previous statement that "a foreign party, with the requisite knowledge and intent, [who] employs extraterritorial means to actively induce acts of direct infringement that occur within the United

⁴⁵ Dongguan Huangjiang Weide Shuzhi Gongyipin Chang yu Zhuhai Shi Xiangzhou Qu Dongqi Dianqi Chang Zhuanli Quan Jiufen Yi An (东莞黄江威德树脂工艺品厂与珠海市香洲区东奇电器厂专利侵权纠纷一案) [*Dongguan Huangjiang Weide Resin Crafts v. Zhuhai City Xiangzhou District Dongqi Electronics*] (Guangdong High People's Ct. Dec. 15, 2003), available at http://ipr.court.gov.cn/gd/zlq/200606/t20060602_104056.html.

⁴⁶ *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1316 (Fed. Cir. 2005).

⁴⁷ *Id.* at 1318.

⁴⁸ *Akamai II*, 2012 WL 3764695, at *5 ("[N]othing in the text of either subsection suggests that the act of 'infringement' required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a).").

⁴⁹ *Id.* at *4 ("[T]hat there *has been* direct infringement . . . for induced infringement is not the same as . . . [finding] that a single party would be *liable* as a direct infringer.") (emphasis in original).

⁵⁰ *Id.*

States . . . is not categorically exempt from redress under § 271(b)” supports this interpretation.⁵¹ But elsewhere in its *Akamai II* opinion, the Court notes that the plain language of § 271(b) “sets forth [a] type of conduct that qualifies as infringing, i.e., it provides that anyone who induces infringement ‘shall be liable as an infringer.’”⁵² This suggests that the conduct that qualifies as infringing for an inducement claim under § 271(b) may be the inducement itself. If an actor in the United States induces others abroad to infringe a U.S. patent, a plaintiff may argue that *Akamai II* supports a finding that the situs of the induced infringement is America—even when “all the acts necessary to constitute [direct] infringement” occur overseas. Such an interpretation, however, significantly extends United States patent coverage to overseas conduct. This is well illustrated by the extreme case: a United States entity contracting with a Chinese manufacturer to make and sell products in China could be liable for induced infringement in the United States. This result runs afoul of the IPR territoriality principles set forth in *Microsoft v. AT&T* and its progeny.⁵³

System claims require a slightly different analysis: “[To] ‘use’ a system for purposes of infringement, a party must put the invention into service, i.e., control the system as a whole and obtain benefit from it.”⁵⁴ The situs of the user’s use of the system is the location of the user himself, since “[t]he use of a claimed system under section 271(a) is the place at which the system as a

⁵¹ *Merial Ltd. v. Cipla Ltd.*, 681 F.3d 1283, 1302-03 (Fed. Cir. 2012) (citing approval of a jury instruction in *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1305-06 (Fed. Cir. 2006) (en banc in relevant part)) (the jury instruction read, in part, “Unlike direct infringement, which must take place in the United States, induced infringement does not require any activity by the indirect infringer in this country, so long as the direct infringement occurs here.”).

⁵² *Akamai II*, 2012 WL 3764695, at *9.

⁵³ The Supreme Court unequivocally stated that “[i]t is the general rule under United States patent law that no infringement occurs when a patented product is made and sold in another country”—the only exception being the supply of components under § 271(f). *Microsoft*, 550 U.S. at 441. See also *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1365 (Fed. Cir. 2009) (en banc in relevant part) (noting “the presumption against extraterritoriality”); *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1309 (Fed. Cir. 2010), *reh’g denied*, No. 09-1556 (Fed. Cir. Oct. 29, 2010) (same); *TianRui Group Co. Ltd. v. Int’l Trade Comm’n*, 661 F.3d 1322, 1333 (Fed. Cir. 2011) (citing “a narrow construction to the extraterritorial application of U.S. patent law”); *Zoltek Corp. v. United States*, 672 F.3d 1309, 1331 (Fed. Cir. 2012) (noting the “presumption against extraterritorial interpretation and application of the patent laws”); *Merial*, 681 F.3d at 1302 (recognizing “the fundamental territoriality of U.S. patent law”). If courts interpreting *Akamai II* reconcile the holding with longstanding territoriality principles, the situs for an inducement claim must be where “all the acts necessary to constitute infringement.” Still, this is an issue that may be ripe for further guidance from the Federal Circuit.

⁵⁴ *Centillion*, 631 F.3d at 1284.

whole is put into service, *i.e.*, the place where control of the system is exercised and beneficial use of the system obtained.”⁵⁵

For instance, in *NTP v. Research In Motion*, one of the components necessary to practice the system claim, the “RIM Relay, which controls the accused systems and is necessary for the other components of the system to function properly, [was] not located within the United States.”⁵⁶ Nonetheless, the Federal Circuit held that “[i]t did not matter that the user did not have physical control over the relays, the user made them work for their patented purpose, and thus ‘used’ every element of the system by putting every element collectively into service.”⁵⁷ Because “RIM’s customers located within the United States controlled the transmission of the originated information and also benefited from such an exchange of information,” the location of a claimed element of the system in Canada “did not, as a matter of law, preclude [direct] infringement of the asserted system claims in this case.”⁵⁸

Section 271(f)—which roughly tracks inducement and contributory infringement under §§ 271(b) and (c)—further extends the reach of the American patent laws. Under § 271(f),⁵⁹ one who supplies the components of a patented invention “in or from the United States” for overseas assembly is liable for infringement. This expands the reach of American patent law to overseas conduct (e.g. manufacture and use) so long as the components originated in the United States.⁶⁰ Courts have, however, limited § 271(f)’s reach by excluding method claims from its purview⁶¹ and by construing “supply” narrowly to mean “transfer of a physical object.”⁶²

B. The Territoriality Principle Under Chinese Law

Chinese courts have had fewer opportunities to consider issues of transnational patent infringement. It is therefore instructive to consider discussions of transnational trademark infringement, which are likely to share

⁵⁵ *NTP*, 418 F.3d at 1317.

⁵⁶ *Id.*

⁵⁷ *Centillion*, 631 F.3d at 1284.

⁵⁸ *NTP*, 418 F.3d at 1317.

⁵⁹ The Federal Circuit provides a detailed description of the history of § 271(f) in the en banc portion of *Cardiac Pacemakers*, 576 F.3d at 1359–62.

⁶⁰ Elizabeth T. Joseph, *Apocalypse Soon: How the Implementation of Web Services Changes the Game for Extraterritoriality*, 36 IOWA J. CORP. L. 239, 241 (2010) (describing how Congress enacted 271(f) because “no [other] part of § 271 provided for infringement liability for the manufacture or use of a patented product outside of the United States”).

⁶¹ *Cardiac Pacemakers*, 576 F.3d at 1362 (en banc in relevant part) (“Section 271(f) does not encompass method patents.”).

⁶² *Id.* at 1364.

the same territorial characteristics. From trademark disputes, it appears Chinese authorities apply a highly mechanical IPR territoriality analysis. First, Chinese courts will determine IPR harm only from the defendant's activities in China, without taking account of foreign activities. Second, Chinese courts will not permit foreign IPR rights to interfere with any activity in China.

The Supreme People's Court's actions in the Pectol unfair competition and trademark dispute illustrate the first point.⁶³ Pectol is a mint candy that Damel, a Spanish manufacturer, sells in Nigeria. Damel noticed that Lever Foods, a Chinese manufacturer, was selling mint candy branded as "Pectol" in Nigeria. Damel sued Lever Foods in China for unfair competition, even though Damel did not have trademark rights to Pectol mint candy in China. At the second instance trial (i.e. the appeal), the Tianjin High People's Court decided in favor of Damel on the basis that national laws should be obeyed and that China should fulfill its treaty obligations by combating transnational torts. Lever Foods petitioned the Supreme People's Court for a rehearing, arguing that Damel had no trademark right in China and no business in China. The Supreme People's Court vacated the judgment of the lower court and remanded for a new trial. The Supreme People's Court gave no reason for the remand, beyond stating that Lever Foods provided good grounds for a new trial, but the remand can be viewed as an expression of disapproval of the initial decision.

The reluctance of Chinese courts to take foreign activities into account can also be observed in a trademark dispute involving the Eveready mark. Eveready Battery Company ("Energizer") did not have trademark rights to the "Eveready" brand in South Africa—a local battery manufacturer ("Eveready SA") owned the rights.⁶⁴ Eveready SA outsourced manufacturing of handheld torch products to a manufacturer in China, and directed the Chinese manufacturer to affix the Eveready SA logo to the products.⁶⁵ These products,

⁶³ Laier Shipin (Tianjin) Youxian Goingsi yu Xibanya Damaier Chanpin Gufen Gongsi Bu Zhengdang Jingzheng Jiufen Yi An (莱尔食品[天津]有限公司与西班牙达迈尔产品股份公司不正当竞争纠纷一案) [Lever Foods (Tianjin) Ltd v. Productos Damel S.A.] (Sup. People's Ct. 2009), available at http://ipr.court.gov.cn/zgrmfy/bzdjz/200908/t20090828_122342.html.

⁶⁴ For the purposes of this discussion, Eveready Battery Company will be referred to by the name of its owner, Energizer Holdings, to avoid confusion with Eveready SA. It appears that Energizer may have lost its rights in South Africa to the Eveready brand due to non-use in South Africa during apartheid. Indeed, Eveready SA appears at one time to have been a subsidiary of Duracell, Energizer's chief competitor. Eveready SA provides a history of itself on its website. *Company History*, EVEREADY SOUTH AFRICA, <http://www.eveready.co.za/content.asp?PageID=440> (last visited Aug. 22, 2012).

⁶⁵ Yuangao Yongbei Dianchi Youxian Gongsi yu Beigao Ningbo Hengrui Dianqi Youxian Gongsi Qinfan Shangbiao Zhuanyong Quan Jiufen Yi An (原告永备电池有限公司与被告宁波亨瑞电器有限公司侵犯商标专用权纠纷一案) [Eveready Battery Co. v. Ningbo Henry Elec. Appliance Co.] (Ningbo Interm. People's Ct. Dec. 15, 2008), available at http://ipr.court.gov.cn/zj/sbq/200904/t20090415_115864.html.

⁶⁵ *NTP*, 418 F.3d at 1316.

commissioned by Eveready SA, were shipped to South Africa for sale. They were not sold in China—or anywhere outside of South Africa. Energizer possessed the rights to Eveready in China, and successfully sued the Chinese manufacturer in China for trademark infringement. According to the Ningbo Intermediate People's Court:

Because IPR possesses territorial character, the IPR obtained and recognized in accordance with the laws of [a] country will have legal effect only within that country, and does not possess extraterritorial effect. Within Chinese legal jurisdiction, Eveready Battery Company [Energizer] is the only right holder to the Eveready trademark, and the defendant's so-called "Eveready SA" does not possess the trademark rights in China. In accordance with the territorial and exclusionary principles of trademark protection, our country must legally protect the trademark rights the plaintiff [Energizer] possesses in China.

The Eveready dispute also illustrates that foreign intellectual property rights will not be allowed to interfere with business activities in China.⁶⁶ In the Eveready dispute, the Chinese court declined to view Eveready SA's rights to the "Eveready" mark in South Africa as a basis for condoning the non-market use of the "Eveready" mark in China.

This view is shared by other Chinese courts. The Guangdong High People's Court considered a dispute involving the false marking of an American patent.⁶⁷ The plaintiff owned an exclusive license in China to the U.S.

⁶⁶ China will not honor IPRs established in its own Special Administrative Regions, Hong Kong and Macau. As the Guangdong High People's Court explains

IPR possesses territorial character. Mainland China and Macau belong to different legal jurisdictions, and the trade names and marks used in Macau cannot be used within the Mainland as a matter of course, and certainly do not automatically give rise to legal rights within the Mainland. China's Trademark Law effectuates a trademark registration system, meaning that a registered mark possesses trademark monopoly rights and possesses exclusionary protection within China's legal jurisdiction. If they have not acquired prior trademark rights, copyright, design patent rights, enterprise name rights, etc., in the Mainland, the trade names and marks used in Macau can still cause harm to monopoly rights of trademarks registered in the Mainland.

Shangsuren Zhuhai Xiangji Shipin Youxian Gongsu yu Beishangsuren Foshan Shi Heji Bingye Youxian Gongsu Qinfan Shangbiao Zhuanyong Quan Jiufen Yi An (上诉人珠海香记食品有限公司与被上诉人佛山市合记饼业有限公司侵犯商标专用权纠纷一案) [Zhuhai Hongkee Foods v. Foshan Heji Biscuit Co.] (Guangdong High People's Ct. Dec. 15, 2009), available at http://ipr.court.gov.cn/gd/sbq/201005/t20100507_107624.html.

⁶⁷ *Dongguan Huangjiang Weide Resin Crafts*, *supra* note 45.

Patent No. 5,700,557, “Unsaturated Polyester and the Manufacturing Method Thereof,” as well as the Chinese counterpart, patent ZL97100197.9. The defendant created decorative lighting, stamped with “5,700,557,” the number of the American patent. The plaintiff accused the defendant of falsely marking products with the patent to which plaintiff had exclusive rights. In the second instance trial, the Guangdong High People's Court decided in favor of the defendant, stating:

Patent rights possess strictly territorial character, and the patent rights granted by a country according to its own laws will only be legally protected within the borders of that country. The patent 5,770,557 is a patent granted by the United States to Li-Ching Lin, and the U.S. patent does not possess the force of patent law protection within the territory of China. Hence, [the plaintiff's] ground of appeal that [the defendant] was committing false patent marking cannot be sustained, and this court rejects the argument.

Based on these cases, it appears that the Chinese IPR territoriality principle is rigid. Activities in China are governed by Chinese laws only. As seen in the Pectol and Eveready disputes, the Chinese courts give little consideration to activities in foreign countries when assessing IPR liability in China.

C. The Territorial Nature of Patent Right Adjudication

United States district courts are barred by 28 U.S.C. § 1367 from adjudicating infringement of foreign patent claims. In *Voda v. Cordis Corp.*, the Federal Circuit observed that (1) the exercise of jurisdiction would undermine American treaty obligations, (2) courts should respect comity amongst sovereigns, and (3) the American courts' inability to give final adjudication of claims would lead to a waste of resources.⁶⁸ Significantly, the Federal Circuit also noted:

As “a *principle of decision* binding on federal and state courts alike,” the act of state doctrine “requires that, in the process of deciding, the acts of foreign sovereigns taken within their own jurisdictions shall be deemed valid.” In this case, none of the parties or amicus curiae have persuaded us that the grant of a patent by a sovereign is not an act of state. Therefore, assuming arguendo that the act of state doctrine applies, the doctrine would prevent our courts from inquiring into the validity of a foreign patent grant and require our courts to adjudicate patent claims regardless of validity or

⁶⁸ *Voda v. Cordis Corp.*, 476 F.3d 887, 900, 903 (Fed. Cir. 2007).

enforceability. Given the number of U.S. patent cases that we resolve on validity or enforceability as opposed to infringement grounds, exercising such jurisdiction could be fundamentally unfair to the alleged infringer where, as one amicus curiae points out, “the patent is in fact invalid and the defendant would be excused from liability on that basis in a foreign forum.”⁶⁹

The Federal Circuit appears to have created a per se rule that a federal district court must decline to adjudicate foreign patent claims when the validity of the foreign patent is at issue.

Moreover, 28 U.S.C. § 1338(a) provides that United States “district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents, plant variety protection, copyrights and trademarks.”⁷⁰ Congress has not authorized the assertion of American patent rights in any court outside of the United States. Indeed, the Federal Circuit understands that § 1338(a) gives federal courts exclusive jurisdiction over American patent claims.⁷¹

Similarly, there is little reason to believe that a Chinese court will enforce American patent rights. As seen in the aforementioned false patent marking dispute in China, Chinese courts refuse to entertain the idea that foreign patent rights can be asserted in China, even when domestic patents claim the same invention.⁷²

Thus, as a general principle, a patent holder can only enforce the appurtenant patent rights in the court of the sovereign that granted the patent, and the peculiarities of the local jurisprudence attach to these patent rights. Accordingly, patent holders face the significant challenge of crafting a coherent theory of infringement that attaches to remote computing systems physically divided between operations in disparate jurisdictions.

D. Comparing and Contrasting Chinese and American Territoriality Principles

Courts in both China and America apply their respective IPR territoriality principles to regulate domestic activities with limited regard for how domestic

⁶⁹ *Id.* at 904 (citation omitted).

⁷⁰ 28 U.S.C. § 1338(a) (2006).

⁷¹ *Id.* at 901 (“None of the parties or amicus curiae have demonstrated that the British, Canadian, French, or German governments are willing to have our courts exercise jurisdiction over infringement claims based on their patents.”). *Cf.* 28 U.S.C. § 1338(a) (granting federal courts exclusive jurisdiction of claims relating to U.S. patents).

⁷² *Dongguan Huangjiang Weide Resin Crafts*, *supra* note 45 (“Patent rights possess strictly territorial character, and the patent rights granted by a country according to its own laws will only be legally protected within the borders of that country.”) (emphasis added).

enforcement might affect foreign activities. For instance, the Chinese court found Eveready SA's Chinese manufacturer infringed Energizer's intellectual property rights in China without giving significant consideration to Eveready SA's authorized use of the Eveready name in South Africa. Similarly, the Federal Circuit assessed the harm to the holder of a domestic patent by determining the activities of American customers directly infringed a system comprised of machinery that was, at least in part, in Canada.

Even § 271(f) stops its analysis at the border. Section 271(f) "does not require an actual combination of the components [abroad], but only a showing that the infringer shipped them [from the United States] with the intent that they be combined."⁷³ Moreover, § 271(f) is concerned with cases "where components of a patent invention are physically present in the United States."⁷⁴ The focus is not on whether the patented invention was actually practiced overseas.

Significantly, the legal systems in China and America use very different methods for assessing domestic IPR harm resulting from foreign activities. The Chinese approach, as exemplified in the Eveready dispute, is to distinguish between foreign and domestic activities, and then to look closely for any harm in China arising from the activities. The court gave little weight to the ultimate objective of Eveready SA and its Chinese manufacturer—to exercise their legal right to sell Eveready SA goods in the South African market. Rather, the court dissociated the end result from the interim steps and found that preliminary activities in China infringed the legal rights of a business operating in China. The holding seems to ignore the fact that the primary harm arising from misuse of the trademark was potential market confusion in South Africa.⁷⁵ Eveready SA's manufacturer did not create market confusion in China because the goods being manufactured in China were never sold in China. Eventually, the products would have been sold—legally and with no market confusion—in South Africa.⁷⁶

⁷³ Waymark Corp. v. Porta Systems Corp., 245 F.3d 1364, 1368 (Fed. Cir. 2001).

⁷⁴ Pellegrini v. Analog Devices, Inc., 375 F.3d 1113, 1118 (Fed. Cir. 2004) ("[A]lthough Analog may be giving instructions from the United States that cause the components of the patented invention to be supplied, it is undisputed that those components are not being supplied in or from the United States.").

⁷⁵ As in American trademark law, Chinese trademark law identifies "consumer confusion" as the fundamental harm of trademark infringement. Guanyu Shenli Shangbiao Minshi Jiufen Anjian Shiyong Falü Ruogan Wenti de Jieshi (关于审理商标民事纠纷案件适用法律若干问题的解释) [Explanations of Several Issues Concerning the Application of Law in the Trial of Trademark Civil Dispute Cases] (promulgated by the Sup. People's Ct., Oct. 12, 2002, effective Oct. 16, 2002) art. 1, SUP. PEOPLE'S CT. GAZ., June 1, 2002, at 188, available at <http://www.customs.gov.cn/publish/portalo/tab3911/info8593.htm>.<http://www.customs.gov.cn/publish/portalo/tab3911/info8593.htm>.

⁷⁶ It is worthwhile to contrast the Chinese territorial approach with that taken by the South African Supreme Court of Appeal in *A M Moolla Group Ltd. v. Gap, Inc.* 2005 (3) SA 101 (SCA), available at <http://www.saflii.org/za/cases/ZASCA/2004/112.pdf>. Gap, the American clothing company, found itself in the same situation as the Eveready Battery

The American approach, as typified by the *NTP* litigation, also focuses on domestic patent harm, but courts appear willing to include foreign activities as part of the analysis when determining how to redress the domestic harm.⁷⁷ Despite the fact that one of the relays comprising part of the accused system was located in Canada, the court held that “customers located in the United States who sent messages via the accused product used the overall system and the location of the use was in the United States.”⁷⁸

The same approach can be observed in *Transocean Offshore Deepwater v. Maersk Contractors*, where the Federal Circuit, considering whether an offer to sell an infringing product occurred within the United States, held that the proper focus “should not be on the location of the offer, but rather the location of the future sale that would occur pursuant to the offer.”⁷⁹ The court reasoned that “[generating] interest in [the accused] product in the U.S.” constitutes “a real harm in the U.S. to a U.S. patentee.”⁸⁰ Therefore, “[t]he fact that the offer [for a sale of an accused product] was negotiated or a contract signed . . . abroad does not remove [the] case from statutory liability.”⁸¹

Company, in that it does not have rights to its name in South Africa. When Gap docked products carrying the “Gap” trademark at South African harbors for shipment to other African countries where it does possess the rights to “Gap,” the South African right holder sued for trademark infringement. The Supreme Court of Appeal decided in favor of Gap, holding that transshipment is not the same as importing. The court stated, “[o]ne has to assume that this country would not wish to interfere with the *legitimate* trade of countries that, due to their particular geographical location, are dependent for access and egress on this country.” *Id.* para. 10. Unlike the Chinese *Eveready* court which conceptually dissociated the sales of the Eveready SA products in South Africa from the preliminary activities in China, the South African *Gap* court did not dissociate “transshipment” into an act of “import” and a separate act of “export.” Rather, the South African court maintained the conceptual unity of the whole act, without forgetting that Gap’s ultimate sales in other African countries are “legitimate.”

⁷⁷ The importance of the *NTP* doctrine is highlighted by the fact that the Federal Circuit has generalized it for the analysis of both domestic and transnational infringement. *NTP*’s original holding relates to the situs of the infringement, “[t]he use of a claimed system under section 271(a) is the place at which the system as a whole is put into service, i.e., the place where control of the system is exercised and beneficial use of the system obtained.” *NTP*, 418 F.3d at 1318. In *Centillion*, the Federal Circuit expanded the definition and held that “to ‘use’ a system for purposes of infringement, a party must put the invention into service, i.e., control the system as a whole and obtain benefit from it. *NTP*, 418 F.3d at 1317.” *Centillion*, 631 F.3d at 1284.

⁷⁸ *Centillion*, 631 F.3d at 1284.

⁷⁹ *Transocean*, 617 F.3d at 1309.

⁸⁰ *Id.*

⁸¹ *Id.* at 1310.

III. DESIGNING AND CONTRACTING AROUND PATENT INFRINGEMENT OF SYSTEM CLAIMS

Remote computing systems may be divided into components that require only an electronic connection to operate. Any adverse impact on the speed and performance of these systems, resulting from placing system components in different countries, can often be reduced or eliminated using sophisticated engineering. But these divisible and remote computing systems present a special challenge to patent holders seeking to enforce their intellectual property rights.⁸² The remainder of this Article will discuss how the physical and contractual division of system components between China and the United States may pose barriers to patent holders seeking to enforce patent rights under either the Chinese or American patent laws.

A. Infringement of Divided Systems Under American Law

To prevail in an American court on a direct infringement theory with respect to process claims, the patent holder must demonstrate that “each of the steps is performed within [the United States]” by a direct infringer.⁸³ This is a formidable—often insurmountable—challenge when the steps of the accused process are performed by entities in different jurisdictions.⁸⁴ In most cases, the patent holder will prefer to assert system claims that require only a party (or parties) who “controls the system as a whole and obtains benefit from it” in the United States.⁸⁵ This section will consider the obstacles a patent holder faces when attempting to state a claim against an accused infringer practicing each of two common forms of system claims.

1. Infringement of System Claims That Include an “End-User” Element

The Federal Circuit considered the following system claim in *Centillion v. Qwest*:

A system for presenting information . . . to a user . . .
comprising:

⁸² See, e.g., Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 264–65 (2005).

⁸³ *NTP*, 418 F.3d at 1318.

⁸⁴ Similarly, the Federal Circuit recently held that 35 U.S.C. § 271(f), with its extraterritorial advantages, “does not encompass method patents.” *Cardiac Pacemakers*, 576 F.3d at 1362 (en banc in relevant part).

⁸⁵ *Centillion*, 631 F.3d at 1286.

- 1) storage means for storing transaction records,
- 2) data processing means for generating summary reports as specified by a user from the transaction records,
- 3) transferring means for transferring the transaction records and summary reports to a user, and
- 4) personal computer data processing means adapted to perform additional processing on the transaction records.⁸⁶

A claim covering a remote computing system in this traditional form will normally have an element that is directed to an end-user—that is, an element that is not performed by the service provider. In *Centillion*, the end-user component is the “personal computer data processing means.” The Federal Circuit stated that, with regard to the claim in *Centillion*, the service provider “never ‘uses’ the entire claimed system because it never puts into service the personal computer data processing means.”⁸⁷ That is, with regards to claims that include an end-user component along with additional components provided by a service provider, the patent holder is not able to state a claim against a provider who puts into service all the components. The patent holder must resort to alternate theories of infringement to reach the target defendant.

The patent holder, however, faces several obstacles in asserting a joint infringement theory against the system provider (as opposed to the end-user). As the Federal Circuit stated in *Centillion*, “[b]y causing the system as a whole to perform this processing and obtaining the benefit of the result, the customer has ‘used’ the system under § 271(a) The customer is a single ‘user’ of the system and because there is a single user, there is no need for the vicarious liability analysis from *BMC* or *Cross Medical*.”⁸⁸ The same will generally apply for any remote system defined by a claim format that includes an end-user component: the end-user—not the system provider—is typically the one who “control[s] the system as a whole and obtain[s] benefit from it.”⁸⁹

When a patent holder is unable to assert a joint infringement claim, the plaintiff may consider pursuing an indirect infringement theory. In system claims, the end-user is the direct infringer, even though many of the

⁸⁶ *Id.* at 1281. The claim here presented is a “high level” summary created by the Federal Circuit. It is reformatted in this article to resemble a patent claim.

⁸⁷ *Id.* at 1286.

⁸⁸ *Id.* at 1285. *BMC* refers to “joint infringement,” “divided infringement,” and “vicarious liability” interchangeably. *BMC*, 498 F.3d at 1378–81 (Fed. Cir. 2007).

⁸⁹ *Centillion*, 631 F.3d at 1284.

components of the computing system are remote.⁹⁰ If the patent holder hopes to state a claim for indirect infringement against the company that operates the system for the benefit of the end-user, under either contributory infringement or inducement theories, the patent-holder must establish that the system provider had “knowledge of the patent.”⁹¹ Furthermore, to support a finding of inducement of a system claim, the service provider must have “knowledge that the induced acts constitute patent infringement.”⁹² The need to prove that a foreign system provider had knowledge of an American patent and understood the patent well enough to know that the induced acts infringed the American patent may practically foreclose many indirect infringement claims.

2. Infringement of “Environment” System Claims

The Federal Circuit has recently expressed a willingness, when considering certain types of system claims, to “[look] to the statement of purpose [of a claim] to distinguish between those limitations that describe *the environment* in which a claim operates from the limitations that must be performed by an accused [direct] infringer.”⁹³ An example of this new breed of claims is one the Federal Circuit recently considered in *Advanced Software Design v. Fiserv*:

A system for validating the authenticity of selected information found on a negotiable financial instrument, . . . wherein the selected information is *encrypted* . . . to generate a control code which is *printed* on the financial instrument along with the selected information, the system comprising:

a *scanner* for reading the selected information and the control code . . . ;

and a data processing device programmed to . . . *decrypt* the control code and generate *decrypted* information⁹⁴

⁹⁰ The Federal Circuit clarifies that, with respect “to the facts of the case in *NTP*, we held that customers located in the United States who sent messages via the accused product used the overall system and the location of the use was in the United States.” *Centillion*, 631 F.3d at 1284 (citing *NTP*, 418 F.3d at 1316).

⁹¹ *Global-Tech*, 131 S. Ct. at 2068.

⁹² *Id.*

⁹³ *Advanced Software Design Corp. v. Fiserv, Inc.*, 641 F.3d 1368, 1373 (Fed. Cir. 2011) (emphasis added).

⁹⁴ *Id.* at 1373 (emphasis added). The claim is summarized by the authors for this discussion, and numbers are added to highlight the claim limitations discussed by the Federal Circuit in the subsequent quotations. The original, claim 9 of U.S. Patent No. 6,792,110, is as follows:

The court looked at the claim preamble, which states that the system is “for validating . . . a negotiable financial instrument,” and concluded that the system “does not include an encrypting computer or printer.”⁹⁵ The encrypting computer and the printer belong to “the environment in which a claim operates.”⁹⁶ As a result, the court found that a defendant “could [directly] infringe simply by controlling the scanner and the decrypting computer,” even though he did not have to control the encrypting computer and the printer himself.⁹⁷

This environment doctrine can be read as representing a significant weakening of the principle that the direct infringer must practice every limitation of the system claim. For instance, in the above claim from *Advanced Software Design*, by classifying all the words between “wherein” and “information” as describing the “environment” of the claim, the Federal Circuit has stripped 52 words, nearly a third of the 165 words in the original claim, from the language that defines the scope of the invention. By a shift of the language at the prosecution stage, patentees may be able to transform system claim limitations from those “that must be performed by an accused [direct] infringer” to those “that describe the environment in which a claim operates.” Without changing the substance of the claimed invention, prosecuting

A system for validating the authenticity of selected information found on a negotiable financial instrument, wherein the selected information varies for each instantiation of the financial instrument presented by the same payor, and wherein the selected information is encrypted in combination with key information not found on the financial instrument to generate a control code which is printed on the financial instrument along with the selected information, the system comprising:

a scanner for reading the selected information and the control code from the financial instrument;

and a data processing device programmed to

(i) decrypt the control code and generate decrypted information for comparison against the selected information found on the financial instrument and for generating a signal in response to the equality thereof, or,

(ii) re-encrypt the selected information as found on the financial instrument to reobtain a second control code and for generating a signal in response to the quality of the control code found on the financial instrument against the second control code.

Id.

⁹⁵ *Id.*

⁹⁶ *Id.* at 1373.

⁹⁷ *Id.* at 1374.

attorneys can narrow claims to aim at what a target defendant would likely practice.⁹⁸

“Environment” claims may also create increased flexibility for those who outsource the components of remote computing systems to actors in foreign jurisdictions. Since the “limitations that describe the environment in which a claim operates” are distinguished from the “limitations that must be performed by an accused [direct] infringer,” the practice of what is described in the environment is not a “use” of the claim. As the Federal Circuit ruled, with regard to the above claim from *Advanced Software Design*, the “asserted claims of the . . . patent . . . recite a . . . system for validating checks, *not for encrypting and printing them.*”⁹⁹ Given that the system claim is only for validating checks, the claim is not practiced by a direct infringer unless the checks are validated in the United States. The accused indirect infringer can conveniently divide the system and move at least some of the components that perform the actual claim elements—the portion of the system that is outside the “environment” of the claims—to China or elsewhere.

Even if the practical issues with obtaining evidence in China could be overcome (a topic that is outside the scope of this Article), the patent holder must argue that an American patent claim is directly infringed even when “[limitations] that must be performed by an accused [direct] infringer” are practiced outside the United States. The language in *NTP* does not foreclose such an argument. The Federal Circuit imposed no geographic limit on the physical location of the system itself when it stated that “[the] use of a claimed system under section 271(a) is the place at which the system as a whole is put into service, *i.e.*, the place where control of the system is exercised and beneficial use of the system obtained.”¹⁰⁰ But stretching the *NTP* language to cover systems that perform *all* of the necessary claim limitations overseas may run afoul of the presumption, which applies with “particular force” in patent law, “that United States law governs domestically but does not rule the world.”¹⁰¹

The patent holder may have trouble identifying a direct infringer between the target defendant and a Chinese third party when the actual claim limitations (as opposed to the claim elements that are characterized as part of the “environment” of the claim) are practiced overseas by the Chinese third party. The Federal Circuit has effectively held that the situs of the infringement is the location of the party practicing the invention, since it held that the user is the party who “control[s] the system as a whole and obtain[s] benefit from it,”¹⁰² and “[t]he use of a claimed system . . . is the place at which the system as a whole is put into service, *i.e.*, the place where control of the

⁹⁸ *Id.* at 1373.

⁹⁹ *Id.* (emphasis added).

¹⁰⁰ *NTP*, 418 F.3d at 1317.

¹⁰¹ *Microsoft*, 550 U.S. at 454–55.

¹⁰² *Centillion*, 631 F.3d at 1284.

system is exercised and beneficial use of the system obtained.”¹⁰³ The plaintiff may have a difficult time accusing the Chinese third party practicing the invention in China of direct infringement of his American system claim.

The plaintiff likewise would have trouble establishing that an American entity, which simply supplied the input to, and obtained the output from, the system operated by the Chinese third party, was a direct infringer—when all of the activities identified in the “[limitations] that must be performed by an accused [direct] infringer” are practiced in China. Currently, only process claims are explicitly entitled to import protection under the American Patent Act:

Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent.¹⁰⁴

Extending this protection to system claims would create through precedent what the legislature declined to create by statute. Under the principle of *expressio unius*, the accused infringer can argue that the “imported” benefits derived from the use of system located outside America fall outside the scope of the Patent Act and cannot support a claim of direct infringement.

So the plaintiff may be left only with a joint infringement theory to link the acts of the Chinese third party and the target defendant together to form a claim for patent infringement of a system claim in an American court. But the target defendant can insulate itself from liability for joint infringement by contracting only for third party services, without specifying how the services are performed. If the contract specifies only the result of the services that the target defendant expects from the work done in China by the Chinese third party and does not direct how the Chinese third party performs the services, the patentee will face a significant challenge establishing the accused infringer meets “the standard requiring control or direction for a finding of joint infringement,” as required under § 271(a)¹⁰⁵

An accused infringer therefore may be protected from infringement suits in the United States simply by dividing the components of his remote computing system between China and the United States. He is not a direct infringer with respect to American system claims drafted in the traditional form, and he is protected by the scienter requirements when accused of indirect infringement. System claims drafted to take advantage of the Federal

¹⁰³ *NTP*, 418 F.3d at 1317.

¹⁰⁴ 35 U.S.C. § 271(g). See *NTP*, 418 F.3d at 1323 (“[P]rocess must be for the ‘manufacturing’ of ‘a physical article.’”).

¹⁰⁵ *BMC*, 498 F.3d at 1381.

Circuit's new "environment" doctrine may permit the outsourcing of those "limitations that must be performed by an accused [direct] infringer" to a third party in China or elsewhere, often a cost-effective alternative for systems that operate in the cloud.

B. Infringement of Divided Systems in Chinese Law

The plaintiff faces a different set of obstacles in the Chinese courts. As discussed above in Part II.D, it seems likely that Chinese courts will only look to conduct in China to identify a direct infringement of Chinese intellectual property rights. To prevail, a patent holder must identify "technical features either identical or equivalent to all of the technical features the patent claim contains" practiced by the accused infringer *in China*.¹⁰⁶ When the components of the system are divided across borders, in most cases, this will not be possible.

The problem for the plaintiff is further complicated when the defendant has physically divided the system between the two countries and contracted a Chinese third party to practice only some of the components in China. First, the target defendant is not a joint infringer of the plaintiff's Chinese rights with the Chinese third party. As stated in Part I.B, the Chinese courts will not find joint infringers where the acts of the accused have "independent character."¹⁰⁷ Under a contract that does not specify exactly what data processing operations the Chinese third party is to perform in China, the defendant and the third party cannot be said to have acted in concert. Therefore, the target defendant is not jointly and severally liable with the third party.

Moreover, at the Chinese court, the plaintiff must point to a set of activities committed by both the target defendant and the Chinese third party, all taking place within China, that together constitute the infringement of his Chinese patent rights. As seen in the Pectol dispute, the Chinese courts disregard acts taking place in a foreign country in determining whether an IPR infringement took place within China. As the law stands today, plaintiffs will be hard-pressed to construct a coherent theory of infringement in the Chinese court when any one of the acts necessary to practice a Chinese patent is performed outside of China by a third-party contractor.

CONCLUSION

If the ideal patent system touts technical innovation as the preferred means for avoiding existing patent rights, it appears the current American and

¹⁰⁶ Explanations on the Application of Law in Patent Infringement Dispute Cases, *supra* note 2.

¹⁰⁷ *Henan Goldoctor Seeds Co.*, *supra* note 30.

Chinese patent regimes fall short of the ideal. Under the current laws, transnational division of potentially infringing activities and savvy contracting provide would-be infringers with an alternative to innovation.

Unless the Supreme Court avails itself of an opportunity to revisit the holding of the Federal Circuit sitting en banc in *Akamai II*, it is unlikely American courts will succeed in crafting a fair and workable joint infringement doctrine responsive to concerns raised by patent-holders.¹⁰⁸ Another possibility is that the American Congress or courts will expand the definition of “supplying . . . components” as used in 35 U.S.C. § 271(f) from “transfer of a physical object” to include the transmissions of digital data.¹⁰⁹

But, even if American or Chinese courts expand and refine the extraterritorial reach of domestic patent laws, or otherwise develop new theories to support joint and indirect infringement liability, without coordination among lawmakers in different jurisdictions, the increasing prevalence of computer systems designed to run on servers spread across continents ensures that gaps in patent protection will remain.¹¹⁰ This Article focuses on America and China, but the issues it discusses are not unique to these countries. Differences in patent law and territoriality principles create obstacles for domestic patent holders and opportunities for international businesses seeking to reduce the risk of patent liability. And as long as countries continue to resist the enforcement of foreign laws on domestic soil—as most countries will, each for their own political, cultural, and historical reasons—it is unlikely that the architects of global IPR treaties will achieve the level of global coordination required to address transnational patent infringement issues.

¹⁰⁸ H. Wayne Porter, *Federal Circuit Hears Arguments in Pair of “Combined Infringement” Cases*, BANNER & WITCOFF (Nov. 22, 2011), http://www.bannerwitcoff.com/_docs/library/articles/Akamai%20and%20McKesson.pdf.

¹⁰⁹ *Cardiac Pacemakers*, 576 F.3d at 1364 (en banc in relevant part).

¹¹⁰ The annual data traffic between data centers—and between users and data centers—is projected to reach a total of 1.14 zettabytes by 2015. *Cisco Global Cloud Index: Forecast and Methodology, 2010-2015*, CISCO (Nov. 29, 2011), http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns1175/Cloud_Index_White_Paper.pdf.