LIABILITY OF INTERNET SERVICE PROVIDERS UNDER SECTION 337: WHY *DIGITAL MODELS* WILL OPEN THE DOOR FOR ISP LIABILITY ON IMPORTS THAT INFRINGE A U.S. PATENT

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INTRODUCTION

With the rapid growth and widespread use of the internet, obtaining knowledge from other areas of the world can now be done quickly and easily. While businesses or individuals benefit from sharing private files with each other, the ease of international file transfers increases the risk that protected intellectual property, such as patents, is made available to the public. Since intellectual property is a nonrivalrous intangible item, where more than one person may possess the full idea, an idea may quickly lose its entire value if any unauthorized individual obtains the proprietary information.

2 MINIWATTS MKTG. GRP., Internet Growth Statistics, Internet World Stats: Usage and Population Statistics, http://www.internetworldstats.com/emarketing.htm [http://perma.cc/V77K-BQHQ] (last visited Jan. 2, 2014) (listing the number of internet users beginning in December 1995 where only 0.4% of the world population utilized the internet, and now, ten years later, 14.6% of the population in 2005, and nine years later there is a sharp increase to 42.3% of the world population today using the internet).

§ 1.1 Nature and Basis of Intellectual Property, IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law (2014), available at 2014 WL 3738845 (discussing that the justification for intellectual property protection stems from the difference between ideas and tangible property where intellectual property deals with ideas which are intangible, and thus more than one person can possess it, making it nonrivalrous since there is no characteristic of excludability).

4 See Amy L. Landers, Understanding Patent Law 11-13 (2d ed. 2012) (explaining how intellectual property is different from tangible goods that are rivalrous because once an idea is disclosed, one cannot fence out others from using it and therefore the patent right was developed to provide these inventors with a right to exclude to provide value to their inventions).
When files are transferred via the internet, whether between friends or as part of a business transaction, the sender and recipient often believe that they are the only users with access to the transferred files, forgetting about the middlemen known as Internet Service Providers (“ISPs”). ISPs are responsible for providing the means for the file transfer and ensuring that the data securely moves from point A to point B. Despite being the middlemen for internet traffic, ISPs execute data routing by code; therefore, there is no actual person reading every single piece of content that a user is sending through the network.

As a result, patent-infringing data from foreign countries can be easily uploaded onto ISPs’ servers without the ISPs’ actual knowledge, and so ISPs must protect themselves from liability for patent infringement.

This comment will examine ISPs’ liability for routing infringing digital models after the International

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6 See Zeran v. Am. Online, Inc., 129 F.3d 327 (4th Cir. 1997) (noting that with the millions of users, the “amount of information communicated . . . is therefore staggering” and it would be impossible “to screen each of [the] millions of postings for possible problems); Rus Shuler, How Does the Internet Work? (2002), http://www.theshulers.com/whitepapers/internet_whitepaper/ [http://perma.cc/8CCH-EDEZ] (explaining how the internet works and that ISPs have routers that operate under certain protocols which are defined by code so while the router sees every packet that goes through, its actions are performed almost automatically).
Trade Commission’s (“ITC”) Digital Models decision, which holds that the ITC has jurisdiction over the importation of electronic transmissions. Using the rule set forth in Digital Models, digital models are considered articles under Section 337 of the Tariff Act of 1930. This comment will argue that the ITC’s decision in Digital Models will have unintended consequences by opening ISPs up to liability for users’ illegal activity of patent infringement. If a patent owner targets ISPs that have infringing digital models uploaded onto their servers in the United States through electronic transmission, courts would consider these models to be imported articles, thus making ISPs liable. Further, by creating liability for ISPs, courts will impede the proliferation of the internet and collaboration across nations.

Part I of this comment discusses the purpose of the ITC and its jurisdiction over infringing imports under Section 337. This part also discusses past applications of Section 337 in cases regarding electronic transmissions. Part II of this comment applies the Digital Models rule to ISPs that host patent-infringing data uploaded from foreign countries onto ISP servers located in the United States. This part examines the text of Section 337 through the statutory construction lens utilized by the ITC by reviewing the plain language and legislative history of the statute to

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7 See Certain Digital Models, Digital Data, and Treatment Plans For Use in Making Incremental Dental Positioning Adjustment Appliances, the Appliances Made Therefrom, and Methods of Making the Same, Inv. No. 337-TA-833, USITC Pub. 4555 at 22, 34 (Apr. 9, 2014) (Final) [hereinafter Digital Models] (finding that the ITC has jurisdiction over electronic transmissions of data because they are an importation of articles under § 337).

8 19 U.S.C. § 1337 (2014) (detailing when the International Trade Commission has authority over unfair practices in import trade and the various remedies that may be awarded to a party that was harmed by the listed actions).
determine ISP liability under one of the defined actors. Concluding that an ISP is likely liable, this Part also discusses the various remedies available to an ISP and the unintended consequences that would result if an ISP is found liable under Section 337. This comment concludes by determining that finding ISPs liable would have unintended effects that may impede innovation. This part suggests legislative action to mirror the safe harbor that ISPs are provided in other areas of the law, such as in Copyright law.

I. BACKGROUND

Prior to determining the effect of the ITC statute on ISPs, it is necessary to understand the purpose of the agency that has the authority to implement the statute, the reason that Section 337 applies to electronic transmissions, and the growth of this digital trade and 3-D printing industry. The ITC’s actions should always be reflective of Congress’s purpose for creating such an agency, so it is essential to understand the ITC’s purpose. A statutory interpretation will only be accurate after understanding the ITC’s unique position because the statute is analyzed under the backdrop of the policy decisions made for the creation of the implementing agency. Next, it is essential to understand the current position and authority of the ITC over electronic transmissions. Analyzing the cases that confer this authority provides insight into the scope of authority that the ITC expects the statute to provide them. Finally, an understanding of the growing digital trade and 3-D printing industry contextualizes the importance of the analysis.

9 See Digital Models, supra note 7, at 45 (stating how the ITC should “faithfully implement the express purpose for which Congress enacted the statute”).
A. Background on the International Trade Commission

The ITC is a federal agency that investigates trade disputes. Among these disputes, the ITC focuses on imports alleged to infringe on United States citizens’ intellectual property rights. Section 337 of the Tariff Act of 1930 confers authority to the ITC over imports or the sale of imports that infringe upon the intellectual property rights of a United States citizen. This section seeks to provide a means of recourse for those intellectual property holders who may be harmed by foreign entities, but may not be made whole from district courts because of the nonrivalrous nature of intellectual property. Section 337


12 See Justin Hendrix et al., The Role of Stare Decisis at the U.S. International Trade Commission, 24 Fordham Intell. Prop. Media & Ent. L.J. 703, 707–08 (2014) (noting that while district courts may award monetary damages, the ITC’s sole remedy would be an exclusion order which is a permanent injunction); Eric E. Johnson, Intellectual Property and the Incentive Fallacy, 39 Fla. St. U. L. Rev. 623, 628 (2012) (explaining that intellectual property is nonrivalrous where “more than one person can use [it] at the same time” and that intellectual property law is intended to remedy the problem of the ability to copy this intellectual property); Julie M. Holloway et al., Patent Holders Prefer ITC, Recorder, Nov. 14, 2011 (explaining that the ITC is preferred over district courts because it is more likely to obtain an exclusion order from the ITC that locks out infringers from the U.S. market than it would be to obtain a permanent injunction from district court, and the ITC’s order would be enforced by customs, which the district court cannot enforce).
in particular provides the ITC with the ability to provide United States patent holders with a medium to protect their rights from unfair foreign competition that imports infringing products.\textsuperscript{13} The Section 337 cases come before an Administrative Law Judge (“ALJ”) whose decision is reviewable by the six ITC Commissioners (“Commission”).\textsuperscript{14} For a Section 337 investigation to proceed, the Commission must first establish jurisdiction by determining whether there was an importation of an article.\textsuperscript{15} In determining whether an article was imported, the ALJ focuses on which country the article was exported from. Notably, the ALJ ignores the place of manufacture; even if an article originated in the United States, but was exported to another country, and then imported back to the United States, the ITC possesses jurisdiction over the article.\textsuperscript{16} In addition, ALJs must examine the public

\textsuperscript{13} A LAWYER’S GUIDE TO SECTION 337 INVESTIGATIONS BEFORE THE U.S. INTERNATIONAL TRADE COMMISSION 1-2 (Tom M. Schaumberg ed., 2d ed. 2012) [hereinafter LAWYER’S GUIDE] (providing an introduction into the Section 337 investigations and their purpose); see also U.S. INT’L TRADE COMM’N, THE U.S. INTERNATIONAL TRADE COMMISSION SECTION 337 INVESTIGATIONS: ANSWERS TO FREQUENTLY ASKED QUESTIONS 1 (2009) [hereinafter ITC FAQS] (providing a background to the Section 337 investigations and the process performed by the Commission).

\textsuperscript{14} Hendrix, supra note 12 at 706-07 (explaining the background of the ITC and how the six commissioners who are nominated by the President and confirmed by the United States Senate may review an initial determination).

\textsuperscript{15} See Culpepper, supra note 10, at 58 (explaining that the ITC only has power in situations where there is a domestic industry in the United States that requires protection and that the accused goods were actually imported into the United States from another country).

\textsuperscript{16} See Certain Sputtered Carbon Coated Computer Disks and Products Containing Same, Including Disk Drives, Inv. No. 337-TA-350, USITC Pub. 2701 at 8–9 (Nov. 1993) [hereinafter Sputtered Carbon Disks] (stating that a reimportation of a product that was originally
interest concerns of the cases they hear. The ALJ may consider various public interest factors like the number of expected job losses, the lack of comparable substitutes, and the harm to the applicable United States industry. Depending on the complexity of the case and the ALJ’s individual caseload, the investigation process typically takes less than eighteen months.

While the discovery process is almost the same in both the ITC and the district court, there are significant differences between an ITC investigation by the government into unfair acts and a federal district court case manufactured in the United States is still considered an import under Section 337); LAWYER’S GUIDE, supra note 13, at 55 (explaining that importation is a substantive essential element to a Section 337 investigation, but is often not a heavily contested issue); Culpepper, supra note 10, at 59 (mentioning that determining that a product was imported is critical to obtain relief and is a statutory requirement).

17 See P. Andrew Riley, Examining the Evolving Role the Public Interest Plays at the ITC, 6 LANDSLIDE, 40, 41–42 (Sept./Oct. 2013) (detailing the current requirement that requires a submission on a statement of public interest and that the ALJs may be responsible for the fact-finding of this public interest and are becoming more willing to weigh public interest concerns against a patent owner’s rights).

18 See id. at 45 (explaining other features that may come into consideration when an agency is considering public policy because agencies should be promoting the policies on which the statute was created).

19 See LAWYER’S GUIDE, supra note 13, at 3 (stating that the most of the Section 337 investigations are “targeted for completion in approximately sixteen months, which is quicker than even the fastest dockets in the Eastern District of Virginia and the Eastern District of Texas.”); ITC FAQS, supra note 13, at 23 (explaining that the Commission tries to complete investigations in less than fifteen months but the investigations have been taking longer recently as a result of various factors); Culpepper, supra note 10, at 58 (explaining that the speed of an ITC investigation is quick where an investigation may be completed between fifteen to eighteen months).
that is purely a private litigation between parties.\textsuperscript{20} The speed of an ITC investigation is just one of the primary reasons that makes it a more attractive option for private parties rather than litigating the matter in a federal district court.\textsuperscript{21} The ITC also asserts jurisdiction over products instead of parties, as evidenced by the remedy that prevents the imports of particular articles, regardless of the importer’s identity.\textsuperscript{22} Therefore, it is more efficient to go in front of the ITC instead of bringing separate lawsuits in multiple district courts.\textsuperscript{23}

Another reason that the ITC is a favorable forum is because ALJs tend to be more familiar with intellectual property disputes than federal judges. The ITC is able to provide exclusion and cease-and-desist orders, which may provide a more advantageous remedy than the monetary

\textsuperscript{20} Culpepper, supra note 10, at 57–58.

\textsuperscript{21} See LAWYER’S GUIDE, supra note 13, at 15–16 (mentioning that a quick proceeding is advantageous because it allows complainants to minimize the risk and harm especially for the products with short life spans); Culpepper, supra note 10, at 58 (comparing an ITC investigation that is targeted to complete within eighteen months with a federal district court case that typically takes over two years to go to trial).

\textsuperscript{22} See 19 U.S.C. § 1337(d) (2014) (providing a remedy that excludes articles from entry); Ting-Ting Kao, Section 337’s General Exclusion Order – Alive In Theory But Dead In Fact: A Proposal to Permit Preclusion in Subsequent ITC Enforcement Proceedings, 36 AIPLA Q. J. 43, 49-50 (explaining that § 337 is combating imports, the remedies can stop the “actual infringing goods from entering the United States,” and that even the general exclusion order would “prevent[] all infringing goods, regardless of their source, from entering the United States”).

\textsuperscript{23} See LAWYER’S GUIDE, supra note 13, at 13 (noting that an “entity wishing to enforce its IP in United States district court may have to bring several separate lawsuits in multiple locations in order to satisfy the jurisdictional and venue requirements for each infringer”).
damages available from the district court because of the non-rivalrous nature of intellectual property.24

The ITC obtains jurisdiction over infringing imports under Section 337, which seeks “to prevent every type of unfair act in connection with imported articles . . . and to strengthen protection of intellectual property rights.”25 Specifically, Section 337(a)(1)(B) requires an “importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles” that would infringe upon the rights of a United States patent owner.26 This section requires ALJs to investigate the facts of each case to determine whether an importation has occurred, which can be far less clear than one might expect. Section 337(a)(4) states that an “owner, importer, or consignee” in this section “includes any agent of the owner, importer, or consignee.”27 This particular section shows that even agents are liable if they imported infringing material under Section 337(a)(1)(B).

The ITC also differs from the district court in the types of remedies that are available. Section 337 provides patent owners with various types of relief if they can show that someone imported a product that infringed upon their patent; however, monetary damages are not available.28 Section 337(d) provides for an exclusion order if the Commission determines that an importer violated Section 337.29 An exclusion order prohibits infringing articles from

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24 See LAWYER’S GUIDE, supra note 13, at 15–18 (detailing the types of remedies available from the ITC).

25 Digital Models, supra note 7, at 37.

26 § 1337(a)(1)(B).

27 See id. § 1337(a)(4).

28 § 1337.

29 Id. § 1337(d).
entering the United States. United States Customs and Border Protection (“Customs”) enforces the orders. An exclusion order is the most common type of relief that is given. There are two types of exclusion orders available, the limited exclusion order and a general exclusion order. The general exclusion order bars infringing articles from entering the United States, regardless of the source. A limited exclusion order excludes infringing articles from a particular source. These orders are unique—plaintiffs cannot seek the remedy at a district court—so they are often the primary reason a complainant chooses to bring a claim in front of the ITC rather than a federal district court. While the ITC considers the public interest prior to issuing an exclusion order, its analysis is less onerous than

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30 See generally id. § 1337(d); LAWYER’S GUIDE, supra note 13, at 183.

31 LAWYER’S GUIDE, supra note 13, at 16.


33 LAWYER’S GUIDE, supra note 13, at 17.

34 See Kyocera Wireless Corp. v. Int’l Trade Comm’n, 545 F.3d 1340, 1356–57 (Fed. Cir. 2008) (stating that a limited exclusion order is applicable only to products of named persons while a general exclusion order broadens to articles of non-respondents so difficult-to-identify importers of infringing articles would not escape enforcement); LAWYER’S GUIDE, supra note 13, at 184–90 (explaining the two types of exclusion orders and the various cases when they would be issued).

35 See LAWYER’S GUIDE, supra note 13, at 17 (explaining that the district court remedy of an injunction is more limited because it cannot extend to non-parties but a general exclusion order would be able to protect a complainant from all known and unknown infringers at the time and any in the future).
the equity factors analysis done at the district court level.\textsuperscript{36} Despite the fact that exclusion orders are rather effective in keeping infringing products out of the United States, they do have a limitation: they are only effective if the product falls under the jurisdiction of Customs.

In addition to exclusion orders, the ITC often offers cease-and-desist orders as a form of relief.\textsuperscript{37} A cease-and-desist order can be issued in lieu of, or in addition to, an exclusion order and only applies within the United States.\textsuperscript{38} Parties usually use cease-and-desist orders to prevent a complainant from “selling a ‘commercially significant’ inventory of infringing goods that has already been imported into the United States in an attempt to elude the effects of Section 337.”\textsuperscript{39} These forms of relief are unique to ITC investigations and may be more helpful to complainants than the potential monetary relief offered by the district court. Complainants who come before the ITC often are most concerned with stopping the import of infringing articles as soon as possible. The longer an infringing article is made available in the United States, the greater the harm incurred by the patent owner. Since patent

\begin{footnotesize}
\textsuperscript{36} See Spansion, Inc. v. Int’l Trade Comm’n, 629 F.3d 1331, 1358-60 (Fed. Cir. 2010) (holding that in determining whether to issue an exclusion order, the ITC does not have to apply the four-factor test in equity that is utilized in determining the granting of injunctions under the Patent Act); Hendrix, supra note 12, at 707–08 (noting the unique considerations undertaken in determining the issuance of an exclusion order by the ITC as opposed to the issuance of an injunction in federal district court where the exclusion order is governed by statute).


\textsuperscript{38} See id.

\textsuperscript{39} LAWYER’S GUIDE, supra note 13, at 18.
\end{footnotesize}
Liability of Internet Service Providers

protection is only for a limited period,\textsuperscript{40} patent owners want to ensure they can reap the greatest benefit during their time of exclusivity, which the ITC’s forms of relief provide.\textsuperscript{41} Additionally, since intellectual property is nonrivalrous, once the infringing article is available to the public, monetary relief does not provide adequate compensation since the infringing information would remain in the market and continue to harm the patent owner. However, an exclusion order or cease-and-desist order preserves the patent owner’s intellectual property and its value by ensuring the information is not available to the general public.

**B. Application of Section 337 to Electronic Transmissions**

With the growth of the internet, electronic transmissions of products from foreign countries to the United States are more common. Therefore, an issue has arisen in two cases regarding whether an electronic transmission constitutes an article under Section 337.\textsuperscript{42}

\textsuperscript{40} 35 U.S.C. § 154 (2014) (stating that patent protection is generally for twenty years from the date that the patent issues and there are methods to adjust the length of a patent).

\textsuperscript{41} See LAWYER’S GUIDE, supra note 13, at 3 (explaining how the ITC investigations conclude in a considerably shorter time period than cases brought in district court, so patent holders who obtain a remedy may stop the infringing action much more quickly).

\textsuperscript{42} See Certain Hardware Logic Emulations Systems and Components Thereof, INV. NO. 337-TA-383, USITC Pub. 2991 at 381–82 (July 8, 1996) (Initial Determination) [hereinafter Hardware Logic ID] (providing a remedy for the first time for an infringing product that came into the United States over electronic transmissions); Digital Models, supra note 7, at 55 (confirming that the ITC has jurisdiction over electronic transmissions).
Certain Hardware Logic Emulations Systems\textsuperscript{43} was the first case that considered electronic transmissions. In this case, the products at issue between complainant Quickturn Design Systems, Inc. ("Quickturn") and the respondents Mentor Graphics Corporation ("Mentor") and Meta Systems ("Meta") were hardware logic emulation systems and components that were used to design and test the electronic circuits of semiconductor devices.\textsuperscript{44} Quickturn accused Mentor and Meta of illegally importing infringing software.\textsuperscript{45} Before reaching the merits, however, the ITC first addressed whether it had jurisdiction over the software. Meta admitted that it imported the accused products into the United States, meaning the ITC possessed in rem jurisdiction over the products.\textsuperscript{46} The essential argument regarding the ITC’s jurisdiction over electronic transmissions was not raised in the main argument of the case, though, and was instead raised when the remedy for Quickturn was being determined.\textsuperscript{47}

First, the respondents argued that, because Customs does not regulate electronic transmissions, the Commission did not have jurisdiction to exclude software that would enter the United States market electronically.\textsuperscript{48} The ALJ held that electronic transmissions that circumvent an exclusion order are not substantially different from having

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\textsuperscript{43} Certain Hardware Logic Emulation Systems and Components Thereof, INV. No. 337-TA-383, USITC Pub. 3089 at 1 (Mar. 31, 1998) (Final) [hereinafter Hardware Logic Remedy].

\textsuperscript{44} Id.

\textsuperscript{45} Id. at 45-56.

\textsuperscript{46} Id. at 3.

\textsuperscript{47} See Hardware Logic Remedy, supra note 43, at 5 (stating that the ITC has remedial power over electronic transmissions and the ITC’s power is not limited by the United States Customs Service).

\textsuperscript{48} Id.
\end{footnotesize}
the software on a disk and having it shipped to the United States, so the scope of the Commission’s jurisdiction should not differ.\textsuperscript{49}

Next, the respondents argued that the meaning of article under Section 337(a)(1)(B) did not include Mentor’s source code.\textsuperscript{50} The argument stemmed the section’s legislative history.\textsuperscript{51} An examination of the legislative history and all other sections of Title 19 showed that article would be used interchangeably with merchandise, commodity, and good and therefore, an article under Section 337(a)(1)(B) is considered an item that could be sold.\textsuperscript{52} Mentor argued that since their source code was kept in confidence and not sold, their source code cannot be considered an imported article because it does not fit the definition from the statute’s legislative history.\textsuperscript{53} As such, the ITC would not have jurisdiction over the source code.\textsuperscript{54} In other words, an article is tangible, the electronic transmission of source code is intangible, and this distinction is important in determining the ITC’s jurisdiction.\textsuperscript{55}

After examination of these arguments, the Commission noted that it has the legal authority over electronic transmissions, but since Customs is responsible for executing exclusion orders, the Commission

\begin{flushleft}
\textsuperscript{49} \textit{Id.}
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\textsuperscript{50} \textit{Id.} at 10.
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\textsuperscript{51} \textit{Id.} at 9–10.
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\textsuperscript{52} \textit{Id.} at 10 n.41.
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\textsuperscript{53} See Hardware Logic Remedy, supra note 43, at 9–10.
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\textsuperscript{54} \textit{Id.} at 10.
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\textsuperscript{55} See \textit{id.} (describing respondents’ argument that the ITC only has jurisdiction over articles, which are tangible, and therefore the ITC would not have jurisdiction over source codes, which are intangible).
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accommodates the policies of Customs where possible.\textsuperscript{56} Consequently, since Customs decided not to regulate electronic transmissions, the Commission deferred to Customs and declined to issue an exclusion order for electronic transmissions, but did not explicitly state that it lacked the authority to do so.\textsuperscript{57}

However, since Customs does not execute cease-and-desist orders, the Commission ordered a cease-and-desist order and tailored it to reach the importations of electronic transmissions and prohibit all acts reasonably related to the importation of infringing products.\textsuperscript{58} While the respondents pointed out that the legislative history showed that an article was often associated with something tangible and sold, the 1988 amendments to Section 337 was “to strengthen the effectiveness of section 337 in addressing the growing problems faced by United States companies from the importation of articles that infringe United States intellectual property rights.”\textsuperscript{59} Where Section 337 has a broad scope to prevent all types of unfair practices, a cease-and-desist order would cover electronic transmissions so that parties may have recourse for imported infringing articles.\textsuperscript{60} In addition, since the ITC

\textsuperscript{56} See id. at 20.

\textsuperscript{57} See id. (explaining that the Commission tries to accommodate the policies of Customs whenever possible so the Commission has not issued an exclusion order covering electronic transmissions before).

\textsuperscript{58} See id. at 25, 28 (noting that the Commission can issue a cease-and-desist order instead of an exclusion order and has traditionally done so when there are commercially significant inventories of the infringing goods within the United States).

\textsuperscript{59} See id. at 28 –29.

\textsuperscript{60} See Hardware Logic Remedy, supra note 43 (explaining that the legislative history of section 337 does not state that electronically transmitted software is not included and therefore it is included since

56 IDEA 163 (2016)
and Department of Commerce’s Bureau of Export Administration (“BXA”) have similar mandates, reading Section 337 as giving the ITC authority over electronic transmissions is consistent with the BXA’s policy of regulating electronic transmission of data.  

While the Commission has stated it has authority over electronic transmissions and can issue cease-and-desist orders pursuant to that authority, the Commission will still refuse to issue such remedies if the orders are found to be against the public interest. The public interest does favor the protection of intellectual property rights, but there are instances when relief to the patent owners should be denied, such as when there would be an adverse effect on the public interest that would exceed the patent holder’s interests.  

While Hardware Logic may have been the first case in which the ITC discussed its jurisdiction over electronic transmissions of articles, the extent of the ITC’s jurisdiction remained unclear. Consequently, the

the section was enacted to cover many acts and be flexible with the new technologies that are developed).  

61 See id., at 29 (comparing the ITC’s mandate of “ensur[ing] the effective protection of United States intellectual property rights through prohibition against transfers of infringing products” with BXA’s mandate of “ensur[ing] the effectiveness of United States export control laws” and noting that the ITC’s interest is more similar to BXA’s interest than Custom’s interest).  

62 See 19 U.S.C. § 1337(d)(1), (e)(1) (2014) (stating that the Commission may decide that both exclusion orders and cease-and-desist orders may not be issued after “considering the effect of such order upon the public health and welfare, competitive conditions it the United States economy, the production of like directly competitive articles in the United States, and the United States consumers”).  


64 See id. (looking at legislative history to determine when relief should be denied under Section 337).
Commission in *Certain Digital Models, Digital Data, and Treatment Plans For Use in Making Incremental Dental Positioning Adjustment Appliances, the Appliances Made Therefrom, and Methods of Making the Same* ("Digital Models") affirmed its jurisdiction over electronic transmissions as articles under Section 337\(^{65}\), which confirms the validity of *Hardware Logic*.\(^{66}\) *Digital Models* concerned digital models, digital data, and treatment plans of dental appliances for orthodontic treatment that were electronically transmitted by ClearCorrect Pakistan ("CCPK").\(^{67}\) CCPK uploaded the designs to ClearCorrect Operating, LLC’s ("CCUS") server so that CCUS could use the models in the United States to print out models of the patient’s teeth on a 3-D printer.\(^{68}\) Align Technology, Inc. of San Jose, California ("Align") alleged violation of Section 337, stating that CCUS and CCPK imported certain digital models and data to make dental appliances that infringe upon a number of Align’s patents.\(^{69}\) The accused process consisted of CCUS first uploading the 3-D digital scan of the teeth to the server for CCPK to access.\(^{70}\) Then, CCPK imported the data into a 3-D modeling software program to create the data sets necessary for the creation of

\(^{65}\) Digital Models, *supra* note 7, at 22.


\(^{67}\) Digital Models, *supra* note 7, at 17.

\(^{68}\) *Id.* at 17.

\(^{69}\) *Id.* at 1–2.

\(^{70}\) *Id.* at 19–20.
the physical models for the customers.\textsuperscript{71} Finally, CCPK electronically transmitted the digital data sets back to CCUS by uploading them onto CCUS’s server located in the United States so that CCUS was able to put the data sets into the 3-D printer to create the models for the customers.\textsuperscript{72}

For the ITC to have jurisdiction over this issue, the Commission had to determine if the electronic transmissions of digital data sets were considered an importation of an article as defined under Section 337.\textsuperscript{73} Ultimately, the Commission concluded that the transmissions of the digital data sets into the United States made CCUS a contributory infringer because the electronic transmissions constituted the importation of articles that infringe a valid United States patent.\textsuperscript{74} As a result, the electronic transmission of the data sets constituted an importation of an article produced by means of a process covered by a United States patent.\textsuperscript{75}

Within this case, the ITC interpreted the terms article and “importation . . . of articles” in Section 337 to determine if an electronic transmission may be regarded as an article over which the ITC could claim jurisdiction. The respondents attempted to assert that legislative history and past precedent demonstrated that an article is limited to

\begin{itemize}
\item[\textsuperscript{71}] \textit{Id.}
\item[\textsuperscript{72}] \textit{Id.}
\item[\textsuperscript{73}] Digital Models, \textit{supra} note 7, at 21 (explaining that for the ITC to have jurisdiction under section 337, there needs to be an unfair method of competition that is associated with the “importation into the United States, the sale for importation, or the sale within the United States after importation”).
\item[\textsuperscript{74}] \textit{Id.} at 21–22.
\item[\textsuperscript{75}] \textit{Id.} at 22.
\end{itemize}
items that are tangible, bought, and sold.\textsuperscript{76} Align suggested that an article is a unit of commercial value and having digital data fall under that definition is consistent with the findings of other courts as well as with the purpose of the Commission.\textsuperscript{77}

The Commission reviewed the plain language of the statute, its legislative history and purpose, pertinent case law, and the arguments of the parties and public commenters to determine whether electronic transmissions would be considered an article under Section 337(a)(1)(B). The Commission noted that the use of an article under Section 337 is used to define a violation of the section through infringement of a patent, copyright, or trademark.\textsuperscript{78} In addition, the Commission reasoned that the legislative history of this section shows that the purpose of the statute is to “prevent every type of unfair act in connection with imported articles . . . and to strengthen protection of intellectual property rights.”\textsuperscript{79} Addressing the text of the statute,\textsuperscript{80} the Commission determined that the word “articles” has always been used in connection with unfair acts related to imports and has not changed throughout the

\textsuperscript{76} Id. at 24–25.

\textsuperscript{77} See id. at 26–27.

\textsuperscript{78} Id. at 35 (noting that the language under section 337(a)(1)(B) to define a violation is also used under sections 337(a)(1)(C) and (E)).

\textsuperscript{79} Id. at 37.

\textsuperscript{80} See Perrin v. United States, 444 U.S. 37, 42 (1979) (analyzing the word “bribery” in the Travel Act to determine its meaning by first starting with the language itself and interpreting the word with its ordinary, contemporary, and common meaning and the various contexts of which the word has been used); see also YULE KIM, STATUTORY INTERPRETATION: GENERAL PRINCIPLES AND RECENT TRENDS 1, 5 (2008) (explaining that in a statutory construction analysis, the language of the statute should be looked at first to determine the limits of the language).
Liability of Internet Service Providers

In addition, the statute does not expressly define articles, and the statute does not have words of limitation used with the term to limit its scope. In fact, the Commission noted that it had refused to read in limitations on articles in past cases. Therefore, the Commission determined that any infringing imports without any express limitation as to the form or type such as digital files are also considered articles of commerce.

After looking at the plain language of the statute, the Commission examined the dictionary definition. Dictionaries from around the time the statute was enacted defined an article as an “identifiable unit, item, or thing.” There were also examples that indicated that an article is an object that may be traded in commerce or used by consumers because other sections of the statutes note that articles are items bought and sold in commerce.

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81 Digital Models, supra note 7, at 37.

82 Id. at 37–38; See 62 Cases, More or Less, Each Containing Six Jars of Jam v. United States, 340 U.S. 593, 596 (1951) (explaining that a court should not add, subtract, delete, or distort words in the statute when performing a statutory construction).

83 See Sputtered Carbon Disks, supra note 16, at 4–9 (refusing to restrict articles to “articles of foreign manufacture”).

84 See Digital Models, supra note 7, at 38 (analyzing the statutory language and how “articles” has been examined in the past).

85 See id. at 39 (utilizing the 1924 edition of Webster’s New International Dictionary of the English Language to define an “article” as “[s]omething considered by itself and as apart from other things of the same kind or from the whole of which it forms a part; also, a thing of a particular class or kind; as, an article of merchandise; salt is a necessary article” (quoting HARRIS, WEBSTER’S NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE 131 (G. & C. Merriam Co. 1924))).

86 Id.
Next, the Commission interpreted the term in the context that it appears in the statute. Since the word articles in Section 337 always appears with importation and sale, the interpretation of the term as items that are bought and sold in commerce is reasonable. In addition, since the Supreme Court and appellate courts have held that digital files are articles of commerce, the Commission considered the data sets as an article under Section 337. Additionally, importation includes any method of bringing an article into a country from outside the country. Customs has previously ruled that:

the transmission of software modules and products to the United States from a foreign country by means of the internet is an importation of merchandise into the customs territory of the United States in that the software modules and products are brought into the United States from a foreign country and therefore electronic transmissions of the digital files are analogous to software modules. The word importation is also always written in connection with articles so its interpretation should be construed in the context of the

87 Dolan v. U.S. Postal Service, 546 U.S. 481, 486 (2006) (performing a statutory interpretation where the first step requires utilizing context clues to analyze and determine the meaning of particular words).

88 Digital Models, supra note 7, at 40.

89 See Reno v. Condon, 528 U.S. 141, 148 (2000) (deciding that drivers’ information is considered an article of commerce)).

90 Digital Models, supra note 7, at 27; see also Canton RailroadR.R. Co. v. Rogan, 340 U.S. 511, 515 (1951) (informing that “to import means to bring into the country”).

91 Digital Models, supra note 7, at 27; see Cunard S.S. Co. v. Mellon, 262 U.S. 100, 122 (1923) (stating that importation “consists [of] bringing an article into a country from the outside . . . regardless of the mode by which it is effected”)
phrase “importation . . . of articles.” 92 Section 337 violations include violations of intellectual property rights where the articles are infringing a patent, trademark, or copyright, and the Supreme Court has already found that digital distribution of copyrighted products can infringe a United States copyright on websites. 93

The Commission reasoned that looking at the understanding of the legislators at the time of the bill’s enactment provides additional insight into the meaning of the term articles. 94 Congressional reports discussed articles such as goods, commodities and merchandise, and therefore they indicate that articles would be items that are bought and sold in commerce. 95 Further, since Section 337 has always intended to prevent every type of unfair act in import trade that would harm a United States industry, it would be logical for the ITC to have jurisdiction over electronic transmissions. 96 Otherwise, the court would not be able to protect patent owners’ rights if infringers could simply circumvent the statute by sending infringing files electronically. Therefore, since innovation would continually bring in new goods to the United States market,

92 Digital Models, supra note 7, at 26.

93 19 U.S.C. § 1337(a)(1)(B), (C); see Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 936-37 (2005) (finding that copyrighted songs and movies that were digitally distributed infringed a United States copyright).

94 Digital Models, supra note 7, at 43.

95 Id.

96 See id. at 45–47 (mentioning the central purpose of § 337 is to prevent unfair acts, as shown through the legislative history of the statute, and that Congress wanted the statute to encompass new types of imported articles created by innovation).
articles should be construed flexibly to be able to incorporate new products.\footnote{See WGN Cont’l Broad. Co. v. United Video, Inc., 693 F.2d 622, 627 (7th Cir. 1982) (explaining that Congress intended for definitions to be interpreted flexibly so that statutes would not need to be continually updated to include any new technologies).}

The Commission also considered and requested information from the public, which included the Motion Picture Association of America, Inc. (“MPAA”), Andrew Katz, Google, the Association of American Publishers (“AAP”), and Nokia.\footnote{See Digital Models, supra note 7, at 29–33 (explaining the arguments presented by each third party submitter).} During the comment period, MPAA and APP responded stating that articles must include electronic transmissions, since bootleggers have moved away from CDs and DVDs in making illegal copies of movies, music and books.\footnote{See id. at 29, 32-33, 53 (detailing MPAA’s argument that “physical media are being replaced by electronic, downloadable formats” so infringement is also shifting to the downloadable formats, and also noting that AAP states that “software, books, movies, music, and games are increasingly transmitted to consumers in machine-readable form by electronic means”); Aarti Shah, ITC On Digital Imports: Takeaways For Software, Media Cos., LAW360 (Apr. 23, 2014), http://www.law360.com/articles/529861/print?section=ip (explaining that MPAA argued that infringement of intellectual property in movies, music, software, and books is moving to downloadable formats).}

The Commission determined that all the methods of interpretation utilized shows that the “importation . . . of articles” within the ITC jurisdiction under Section 337(a)(1)(B) do not have to be tangible; thus, Section 337 encompasses all forms of imports that are unfair acts and infringe upon intellectual property rights including electronic transmissions.\footnote{Digital Models, supra note 7, at 34.} The Commission granted a
cease and desist order—the only remedy requested—because it found that respondents infringed on Align’s patents and that the ITC possessed jurisdiction over these electronic transmissions. The Commission also found that the remedy was not precluded by public interest factors.\textsuperscript{101}

\textbf{C. Growth of the Digital Trade and 3-D Printing}

Digital trade is a growing part of the United States economy where the internet delivers products and services and helps producers lower their operating costs and work more efficiently.\textsuperscript{102} This trade is the delivery of products and services over either fixed line or wireless digital networks.\textsuperscript{103} Many business models are now expanding to incorporate the use of the internet for communications services and productivity enhancement such as data storage and analysis, productivity-enhancing software, and logistics services.\textsuperscript{104} With all the innovations, companies must adopt new technologies to gain a competitive advantage.\textsuperscript{105}

The growth in digital trade also means that ISPs, companies that provide an internet connection to households and businesses, require accommodations for more traffic. In addition, there is a potential for an increase

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\textsuperscript{101} Id. at 147–48.
\textsuperscript{102} Digital Trade In the U.S. and Global Economies, Part I, INV. NO. 332-531, USITC Pub. 4415 at i (July 2013) [hereinafter Digital Trade] (providing research findings regarding the growing digital trade industry and the various aspects of digital trade and the issues that it is currently facing).
\textsuperscript{103} Digital Trade, \textit{supra} note 102, at xii.
\textsuperscript{104} Id. at 2-2.
\textsuperscript{105} See id. at 3-5 (stating that firms need to adopt new technologies to keep their competitive advantage or keep up with the industry changes since there are now continual pressures to keep costs low and improve efficiency).
\end{flushright}
of proprietary intellectual property information transmitted electronically into the United States where infringing files would be routed through an ISP when they are transmitted into the United States to reach their end user. When an ISP handles the electronic packets of information, there is no one person reading all the information. Instead, algorithms automatically perform the process.106

There is already an increase in software delivery moving from a physical delivery model to a model that delivers via the internet because of broadband internet.107 In the past, software would be transmitted to a consumer through regular mail, but the travel time for such a delivery would take a long time and thus would be inefficient. With the dominance of the internet, transferring software through the internet allows for a more efficient business model and is also less costly because there is no cost of international shipment. Even if some industries may still require the shipment of a physical disk that contains the software as part of a contractual order, the companies within these industries would most likely first send the software electronically and then send the physical disk version. Sending the software in both forms would increase customer satisfaction and process efficiency because the customer can start working right away.

With the growth of digital trade, the 3-D printing industry will surely grow as well.108 3-D printing is the

106 Id. at xiii, E-3 n.2 (defining an ISP and noting that they may be large telecommunications companies or small local companies).

107 Id. at 2-29.

108 3-D printing has been a focal point recently through the years. Since 3-D printers’ costs are beginning to lower, it is affordable by many more people and the existence of a multitude of 3-D printers is of large concern to those people who have intellectual property protection for their products. These printers may quickly and easily create completely functioning products without requiring a large manufacturing facility and multiple machines. If these printers prove
ability to create three-dimensional solid objects from digital models. In five years, the market for 3-D printers will grow by over 500 percent with a year-over-year growth rate of 45.7 percent. Soon, alleged infringers will be individuals who generate their own digital data sets on home computers and print aligners with their desktop 3-D printers. With this growing market, it is important to

to be a cheaper alternative to the current method of manufacturing, many plants will be shut down and many jobs would be lost. People would also just start printing out products that they want or need instead of purchasing it and this would lower the value of having protection for their intellectual property. While these people may possibly be sued for infringing upon the designs, lawsuits take a long time and with the possibility for hundreds of potential infringers, suing may not be worth the time or money. These are some concerns that are facing the industry and so it is important to understand the possible effects and implications that these growing technologies will have on others.


110 See id. (mentioning that the forecast of market growth is because the technology has now been proven to produce real products and the cost for a printer is much lower than in the past).

determine who else may become liable for infringing data sets that end up in the United States. These potentially liable entities can then take measures to protect themselves from a lawsuit and not overwhelm the Commission with complaints.

Under Section 337, the ITC has jurisdiction over imports that infringe upon the rights of United States intellectual property owners. The ITC’s decisions in Hardware Logic and Digital Models have determined that electronic transmissions are considered an importation of an article for the purposes of Section 337, giving the ITC jurisdiction over electronic transmissions from other countries. With the growing digital trade industry, there is potential for an increase in electronic transmissions of infringing data, which would route through an ISP when entering the United States.

II. ITC Authority Over an ISP Under Digital Models

The ITC has authority over ISPs and they may possibly be held liable for having patent-infringing files on their servers. This section will analyze the decision of Digital Models and the reasoning that the Commission underwent to determine the consequences of the decision to ISPs. First, statutory construction of the language of Section 337 is required to determine if ISPs are included within the statute. If so, then the Commission would have authority over ISPs and may possibly hold them liable for infringing patents. Next, this section will discuss and evaluate the unintended effects of being able to consider an ISP as an infringer. Finally, this section concludes with an analysis of the various ITC remedies to determine what remedies are available to ISPs.

A. An ISP Would Be Liable as an Infringer

In Digital Models, the ITC stated it has jurisdiction over electronic transmissions of data sets of 3-D models uploaded onto a server in the United States.\footnote{Digital Models, supra note 7, at 55.} Since electronic transmissions go through an ISP, would a patent owner now be able to obtain recourse from an ISP, especially in situations when the importer is unknown? Assuming digital data transfers constitute imported articles under the statute, ISPs will be liable as long as they fall under one of the categories of imputed liability under Section 337. These categories include both importers as well as agents of an owner or importer.

Consider a hypothetical case similar to Digital Models where there are digital data sets for 3-D printing for guns uploaded onto a server in the United States and infringe upon a United States patent.\footnote{See Darrell G. Mottley, Intellectual Property Issues in the Network Cloud: Virtual Models and Digital Three-Dimensional Printers, 9 J. BUS. & TECH. L. 151 (2014) (mentioning how online sharing site would increase the likelihood of receiving digital property across national borders and 3-D printing sales have been growing significantly where even prototypes of 3-D printable firearms have been created); That 3-D Printed Gun? It’s Just the Start, BLOOMBERG (May 13, 2013, 6:00 PM), http://www.bloomberg.com/news/2013-05-13/that-3-d-printed-gun-it-s-just-the-start.html [http://perma.cc/GJD7-VRHP] (informing that Defense Distributed has already started to be able to use a 3-D printer for guns).} Guns are widely sold, so if people start to personally print out their own guns from patent-infringing files online, it would be difficult to contain the actions harming the patent owner. In this hypothetical case, the person or entity who uploaded the data sets is unavailable, unlike the situation in Digital Models.
Therefore, there would be instances where it cannot be determined who actually uploaded the files and the only knowledge is that the files originated from out of the United States and are now on a United States-based ISP’s server.

As a result of Digital Models, the digital data sets that are being electronically transmitted are considered an article under Section 337. This hypothetical situation mirrors the situation in Digital Models, but where the only difference is that the actual importer is unknown and these are guns instead of teeth models. Because the digital data sets here are also unfair acts of competition and because an article under Section 337 is not limited to tangible items that are items bought and sold in commerce, these digital data sets for the guns will also be under the ITC’s jurisdiction. Also, as a result of Digital Models, the electronic transmission of the digital data that uploads the files onto the server would be an importation since this data is being uploaded from a country outside of the United States onto a server in the United States. Therefore, while this hypothetical situation does concern an importation of an article over which the ITC has

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115 See Digital Models, supra note 7, at 2, 17 (naming ClearCorrect Pakistan (Private), Ltd as a respondent because it was the entity that actually electronically transmitted the digital models and data that are infringing).

116 Digital Models, supra note 7, at 36.

117 See infra Part I.B (performing a statutory construction of the word “article” by looking at the various definitions, how it is used in context, and the purpose of the word in light of the statute to ensure the meaning that is derived is consistent with the goals and purpose that Congress had in mind when it enacted the statute).

118 Digital Models, supra note 7, at 34; see supra Part I.B (explaining that a software module brought into the United States from a foreign country is still considered an “importation” because it is something that was in another country and then brought into the United States).
jurisdiction, an analysis still needs to be performed to determine if an ISP would be considered an importer or an agent of the owner or importer when looking at the “importation . . . by the owner [or] importer . . . of articles” in this situation. Since an ISP is not a consignee in ordinary operations and is not an owner of the infringing files, there will only be an analysis to see if the ISP could be considered an importer or even an agent of the owner or importer. 119

In this instance, the statute does not define the meaning of “importer,” but it is associated with “articles” within the statute. 120 Since an agent of the owner or importer is included when the statute speaks about an importer, an agent of an owner or importer should also be read as only those who import articles. 121 In addition, throughout each amendment of Section 337, the terms “importer” and “agent” continue to be connected to those who import infringing articles. 122 There are no other words within the statute that seem to limit the scope of the terms “importer” and “agent.”

In looking at the plain and ordinary meaning, courts often use dictionary definitions to discern plain meaning. 123

119 The owner of the infringing files would be considered the person who uploaded the files while the ISP is merely just a means of transporting the files to the destination and therefore has no ownership over the file and its contents.


121 Id. § 1337(a)(4); see Certain Molded-In Sandwich Panel Inserts and Methods for Their Installation, Inv. No. 337-TA-99, USITC Pub. 1246 (April 9, 1982) (Comm’n Op. at 4–5) (noting that a respondent may still be held liable for violation even if it was not the owner, importer, or consignee of the accused process).


123 KIM, supra note 80, at 6.
According to Merriam Webster, an “importer” is a “merchant who brings goods into a country or state” from a foreign country and pays customs duties. Since someone other than the ISP uploaded the infringing material, that individual, rather than the ISP, would be seen as the entity that brought an article into the United States. On a substantive note, if an ISP facilitated the bringing of the article into the United States, the ISP may possibly be a de facto importer. By way of analogy, consider the owner of a parcel service that transports an individual’s package filled with counterfeit U.S. currency. If an ISP was set up through code to sync and pull data from various computers on a regular basis, this automatic pull of files to its server may be enough to be considered bringing it into the United States because without the automated syncing, the infringing files would not be in the United States.

An “agent” on the other hand refers to one who possesses the authority “to act for or in the place of another” and is capable of performing the functions; an agent’s actions are binding to the principal. Since an ISP subscriber would have to agree to a contract to utilize the ISP, there is a possibility that the ISP may be considered an agent for certain actions. While every contract is not the

124 WEBSTER’S REVISED UNABRIDGED DICTIONARY 737 (C. & G. Merriam Co. 1913); BLACK’S LAW DICTIONARY 824 (9th ed. 2009).
125 BLACK’S LAW DICTIONARY 72 (9th ed. 2009).
126 See Peter Svensson, Fine print on ISP contract leave few rights for subscribers, USA TODAY (Apr. 5, 2008, 2:00 AM), http://usatoday30.usatoday.com/tech/news/2008-04-05-isp-fine-print_N.htm (noting the many restrictions included within a contract that an internet subscriber would have with an ISP and the reason for the restrictions is for the ISP to have legal coverage if it chooses to cut off a subscriber for abusing the internet); see also Knowing an ISP’s Contract Terms, FOR DUMMIES, http://www.dummies.com/how-to/content/knowing-an-isps-contract-terms.html
same, since the ISPs are the only ones able to actually place the file on the server and make it available, the contracts should provide the ISPs with the authority to perform those actions of transporting the files from the foreign country to the server, which may be enough to make the ISP liable as an agent.

Similarly, Congress’s purpose in crafting Section 337 provides insight into understanding the purpose and scope of the statute. The purpose of Section 337 is to prevent every type of unfair act in import trade that would harm an industry. Consequently, its terms should be construed in a manner that would be flexible for any new technologies. Where there are infringing files on an ISP server without a trace to the person who uploaded them, it would be an unfair act to allow these files to remain on a server because it would harm the patent owners and the 3-D printing industry. Without holding ISPs liable, more people would find methods either to have an ISP utilize a system where the ISP actively uploads infringing files or determine a method to ensure that an uploaded file cannot be traced to them so they could avoid liability under Section 337. Therefore, an “importer” or even an


127 See KIM, supra note 80 at 2 (stating that the “cardinal rule of construction is that a statute should be read as a harmonious whole, with its various parts being interpreted within their broader statutory context in a manner that furthers statutory purposes).

128 Digital Models, supra note 7, at 45.

129 See supra Part I.B.

130 See Centillion Data Sys., LLC v. Qwest Commc’ns. Int’lComms. Intern, Inc., 631 F.3d 1279, 1285 (Fed. Cir. 2011) (differentiating the situations where the customer is obtaining reports and information that they request on demand against the reports that is created by the back end of the system. It was held that the customers of Qwest actually used the system because even the reports that were automatically
“agent” generally would include ISPs even if the words are read flexibly.\textsuperscript{131} An ISP would most likely be seen as an “importer,” unless otherwise stated within the contract with the subscriber.

The ISP may also liable as long as it provides a sufficient nexus to the importation.\textsuperscript{132} Since the ISPs store the infringing materials, it is possible for them to be considered to have a sufficient nexus to the importation. Also, various actions such as managing the infringing actions and contracting out parts of the transaction would be equivalent to actions of an agent because of the control

\textsuperscript{131} This would include those possible instances where an ISP would have contracted liability to itself, although these instances would be unlikely because ISPs are usually held by large corporations where there would be a legal team to ensure such a liability would not occur because it would harm the business even more.

over the actions associated with the importation. With this additional view, there is the possibility that ISPs would not be liable without being an importer because the ISPs actions are passive; the extent that an ISP may be managing the infringing actions is just allowing it to be uploaded and maybe sending the product to wherever the code informs the ISP to send the file. These actions are not really controlling the importation though because the ISP is performing rather automatically and without the mindset of trying to break up the actions. If the actions performed by an ISP are integral to the importation of the infringing product, the ISP may become liable for the infringing product even though it never actually owns or possesses the product. Therefore, ISPs may be subject to liability as an importer of patent-infringing products as a result of the ITC asserting jurisdiction over electronic transmissions.

**B. Unintended Effects**

If an ISP is liable under Section 337, there would be unintended effects that would harm the public. For example, where a digital model of a gun is uploaded to a server and made available for anyone in the United States to download and create through a 3-D printer, the internet service provider may become liable if these digital models

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133 See id. (showing various actions performed by Alcesia would make it liable because Alcesia managed the methods of selling and importing the gray market cigarettes into the United States, owned and operated all the various web shops that sell the infringing products, and contracted out parts of the transactions like collecting payment, which are all evidence of Alcesia’s control of the importation).

134 See id. at 9 (explaining that the online orders from Alcesia’s websites were integral to the importation of the gray market cigarettes and since Alcesia was essentially brokering the sale and importation of these infringing products, Alcesia was subject to section 337 even though it never actually owned or possessed the cigarettes that were at issue).
infringe upon a United States patent.\textsuperscript{135} People in foreign countries may then be able to upload these digital models to a website where it may be difficult to track who uploaded each model.\textsuperscript{136} Since there is a large market for guns or even parts of guns,\textsuperscript{137} having digital models on a website where someone in the United States can just download and use 3-D printing to create these guns to compete in the market would hurt the domestic industry. Consequently, it may be easier for patent owners to assert the patent infringement claim against the ISP.\textsuperscript{138} This liability would

\textsuperscript{135} See 19 U.S.C. § 1337(a)(1)(B)(ii) (2014) (barring the importation of an article into the United States that would infringe upon a United States patent); Digital Models, supra note 7, at 34 (holding that digital data sets for a 3-D printer that is uploaded onto a server would be considered an importation of an article under section 337).

\textsuperscript{136} See Nick Bilton, Internet Pirates Will Always Win, N.Y. TIMES (Aug. 4, 2012), http://www.nytimes.com/2012/08/05/sunday-review/internet-pirates-will-always-win.html?_r=0 [http://perma.cc/T2ZF-ZPZX] (noting how intellectual property infringement would grow as technology is always one step ahead of the government by always providing a new way to access infringing data to create “piracy-on-demand” which would make tracing the infringer much more difficult and without the infringer located, it would be difficult to stop the illegal activity).


\textsuperscript{138} See id. (mentioning the challenges that the industry is currently facing with the multiple import competition with which the domestic producers have to deal). These challenges may be combated with the growth of 3-D printing of guns in the United States, so there would be less imports, but the industry as a whole in the United States may also
then force the ISP to monitor and ensure individuals do not upload infringing patents. Thus, ISPs could more easily prevent illegal data transfers than attempting to locate the multitude of people who are uploading and downloading the digital model.

However, ISPs would have difficulty carrying out such an action because they operate automatically through code and do not read every single item that goes through their system. The ISPs’ processing speeds may slow down by the addition of these steps to determine if there are any infringing files, which would just harm all the internet users who are trying to communicate to each other—many of whom are working on innovative technologies in different countries. Conversely, if the ISPs use a keyword or a similar method to determine infringing files, it would most likely overreach and block files that are not

139 See Shuler, supra note 6 (detailing the workings of the ISPs and that their routers operate under protocols defined by code, so even though every item would go through the router, since the movement is directed through the use of code, there is no single person reading the content).

140 See Chris Woodford, The Internet, EXPLAIN THAT STUFF! http://www.explainthatstuff.com/internet.html [http://perma.cc/B834-PYCE] (last updated Nov. 19, 2014) (mentioning that the Internet has now expanded to link up around 210 different nations). Overall, while improvement in technologies enables ISPs to operate at high processing speeds, the bandwidth of a server is not unlimited. Therefore, just as in any manufacturing process, if a machine has the same processing speed but there are more steps required to perform a full cycle, the overall time in the system would increase. Bottlenecks would occur since each packet is not going through as quickly as it should and the number of Internet users sending packets is continually increasing.
infringing just because the ISPs themselves fear litigation.\textsuperscript{141}

Additionally, companies like the United Parcel Service and Federal Express may also be negatively impacted if ISPs are liable for infringing data sets that arrived on their server without the ISP’s knowledge that it contains infringing data. An ISP is like a parcel carrier, where it is just a conduit to bring the file from point A to point B, only a parcel carrier works with tangible goods and an ISP deals with intangible items.

If someone mails an infringing file or product by means of a parcel carrier and the particular mailer cannot be determined, since a parcel carrier is like an ISP, there would be a possibility that the carrier would be liable for transporting the package into the United States. Bringing in a package into the United States would fall under the definition of an “article” as defined in \textit{Digital Models}, which stated that they are items that are sold in commerce, and many items may be sold in commerce.\textsuperscript{142} These packages would even fit under the limited argued definition that required articles to be something tangible.\textsuperscript{143} This

\textsuperscript{141} See Richard S. Rosenberg, \textit{Controlling Access to the Internet: The Role of Filtering}, 3 ETHICS & INFO. TECH. 35, 36-37 (2001) (detailing various strategies that may be utilized to filter out websites or data that is undesirable such as compiling a list of URLs or using keywords, but noting that the utilization of keywords may block acceptable sites and would thus not be an effective means of filtering out unwanted materials on the Internet).

\textsuperscript{142} See \textit{Digital Models}, \textit{supra} note 7, at 40–41 (performing an analysis into the meaning of the word “article” as it is used within Section 337 to determine the broad scope of items that the statute was meant to assert authority over).

\textsuperscript{143} See \textit{Hardware Logic Remedy, supra} note 43 at 9–10 (arguing that the definition of an “article” under Section 337 would only encompasses items that are tangible so anything that is intangible would not fall under the jurisdiction of Section 337).
would not seem fair in a logical sense since the carriers do not know the exact details of the contents of every package they deliver. This is similar to an ISP that just obtains packets of information in binary code and would not know what information is infringing or not. While it may be argued that the patent owners require some recourse since they have no way of making the owner stop sending infringing files without knowledge as to who the owner is, placing the onus on an ISP or package carrier would be overly burdensome and would have a larger negative impact on the economy.

ISPs are also in a more unique position than these package carriers despite that on the surface it seems that ISPs and package services perform almost the same functions except that the ISPs work with intangible products while package services work with tangible products. This distinction becomes more important when looking in the realm of common carriers. Common carriers are regulated under the Communications Act of 1934. Parcel services would be considered common carriers and thus are likely not liable for the contents of the packages that they carry. While ISPs can be analogized

144 ISP interactions are all with code and binary numbers, which are intangible, and their actors are all electronics such as routers whereas the packages that package services use are physical boxes that someone can hold in their hands so their actors are actual delivery and packaging personnel that have to manually handle all of these materials.

145 47 U.S.C. § 153(11) (2014) (defining a common carrier as “any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this chapter; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier”).

to be similar to those traditional common carriers, they have been distinguished to be an enhanced service and not a telecommunication service that would fall under the definition of a common carrier.147 Therefore, there would be the possibility that an ISP would be responsible for an email that contains infringing material where the postal service would not be responsible for a physical letter with infringing material just because the postal service would fall under the purview of a common carrier and thus protected from third party liability.148 Therefore, under the current law, ISPs may be responsible for actions that other carriers may not be faulted for despite the similarity in the situations. However, there is a lot of discussion ongoing.

147 See Verizon Commc’ns Inc. v. Fed. Commc’ns Comm’n, 535 U.S. 467, 475–77467 (2002) (deciding not to regulate the Internet as a telecommunications service); Enhanced Service Provider / Information Service, CYBERTELECOM, http://www.cybertelecom.org/ci/esp.htm [http://perma.cc/AXY3-P2GC] (last visited Feb. 1, 2015) (categorizes ISPs under enhanced services, which also include “Internet access service, online service, computer bulletin boards, video dialtone, voice mail, electronic publishing, and other” so it is just a broad category); see also IP: DMCA, supra note 146 (mentioning that an interesting dichotomy was created where “with regard to the content transmitted, ISPs are essentially common carriers; with regard to the communications networks, ISPs are not common carriers”).

148 See IP: DMCA, supra note 146 (noting the odd relationship where Internet networks actually “look, taste, and smell like class common carriers, transporting goods without ownership of or responsibility for the goods transported” but they are not considered common carriers and thus not regulated under the Federal Communications Commission (FCC)).
requesting for ISPs to be placed under the definition of a “common carrier” despite the case law precedent.\textsuperscript{149}

\textbf{C. Remedies for an ISP Violating Section 337}

If an ISP has been found liable as an importer of infringing articles, the remedy provided would most likely be a cease-and-desist order, which would be consistent with \textit{Digital Models} and \textit{Hardware Logic}.\textsuperscript{150} An exclusion order would unlikely be provided since Customs has stated that electronic transmissions would not be within its scope.\textsuperscript{151} While the ITC has not stated that it cannot issue an exclusion order contrary to the policies of Customs, the ITC most likely will not find a reason in this situation to issue such an order since there is still a remedy available for the complainant by means of the cease-and-desist order.

Even though a cease-and-desist order is an available remedy for a complainant, it might not be granted if the order’s effect on the public and on competition would

\textsuperscript{149}See Jon Brodkin, \textit{Make ISPs into “common carriers,” says former FCC commissioner}, ARS TECHNICA: LAW & DISORDER / CIVILIZATION & DISCONTENTS (Jan. 24, 2014, 11:50 AM), http://arstechnica.com/tech-policy/2014/01/drop-regulatory-hammer-on-internet-providers-says-former-fcc-commish/ [http://perma.cc/YB9Q-7XHX] (articulating a recent popular opinion that notes that the FCC made an error in the past by not placing ISPs under the definition of a common carrier, but that the FCC should not continue with its errors and should instead own up to their past mistakes and reclassify ISPs under common carriers so they can regulate them).

\textsuperscript{150}See Digital Models, \textit{supra} note 7 at 147–48 (granting Align the remedy of a cease-and-desist order); \textit{Hardware Logic Remedy, supra} note 43 at 20 (granting a cease-and-desist order but not an exclusion order since it is against the policies of Customs to enforce those orders directed to electronic transmissions).

\textsuperscript{151}See \textit{Hardware Logic Remedy, supra} note 43 at 20 (noting that “Customs has determined not to regulate electronic transmissions”).

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outweigh the need for the cease-and-desist order.\textsuperscript{152} The effects of a cease-and-desist order may be too great for such a relief to be granted because ISPs may pull out of the industry because it is too cumbersome to police all the information that automatically goes through them. If the ISPs pull out of the industry for fear of being held liable for a piece of infringing material that entered that United States that they accidentally missed, then the internet itself might not exist because the infrastructure would be weak or nonexistent. At that point, internet users do not have the ease of communicating with other people throughout the world and this may impede upon innovation and therefore also harm competition.\textsuperscript{153} This, in turn, would also harm United States consumers because they no longer reap the benefits from competition where they have their choice of materials, which also helps keep costs down. Granting a cease-and-desist order against an ISP would have a substantial effect on the United States economy and its growth.

\textsuperscript{152} See 19 U.S.C. § 1337(f)(1) (2014) (stating that a cease-and-desist order might not be issued if the Commission finds that the need for the order is outweighed by the effect on “the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers.”).

\textsuperscript{153} See Chris Woodford, \textit{supra} note 140 (mentioning the growth of the Internet and how it is utilized now in many nations); Protecting and Promoting the Open Internet, FCC 14-61, 3 (May 15, 2014) (notice of proposed rulemaking) (describing the Internet as important for innovation and competition). Since the Internet is a network, the effect that may occur in the United States as a result of new ISP liability may have a rippling effect to other nations and may harm their economy and growth as well just because of the lack of information since every part of a network is important.
CONCLUSION/RECOMMENDATION

While the decision in Digital Models would be helpful in preventing more infringing products from entering the United States, there may be unintended effects to the ISPs with servers in the United States that store digital models that was uploaded from a foreign country and may infringe upon a United States patent. With jurisdiction under Section 337, there is now a possibility that ISPs will be liable for infringing files that are uploaded onto its server. Where ISPs may become liable for patent infringement even when they do not know that there is an infringing article on their server, digital trade may suffer. These ISPs may be seen as an “importer” or an “agent” and have no means of immunity.\footnote{See supra Part II.A.} While the ISPs operate with code where there is no physical person reading every item that routes through the server, the ISPs do not have any form of coverage or immunity within patent law.\footnote{See Shuler, supra note 6 (explaining how ISPs route using code).} With the ISPs not being considered common carriers, they can be liable for the content of their services in patent law since their current protection from intellectual property infringement suits are in copyright law. In examining what acts ISPs are immune from as well as the purpose of these acts, it would be understandable to also protect ISPs from patent infringement liability since the same purposes for protecting ISPs from copyright infringement liability exist with regards to patent law.

A recommendation to protect ISPs from potential liability would be for legislatures to pass a statute that grants ISPs immunity, similar to the Digital Millennium Copyright Act (DMCA) which grants ISPs immunity under
copyright law. When ISPs are awarded immunity, they could also be incentivized to put in place measures of actively seeking out infringing matters because they know they are protected if they are unable to catch each occurrence. The DMCA provides immunity to ISPs so that they would not be liable for passive, automatic actions where the system engages through a technological process initiated by another without the knowledge of the service provider. Since the processes performed by an ISP to upload a file onto a server are passive, automatic actions, and the DMCA also concerns intellectual property, it would be logical to mimic the DMCA to protect ISPs from liability for patent infringement if they do not know that an article that infringes a patent was uploaded. Implementing such an action would be in line with the goal of the intellectual property system in the United States that promotes progress and innovation in science and technology and promotes competition.

156 See 17 U.S.C. § 512 (2012) (providing ISPs immunity from liability if copyrighted material is posted by a subscriber of the ISP without the owner’s permission as long as the ISP did not or should not have known of the infringing action); see also Nate Anderson, Major ISPs Agree to “Six strikes” copyright enforcement plan, ARS TECHNICA: LAW & DISORDER / CIVILIZATION & DISCONTENTS (July 7, 2011, 11:06 AM), http://arstechnica.com/tech-policy/2011/07/major-isps-agree-to-six-strikes-copyright-enforcement-plan/ [http://perma.cc/X75J-RQ9S] (providing detailed information regarding a six strike enforcement plan that ISPs are utilizing monitor their information and protect copyrighted materials).

157 See Anderson, supra note 156 (describing the plan that ISPs now have in place to find and keep out those instances of copyright infringement even though the ISPs have immunity under the DMCA).


159 See LANDERS, supra note 4, at 14–15 (describing the incentives for patent law, which are to provide an incentive to invent, to disclose
If a similar statute was enacted for patents, the new statute should have the same restrictions on the ISP’s ability to be protected by the safe harbor as restricted in the DMCA.\textsuperscript{160} The DMCA requires that the ISP show that it did not have actual or constructive knowledge that there was infringing material, that the ISP received no financial benefit directly attributable to the infringement, and that the ISP responded quickly to remove or disable access to the infringing material in order to be protected by the safe harbor.\textsuperscript{161} Such a statute would protect the right to exclude, which is central to the patent system. Although this recommended statute does not incentivize invention to the same degree as the patent system does, it nevertheless offers strong protection to innocent ISPs, which are a conduit of much innovation.

The purposes of the DMCA would also make sense for situations with an innocent service provider and it would allow the service provider and patent owner to balance their responsibilities.\textsuperscript{162} Despite that patent law

\textsuperscript{160} See 17 U.S.C. § 512 (2012) (providing service providers a limitation on their liability for copyright infringement under certain conditions that the service providers need to meet).

\textsuperscript{161} See Bunk, supra note 158 (providing the overview of the DMCA to inform of the instances when the ISP would not be liable for the infringing material on its server so that the purpose of the DCMA is illustrated).

\textsuperscript{162} See History and Overview of the DMCA, FINDLAW http://smallbusiness.findlaw.com/intellectual-property/history-and-overview-of-the-dmca.html [http://perma.cc/R7MN-XFU3] (last visited Feb. 1, 2015) (noting that the DMCA was enacted as a result of technology and how copyright laws did not offer adequate protection for the works of copyright holders with this improvement in technology). The constant innovations with regard to technology brings to light issues that may not have been anticipated when
and copyright law have various differences even though they both encompass areas of intellectual property, both types of law promote a policy that encourages competition, and therefore, the purpose of protecting innocent service providers is a strong incentive that should not turn on the type of intellectual property at issue.\footnote{See \textit{FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY} 1 (Oct. 2003) (detailing the importance of competition and the various types of innovation it can stimulate to have a better market and meet consumers’ needs). Patent law requires public disclosure which would promote the sharing of technical information that would not have otherwise gotten out to the public and other inventors and with this knowledge, more people can invent and build off of it to continue to innovate and stimulate the economy. \textit{See also Intellectual Property Law: Patents, Trademarks and Copyright}, ALLLAW, http://www.alllaw.com/topics/intellectual_property [http://perma.cc/Q99J-FQ4Z] (last visited Feb. 1, 2015) (providing overview of the various types of intellectual property law and noticing that intellectual property laws are to encourage new technologies and promote economic growth).} Even if a cease-and-desist order would not be an available or appropriate remedy against an ISP, the ISP may still be subject to a lawsuit which would negatively impact them in terms of time and money. Therefore, it would be better to have a statute that would be able to dismiss charges against an ISP much earlier in the process. If the FCC decides to actually regulate ISPs under the definition of a “common carrier,” there is a possibility that additional legislation may not be required since common carriers are traditionally not liable for the actions of third parties.\footnote{See Patricia Spiccia, \textit{The Best Things in Life Are Not Free: Why Immunity Under Section 230 of the Communications Decency Act Should be Earned and Not Freely Given}, 48 VAL. U. L. REV. 369, 377-78 (2013) (noting that since common carriers are just passively...} As a common carrier, the
actions of an ISP would be directly analogous to the actions of the postal service and how that service is not liable to third parties for the unknown contents of letters that are delivered.\footnote{See IP: DMCA, supra note 146 (mentioning how carriers are generally not liable for a third party and how postal services are not responsible for the content of letters, but as of now, ISPs may seem to fit under this definition but is not a common carrier and thus does not receive these protections).}

Now that \textit{Digital Models} has asserted that the ITC has jurisdiction over electronic transmissions, there is now a possibility that an ISP will be brought in front of the ITC under Section 337 for importing an infringing article.\footnote{See Hendrix, supra note 14, at 704 (explaining that the doctrine of \textit{stare decisis} does not apply to agencies like the ITC as long as it provides a rational explanation for not following its own prior precedent).} Holding an ISP liable would cause more harm to the public than the benefit that would come to the patent owner. While policy considerations are a major part of patent law as well as Section 337 investigations conducted by the ITC, it would be best not to rely solely on the uncertain nature of policy arguments that may be made in front of a court. Therefore, Congress should consider enacting a statute that would ensure that the ISPs have immunity from being liable for files placed on its server when it does not have knowledge that the files infringe upon a United States patent. Such a statute would be a clearer indication as to the ISP’s liability and how the courts should best handle it without going into slightly differing policy considerations.