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Tangled in a Web: The Difficulty of Regulating Intrastate Internet Transmissions under the Interstate Commerce Clause

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"The spread of civilization may be likened to that of fire: First, a feeble spark, next a flickering flame, then a mighty blaze, ever increasing in speed and power."[1]

I. INTRODUCTION

Tesla's spark has raged to inferno. A wireless World is now! The Internet, cell phones, satellites—even wireless electricity are truth.[2] How to police the Fire?

The *actus reus* of "clicking the mouse" triggers the instantaneous transmission of data deep into outer space,[3] around the World—or simply next door.[4] And we all do it.[5] Internet transmissions are second nature. Where yesterday we rewarded our neighbor's wave of the hand with our own reflexive gesture, today we hit "REPLY."[6]

The Federal Government seeks to regulate Internet use.[7] But fitting the Internet into the finicky framework of the Interstate Commerce Clause has left courts tangled in a web.[8] Do Internet transmissions *always* traverse state

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1. Nikola Tesla, *What Science May Achieve This Year: New Mechanical Principle for Conservation of Energy*, DENVER ROCKY MOUNTAIN NEWS, Jan. 16, 1910, *reprinted in* NIKOLA TESLA, VERY TRULY YOURS, NIKOLA TESLA 124 (2007).

2. *See* Franklin Hadley, *MIT Demos Wireless Power Transmission*, TECHTALK, June 13, 2007 (indicating that technology could free portable electronics from wired recharge).

3. VIJAY G. BHARADWAJ, JOHN S. BARAS & NORMAN P. BUTTS, TECHNICAL RESEARCH REPORT: INTERNET SERVICE VIA BROADBAND SATELLITE NETWORKS 1-2 (1999), *available at* http://www.isr.umd.edu/~baras/publications/papers/1998/BarasBB-1998.html (noting benefits and deficiencies of wireless satellite Internet connections against conventional terrestrial wire-based connections).

4. Internet transmissions often travel entirely intrastate. *See* discussion *infra* Part II.

5. Out of an estimated U.S. population of over 307 million, 223 million are Internet users (as of 2008). While 255 million cell phones are in service, only 163.2 million traditional land lines exist (as of 2007). Central Intelligence Agency, World Fact Book: United States, https://www.cia.gov/library/publications/the-world-factbook/geos/us.html (last visited Mar. 29, 2009) (on file with the *McGeorge Law Review*).

6. *See generally* JONATHAN B. POSTEL, SIMPLE MAIL TRANSFER PROTOCOL, RFC 821 (1982), *available at* http://www.rfc-editor.org/rfc.html (describing the process of e-mail communication using standard software protocol).

7. *See, e.g.*, 18 U.S.C. § 2252 (2006) (prohibiting knowingly sending or receiving images involving the use of a minor engaging in sexually explicit conduct); 18 U.S.C. § 1030 (2006) (prohibiting fraud and related activity in connection with computers).

8. *Compare* United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (holding that the Government must prove that the Internet transmission traversed state borders to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 103(a)(3), 122 Stat. 4001 (2008)), *with* United States v. MacEwan, 445 F.3d 237, 244 (3rd Cir. 2006) ("[W]e conclude that because of the very interstate nature of the Internet, once a user submits a connection request to a website server or an image is transmitted from the website server back to user, the data has traveled in interstate

borders?[9] Is the Internet inexorably intertwined with interstate commerce?[10] This Comment seeks to provide meaningful answers to these questions.

This Comment argues that Federal regulation of the Internet under the Interstate Commerce Clause requires actual proof that Internet transmissions traverse state borders unless the regulated conduct substantially affects interstate commerce. This position rests on the assertion that not all Internet transmissions substantially affect interstate commerce. The alternative creates a precedent of treating Internet transmissions as traversing state borders as a matter of law—with illusory evidentiary requirements.[11] The Internet is the modern Library of Alexandria[12]—let us act with caution before permitting unlimited Federal regulation based on *assumed* jurisdiction that may not always be Constitutionally justifiable.[13]

When our government grasps for control of communication technology, "every person is the victim, for the technology we exalt today is everyman's master."[14] Consider 18 U.S.C. § 2252, which prohibits knowingly receiving images involving the use of a minor engaging in sexually explicit conduct.[15] Before Congress passed the Effective Child Pornography Act of 2007, 18 U.S.C. § 2252 claimed Interstate Commerce Clause jurisdiction if the image was

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commerce. Here, once the images of child pornography left the website server and entered the complex global data transmission system that is the Internet, the images were being transmitted in interstate commerce."), *and* United States v. Adams, 343 F.3d 1024, 1033-34 (9th Cir. 2003) (holding that child pornography sufficiently affects interstate commerce to exercise Commerce Clause power).

9. *Compare Schaefer*, 501 F.3d at 1198 (holding that the Government must prove that Internet transmissions traversed state borders to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007 § 103(a)(3)), *with* United States v. Runyan, 290 F.3d 223, 242-43 n.8 (5th Cir. 2002) (holding that linking the subject images to the Internet was sufficient evidence for conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007 § 103(a)(3)).

10. *See MacEwan*, 445 F.3d at 245 (stating that Congress can regulate the Internet regardless of whether transmissions cross state lines because the Internet and interstate commerce are inexorably intertwined).

11. *See Runyan*, 290 F.3d at 242-43 (holding that linking the subject images to the internet was sufficient evidence for conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007 § 103(a)(3)); *see also MacEwan*, 445 F.3d at 245 (holding that the Internet is a channel and instrumentality of interstate commerce and that Congress could regulate it regardless of whether transmissions cross state lines because the Internet and interstate commerce are inexorably intertwined).

12. The Library of Alexandria was the first known international library and is renowned by historians for bringing together the scholars of the world. ROY M. MACLEOD, THE LIBRARY OF ALEXANDRIA XI (2005). The Internet is comparable to "a vast library including millions of readily available and indexed publications." Reno v. ACLU, 521 U.S. 844, 853 (1997).

13. One scholar has advocated the suspension of freedom of information over the Internet in the event of public health emergencies. *See generally* Laurie N. Stempler, Note, *Point and Click to Protect Public Health: Taking Charge of Information Dissemination Over the Internet During a Public Health Emergency*, 73 BROOK. L. REV. 1591 (2008).

14. United States v. White, 401 U.S. 745, 757 (1971) (Douglas, J., dissenting) (disagreeing with the majority's holding that wiretap evidence is admissible due to forfeited expectations of privacy).

15. 18 U.S.C. § 2252(a)(2) (2006). I do not argue the merits of federal regulation of child pornography and instead offer a mode of analysis that adequately fits the constitutional basis for federal jurisdiction. *See infra* Part IV.D.

shipped or transported in interstate or foreign commerce.[16] By amending 18 U.S.C. § 2252, Congress explicitly asserted that the child pornography industry substantially affects interstate and foreign commerce, estimating it to be a multibillion dollar industry.[17]

Congress may regulate conduct that substantially affects interstate commerce regardless of actual interstate movement on a case-by-case basis.[18] Consequently, Congress' assertion that "transmission of child pornography using the Internet constitutes transportation in interstate commerce" is probably correct.[19] The difference in the statute is reflected by the replacement of "in interstate commerce," which invokes only partial Interstate Commerce Clause power, with "in or *affecting* interstate commerce," invoking full Interstate Commerce Clause power.[20]

Before Congress amended 18 U.S.C. § 2252, federal circuits presented drastically different interpretations of the statute's jurisdictional provision—modeled to satisfy the Interstate Commerce Clause by requiring Internet transmissions to be sent "in commerce."[21] Multiple circuits held that mere use of the Internet is legally equivalent with electronic transmissions traversing state borders[22]—a requirement when Congress uses the phrase "in commerce" as the basis for jurisdiction.[23] The Tenth Circuit did not allow this shift in the burden of the proof and instead required prosecutors to prove transmissions cross state

16. I analyze the approach taken by federal courts in interpreting 18 U.S.C. § 2252 *before* it was amended to invoke the full power of the Interstate Commerce Clause.

17. In enacting the Effective Child Pornography Prosecution Act of 2007, Congress asserted that the ease of distribution and lack of production expense has resulted in a multibillion dollar global industry. Pub. L. No. 110-358, § 102, 122 Stat. 4001 (2008) (amending 18 U.S.C. § 2252). *But see* Hodel v. Va. Surface Mining & Reclamation Ass'n, Inc., 452 U.S. 264, 311 (1981) (Rehnquist, J., concurring) ("[S]imply because Congress may conclude that a particular activity substantially affects interstate commerce does not necessarily make it so."); Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 273 (1964) (Black, J., concurring) ("[W]hether particular operations affect interstate commerce sufficiently to come under the constitutional power of Congress to regulate them is ultimately a judicial rather than a legislative question, and can be settled finally only by this Court.").

18. U.S. CONST. art. I, § 8, cl. 3; United States v. Lopez, 514 U.S. 549, 558-59 (1995).

19. Effective Child Pornography Prosecution Act of 2007 § 102 (amending 18 U.S.C. § 2252).

20. *Id.* at § 103(b) (emphasis added); *see also* Scarborough v. United States, 431 U.S. 563, 571 (1977) ("As we have previously observed, Congress is aware of the 'distinction between legislation limited to activities "in commerce" and an assertion of its full Commerce Clause power so as to cover all activity substantially affecting interstate commerce.'" (quoting United States v. Am. Bldg. Maint. Indus., 422 U.S. 271, 280 (1975))).

21. *Compare* United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (holding that the Government must prove that Internet transmissions traversed state borders to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007), *with* United States v. MacEwan, 445 F.3d 237, 245 (3rd Cir. 2006) (holding that the Internet is a channel and instrumentality of interstate commerce and that Congress could regulate it regardless of whether transmissions cross state lines because the Internet and interstate commerce are inexorably intertwined), *and* United States v. Runyan, 290 F.3d 223, 242-43 (5th Cir. 2002) (holding that linking the subject images to the Internet was sufficient evidence for conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007).

22. *E.g.*, *Runyan*, 290 F.3d at 242-43; United States v. Carroll, 105 F.3d 740, 742 (1st Cir. 1997).

23. *Scarborough*, 431 U.S. at 571.

borders on a case-by-case basis.[24] This interpretation of 18 U.S.C. § 2252 was the only approach that required federal prosecutors to *actually prove* Internet transmissions traversed state borders.[25]

Circuit court interpretation of pre-amended 18 U.S.C. § 2252 is important because it reveals how courts analyze Internet transmissions when federal statutes require interstate movement to obtain Interstate Commerce Clause jurisdiction.[26] Consequently, the analysis is relevant to potential future federal statutes that regulate Internet conduct that does not substantially affect interstate commerce.[27]

This Comment begins by determining the feasibility of purely intrastate transmissions and distinguishing computers from the Internet, asserting that the former are instrumentalities[28] of interstate commerce and the latter is a channel[29] of interstate commerce.[30] This Comment then argues that mere Internet transmissions do not necessarily substantially affect interstate commerce. Part III dissects the differing federal circuit interpretations of 18 U.S.C. § 2252 prior to the Effective Child Pornography Prosecution Act of 2007.[31] This Comment ultimately concludes that the problem of purely intrastate Internet transmissions

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24. *See Schaefer*, 501 F.3d at 1198.

25. *Id.* (holding that the government must prove that Internet transmission traversed state borders to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007). Effective 2008, Congress amended the jurisdictional provision of 18 U.S.C. § 2252 "by striking 'in interstate' each place it appears and inserting 'in or affecting interstate' commerce." Effective Child Pornography Prosecution Act of 2007 § 103(b).

26. *See, e.g.*, *Schaefer*, 501 F.3d 1197 (requiring proof of actual interstate transmissions); *Runyan*, 290 F.3d 223 (assuming interstate transmission as a matter of law).

27. This Comment argues that if Congress creates new Internet laws that do not regulate conduct substantially affecting interstate commerce, some form of interstate travel will be a required jurisdictional element.

28. A computer is similar to other instrumentalities of interstate commerce, such as cars or aircraft. *See* Perez v. United States, 402 U.S. 146, 150 (1971) (noting that aircraft are instrumentalities of interstate commerce); S. Ry. Co. v. United States, 222 U.S. 20, 26 (1911) (upholding legislation regulating "locomotives, cars, and similar vehicles" (i.e., instrumentalities) "used on any railroad which is a highway of interstate commerce").

29. The Internet is similar to other channels of interstate commerce, such as railroads, and navigable waters. *See* Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 271 (1964). While *Heart of Atlanta Motel* was decided before the Court used "channel" terminology, the case stands for the assertion that highways are channels of Interstate commerce, evidenced by the qualification that "even highways are . . . subject to Congressional regulation, so far as is necessary to keep interstate traffic upon fair and equal terms." *Id. See also* Caminetti v. United States, 242 U.S. 470, 491 (1917) (upholding a statute regulating railroads and noting that the "transportation of passengers in interstate commerce . . . is within the regulatory power of Congress"); Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824) (lifting a New York injunction restricting the use of navigable waterways).

30. While the utility of computers may at times qualify them as instrumentalities of interstate commerce, the Internet is a distinct entity from the hardware itself and functions more like a channel of interstate commerce. The channels of interstate commerce may be regulated to prevent misuse of those channels, whereas instrumentalities may be directly regulated. *Perez*, 402 U.S. at 150.

31. Pub. L. No. 110-358, 122 Stat. 4001 (2008) (amending 18 U.S.C. § 2252).

requires that federal prosecutors prove that Internet transmissions actually traverse state borders.[32]

II. INTRASTATE INTERNET TRANSMISSIONS

A. *What Are Internet Transmissions?*

A look at the technology that makes Internet transmissions possible reveals the feasibility of purely intrastate transmissions.[33] The origin of most Internet transmissions is the personal computer.[34] When a user triggers a transmission, an electronic signal travels from the personal computer to a regional Internet service provider (ISP), typically located in the same city.[35] This "regional hub" then sends the signal to a backbone server, or "internet exchange point" (IXP).[36] To create the shortest path possible, the IXP closest to the ISP is used.[37] If the transmission is an e-mail, it is sent from the IXP to the e-mail server.[38] This e-mail server then receives and processes the transmission and the procedure can be repeated in response.[39] This can be accomplished entirely intrastate.[40] Technological circumstances in the United States make this *probable* because

32. *See* United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (holding that the government must prove that Internet transmissions traverse state borders to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007). The clear exception is Internet conduct that substantially affects interstate commerce. *See* U.S. CONST. art. I, § 8, cl. 3; United States v. Lopez, 514 U.S. 549, 558-59 (1995).

33. Steve Gibbard, *Geographic Implications of DNS Infrastructure Distribution*, 10 INTERNET PROTOCOL J. 1, 12 (2006), *available at* http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_10-1/101_dns-infrastructure.html (on file with the *McGeorge Law Review*) ("Although considerable work remains to be done, Internet traffic now stays local in many places where it once would have traveled to other continents, lowering costs while improving performance and reliability.").

34. *See* Central Intelligence Agency, *supra* note 5 (estimating over 220 million Internet users in the United States alone).

35. *See* United States v. MacEwan, 445 F.3d 237, 241 (3rd Cir. 2006) (describing the functionality of the Internet in accordance with the text of this section); PYDA SRISURESH & MATT HOLDREGE, THE INTERNET SOCIETY, IP NETWORK ADDRESS TRANSLATOR (NAT) TERMINOLOGY AND CONSIDERATIONS, RFC 2663 (1999), *available at* http://www.rfc-editor.org/rfc.html (on file with the *McGeorge Law Review*) (describing communication procedures between customers and ISP providers).

36. "An exchange point is a facility where networks interconnect . . . [that may be] scattered throughout the US . . . ." STEVE GIBBARD, PACKET CLEARING HOUSE, ECONOMICS OF PEERING 2 (2004), *available at* http://www.pch.net/resources/papers/Gibbard-peering-economics.pdf (on file with the *McGeorge Law Review*).

37. JOHN MOY, THE INTERNET SOCIETY, OSPF VERSION 2, RFC 2328, at 21 (1998), *available at* http://www.rfc-editor.org/rfc.html (on file with the *McGeorge Law Review*) (noting that routers will calculate "a tree of shortest paths with the router itself as the root"); *see also MacEwan*, 445 F.3d at 241.

38. *MacEwan*, 445 F.3d at 241; POSTEL, *supra* note 6, at 2 (noting that the initial receiver could be the destination or merely an intermediate destination).

39. POSTEL, *supra* note 6, at 2.

40. *MacEwan*, 445 F.3d at 244; Gibbard, *supra* note 33, at 12 (noting favorable trend of purely local data transmission).

there are many national IXPs.[41] In California there are a combined ten IXPs in Los Angeles and San Francisco alone.[42]

For example, if personal computer user "A," located in San Francisco, chose to send an e-mail to co-worker "B" in the same building, the transmission would initiate at A's personal computer.[43] It would then travel from A's modem to the local ISP hub chosen by A's employer.[44] From there, the transmission would travel to the closest available IXP,[45] most likely in San Francisco.[46] The IXP would relay the signal to A's e-mail server, likely located within the State.[47] From this e-mail server, the process would re-initiate, only this time it would be sent from the e-mail server and ultimately arrive at B's personal computer.[48] All of this can occur without a single transmission leaving California.[49]

The Internet infrastructure enjoys a healthy function when designed to facilitate local transmissions.[50] Areas with truly local Internet infrastructure avoid dependency on distant servers and enjoy less expensive, more efficient Internet use.[51] Courts must acknowledge the reality of truly localized Internet transmissions instead of *assuming* Internet transmissions cross state lines just to obtain Interstate Commerce Clause jurisdiction.[52] Citing the complexity of the technology as an excuse to legally assume Internet transmissions cross state lines[53] does not defeat the reality of truly localized Internet transmissions.[54]

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41. Packet Clearing House, Internet Exchange Point Directory, https://prefix.pch.net/applications/ixpdir/ (last visited Feb. 13, 2009) (on file with the *McGeorge Law Review*).

42. *Id.*

43. POSTEL, *supra* note 6, at 2.

44. SRISURESH & HOLDREGE, *supra* note 35, at 7, 10, 22.

45. *MacEwan*, 445 F.3d at 241; MOY, *supra* note 37, at 21.

46. See Packet Clearing House, *supra* note 41 (listing the IXPs located in San Fransisco).

47. *See* STEVE GIBBARD, PACKET CLEARING HOUSE, INTERNET MINI-CORES 4 (2005), *available at* http://www.stevegibbard.com/mini-cores.htm (noting that in many cases, local ISPs operate e-mail servers).

48. POSTEL, *supra* note 6, at 2 (noting that initial receiver could be destination or merely an intermediate destination).

49. *See MacEwan*, 445 F.3d at 244 ("Because of fluctuations in the volume of Internet traffic and determinations by the systems as to what line constitutes the 'Shortest Path First,' a website connection request can travel entirely intrastate or partially interstate."); Gibbard, *supra* note 33, at 12.

50. *See generally* GIBBARD, *supra* note 47 (arguing for improvement of Internet infrastructure in regions that are far away from the Internet core servers through building more IXPs to facilitate localized Internet transmissions in countries that rely on IXPs from other countries).

51. *Id.* at 3.

52. *See* United States v. Morrison, 529 U.S. 598, 617-18 (2000) ("The Constitution requires a distinction between what is truly national and what is truly local."); United States v. Runyan, 290 F.3d 223, 239 (5th Cir. 2002) ("We join the First Circuit in holding that '[t]ransmission of photographs by means of the Internet is tantamount to moving photographs across state lines and thus constitutes transportation in interstate commerce' for the purposes of 18 U.S.C. § 2251." (quoting United States v. Carroll, 105 F.3d 740, 742 (1st Cir.1997))); Gibbard, *supra* note 33.

53. *See MacEwan*, 445 F.3d at 244 ("[U]nless monitored by specific equipment, it is almost impossible to know the exact route taken by an Internet user's website connection request . . . .").

54. *See* Gibbard, *supra* note 33.

B. How the Internet Fits into the General Restrictions on Federal Regulation Under the Interstate Commerce Clause

In *United States v. Lopez*, the Supreme Court "identified three broad categories of activity that Congress may regulate under its commerce power."[55] The first category is the use of the channels of interstate commerce.[56] The second category is the power to regulate and protect the instrumentalities of interstate commerce and persons or things in interstate commerce, even from purely intrastate threat.[57] Finally, Congress may regulate activities that substantially affect interstate commerce, even if the activity is noncommercial in nature and conducted entirely intrastate (if it undercuts a federal regulatory scheme).[58] The Interstate Commerce Clause cannot be interpreted as a grant of plenary police power.[59]

1. The Internet Is a Channel of Interstate Commerce

The Internet is a channel of interstate commerce, as are rivers, roads and railways.[60] In *Gonzales v. Raich*, the Court cited *United States v. Morrison* for the proposition that Congress may regulate channels of interstate commerce.[61] Channels of interstate commerce may only be regulated for interstate activity, with the exception of the *Gibbons v. Ogden* rule, which allows Congress to ensure that the channels are not obstructed for purposes of interstate travel.[62]

To determine the nature of Congress' power to regulate channels of interstate commerce, one must look farther back into the history of judicial interpretation of the Interstate Commerce Clause. *Morrison* suggests that channels of interstate

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55. 514 U.S. 549, 558-59 (1995); *see also Morrison*, 529 U.S. at 608-10.

56. *Lopez*, 514 U.S. at 558-59.

57. *Id.*

58. *Id.*; Gonzales v. Raich, 545 U.S. 1, 18-19 (2005).

59. *Morrison*, 529 U.S. at 618-19.

60. *See id.* at 658 ("[T]he Court reaffirms, as it should, Congress' well-established and frequently exercised power to enact laws that satisfy a commerce-related jurisdictional prerequisite—for example, that some item relevant to the federally regulated activity has at some time crossed a state line."); Caminetti v. United States, 242 U.S. 470, 491 (1917) (upholding a statute regulating railroads and noting that the "transportation of passengers in interstate commerce . . . is within the regulatory power of Congress"); Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824) (lifting a New York injunction restricting the use of navigable waterways); Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 271 (1964) (finding a distinction between facilities and instrumentalities of interstate commerce, and standing for the assertion that highways are treated differently than instrumentalities of interstate commerce, evidenced by the qualification that "even highways are . . . subject to Congressional regulation, so far as is necessary to keep interstate traffic upon fair and equal terms").

61. *Raich*, 545 U.S. at 25; *see also Caminetti*, 242 U.S. at 491 (affirming convictions against the defendants for using railroads to transport minors for immoral purposes across state lines).

62. *See* Perez v. United States, 402 U.S. 146, 150 (1971) (noting that the channels of interstate commerce may be regulated to prevent misuse of those channels); *Gibbons*, 22 U.S. (9 Wheat.) at 190 ("All America understands, and has uniformly understood, the word 'commerce,' to comprehend navigation.").

commerce are regulated differently than instrumentalities.[63] Different regulatory standards for channels—best described as routes[64]—than for instrumentalities—the method used to travel these routes[65]—makes sense because they perform different functions. In *Morrison* the Court declared that Congress can regulate channels of interstate commerce, but when noting that instrumentalities can also be regulated, the Court added the phrase: "even though the threat may come only from intrastate activities."[66] There is no such mention of an exception for intrastate activities in the limited discussion of the channels of interstate commerce.[67] This omission supports the assertion that channels of interstate commerce may only be regulated for interstate activity—which is consistent with the spirit of the Interstate Commerce Clause and the rich case history it has spawned.[68]

In *United States v. Perez*, the Court held that individuals misusing channels of interstate commerce are subject to federal regulation when such conduct involves transportation between states or the U.S. border.[69] Numerous statutes exemplify the requirement of actual interstate transportation.[70] Federal prohibition of the transportation of stolen goods, including automobiles, requires interstate transportation to satisfy Interstate Commerce Clause jurisdiction.[71] Prohibition of the sale or receipt of stolen goods requires that such goods previously cross state lines or the U.S. border.[72] Even prohibition of kidnapping is restrained by the interstate requisite.[73]

Congress may also regulate channels of interstate commerce to ensure the ability of interstate travel.[74] In *Gibbons v. Ogden*, Chief Justice Marshall lifted an injunction preventing Gibbons from sailing a United States licensed ferry-boat

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63. *Morrison*, 529 U.S. at 608-09.

64. *Caminetti*, 242 U.S. at 491 (upholding a statute regulating railroads and noting that the "transportation of passengers in interstate commerce . . . is within the regulatory power of Congress"); *Gibbons*, 22 U.S. (9 Wheat.) at 1-2.

65. *See Perez*, 402 U.S. at 150 (noting that aircraft are instrumentalities of interstate commerce); S. Ry. Co. v. United States, 222 U.S. 20, 26 (1911) (upholding legislation regulating "locomotives, cars, and similar vehicles" (i.e., instrumentalities) "used on any railroad which is a highway of interstate commerce").

66. *Morrison*, 529 U.S. at 609 (quoting United States v. Lopez, 514 U.S. 549, 558 (1995)).

67. *Id.* at 608-09.

68. *See id.* (citing many cases from the extensive history of Interstate Commerce Clause jurisprudence).

69. The channels of interstate commerce may be regulated to prevent misuse of the channels. *Lopez*, 514 U.S. at 558-59; *Perez*, 402 U.S. at 150 (citing 18 U.S.C. § 2312 (2006) (prohibiting transportation of stolen vehicles "in interstate or foreign commerce"), 18 U.S.C. § 2313 (2006) (prohibiting sale or receipt of motor vehicles that have crossed U.S. or State borders), 18 U.S.C. § 2315 (2006) (prohibiting the sale or receipt of stolen goods that have crossed U.S. or State borders), and 18 U.S.C. § 1201 (2006) (prohibiting willful transportation of individuals who have been kidnapped in interstate or foreign commerce)).

70. *E.g.*, 18 U.S.C. §§ 1201, 2312-2315 (2006).

71. *Id.* § 2312.

72. *Id.* §§ 2313, 2315.

73. *Id.* § 1201.

74. *See* United States v. Morrison, 529 U.S. 598, 609 (2000) (affirming *Lopez*, 514 U.S. 549); *see also* Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824).

between New York and New Jersey.[75] Because interstate commerce necessarily requires some form of interstate transportation, Congress may ensure that navigation is possible.[76] Guaranteeing navigation is a necessary but narrow exception to the rule that Congress may only regulate channels of interstate commerce for interstate activity.[77]

The traditional application of federal regulation of the channels of interstate commerce was exemplified in *Caminetti v. United States*—a ninety year-old case cited as recently as *Morrison*.[78] In *Caminetti*, the Court affirmed convictions against defendants for using railroads to transport minors for immoral purposes across state lines.[79] The channels of interstate commerce in that case were the railroads—but the Court exercised jurisdiction only because the defendants physically crossed state lines in violation of 18 U.S.C. § 2421.[80] More recently, in *United States v. Bass*, the Court salvaged the constitutionality of an ambiguous felon-in-possession statute by requiring the prohibited firearm to have crossed state lines.[81] Thus, notwithstanding the *Gibbons* exception, actual movement between states or across the U.S. border is a fixture of constitutional regulation over channels of interstate commerce.[82]

The computer is the car to the Internet's windy road.[83] While roads are accurately described as channels of interstate commerce,[84] cars meet the definition of instrumentalities.[85] As established above, Congress must comply with different restrictions when regulating channels as opposed to instrumentalities of interstate commerce.[86] Although some circuits have held that the Internet is both a channel and instrumentality of interstate commerce,[87] a

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75. 22 U.S. (9 Wheat.) 1, 1-2.

76. *Id.*

77. "[I]t has long been held that the Necessary and Proper Clause, Art. I, [§] 8, cl. 18, adds to the commerce power of Congress the power to regulate local instrumentalities operating within a single State if their activities burden the flow of commerce among the States." Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 271 (1964); U.S. CONST. art. I, § 8, cl. 18 ("Congress shall have the power . . . [t]o make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by this Constitution in the Government of the United States . . . .").

78. *Morrison*, 529 U.S. at 658-59.

79. 242 U.S. 470, 491, 496 (1917).

80. 18 U.S.C. § 2421 (2006) (prohibiting knowingly transporting an individual in interstate commerce for illegal sexual activity); *Caminetti*, 242 U.S. at 484 (noting that defendant Hays induced and coerced an under-aged girl to travel with him by rail from Oklahoma to Kansas "to engage in prostitution, debauchery, and other immoral practices").

81. 404 U.S. 336, 347-51 (1971).

82. *Morrison*, 529 U.S. at 658 (Breyer, J., dissenting); *Bass*, 404 U.S. at 347-351; *Caminetti*, 242 U.S. at 491; Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824).

83. Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 271 (1964); S. Ry. Co. v. United States, 222 U.S. 20, 25 (1911) (distinguishing vehicles from highways of interstate commerce and noting that vehicles may be regulated for intra or interstate travel).

84. *Heart of Atlanta Motel, Inc.*, 379 U.S. at 271.

85. *See S. Ry. Co.*, 222 U.S. at 25.

86. *See supra* notes 63-68 and accompanying text.

87. United States v. MacEwan, 445 F.3d 237, 253 (3rd Cir. 2006); Unites States v. Hornaday, 392 F.3d

more meaningful assessment is that while computers are instrumentalities of interstate commerce, the Internet is a channel of interstate commerce. The Court has employed the dichotomy of channel and instrumentality since *Perez*—the terms should receive logical legal treatment that reflects their distinct functionality.[88]

Although more similar to channels than instrumentalities, the Internet can be distinguished from channels. Imagine the birth of a geyser atop a stony mountain. Picture the different courses the water flowing from such a geyser may embark upon. The possibilities are exponential and unpredictable—the opposite of a carefully paved road.[89] This infinity distinguishes the Internet from the permanently fixed nature of interstate highways, railroads, and rivers.[90] True—it is entirely possible to intentionally send Internet transmissions across state lines with the same assurance that one is crossing state lines as when one physically crosses a border in a moving car.[91] But millions of Internet transmissions function entirely intrastate—consistent with the intent of the sender.[92] Sometimes these intended intrastate transmissions have interstate detours, but the Internet is evolving to avoid unnecessary travel in exchange for efficiency and self-sustainability.[93] Thus, although not fixated in one location (like a railroad), the Internet can function as a channel of interstate commerce.

1306, 1311 (11th Cir. 2004).

88. Channels provide avenues to cross state lines, but instrumentalities are actually operated to cross them. Hence, channels of interstate commerce may be regulated for interstate misuse. Perez v. United States, 402 U.S. 146, 150 (1971).

89. The direction of Internet transmissions can be controlled by the user, yet the possible locations are almost infinite—like a display of Zeno's Paradox. Aristotle, *Physica (The Physics)*, *in* THE BASIC WORKS OF ARISTOTLE, 218, 239b5-9 (Richard McKeon ed., 2001) ("[I]f everything when it occupies an equal space is at rest, and if that which is in locomotion is always occupying such a space at any moment, the flying arrow is therefore motionless. This is false, for time is not composed of indivisible moments any more than any other magnitude is composed of indivisibles.").

90. MOY, *supra* note 37, at 21 (describing shortest path possible function which consequently varies the path of a transmission depending on the location of the closest available IXP).

91. United States v. Thomas, 74 F.3d 701, 706-07 (6th Cir. 1996) (holding intangible form by which computer-generated images moved from defendants' bulletin board in one state to personal computer in another state did not preclude conviction for interstate transportation of obscene materials).

92. There are over 223 million Internet users in the United States and many Internet transmissions stay entirely local. Gibbard, *supra* note 33; Central Intelligence Agency, *supra* note 5.

93. GIBBARD, *supra* note 47, at 3; MOY, *supra* note 37, at 21 (describing shortest path possible function).

2. *Computers Are Instrumentalities of Interstate Commerce*

Rivers, roads, and railways are channels of interstate commerce,[94] but vehicles such as cars and airplanes are instrumentalities.[95] However, channels that are indispensible for interstate transport because they are necessarily traveled when crossing state lines are treated as instrumentalities of interstate commerce,[96] and may consequently be protected by Congress from intrastate threats burdening interstate travel.[97] Drawbridges necessary to travel between states exemplify this function.[98] Congress has heightened control over instrumentalities of interstate commerce because they can be protected from purely intrastate threats such as destruction of aircraft or thefts from interstate shipments as opposed to only interstate use.[99] Federal protection of instrumentalities of interstate commerce was enforced in *Southern Railway Co. v. United States*, where the Court upheld amendments to the Safety Appliance Act as applied to vehicles used in interstate commerce.[100] The computer functions as the instrumentality of interstate commerce within the channel of interstate commerce known as the Internet.[101] Operated by the individual, the computer acts as a vehicle that can be "driven" within the informational "super-highway"—the Internet.[102] The user dictates the direction of Internet transmissions and consequently elects to send Internet transmissions either within or beyond the State in which the computer is

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94. Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 271 (1964) (finding a distinction between facilities and instrumentalities of interstate commerce, and standing for the assertion that highways are treated differently than instrumentalities of interstate commerce, evidenced by the qualification that "even highways are . . . subject to Congressional regulation, so far as is necessary to keep interstate traffic upon fair and equal terms"); Caminetti v. United States, 242 U.S. 470, 491 (1917) (upholding a statute regulating railroads and noting that the "transportation of passengers in interstate commerce . . . is within the regulatory power of Congress"); Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824) (lifting a New York injunction restricting the use of navigable waterways).

95. *See* S. Ry. Co. v. United States, 222 U.S. 20, 25 (1911) (distinguishing vehicles from highways of interstate commerce and noting that vehicles may be regulated for intra or interstate travel); Perez v. United States, 402 U.S. 146, 150 (1971) (noting that aircraft are instrumentalities of interstate commerce).

96. *See* Overstreet v. N. Shore Corp., 318 U.S. 125, 129-30 (1943) (describing the function of a drawbridge). However, the Internet is not comparable, as an entity, to drawbridges, because the infinity of the Internet—with its countless possible routes—renders it unlike a drawbridge, which only has one possible route. *See supra* Part II.B.1.

97. The Court's analysis of roads as instrumentalities tends to suffer from overlap with the analysis of roads as channels when the regulation pertains to relieving burdens on interstate travel. *Overstreet*, 318 U.S. at 129-30. Perhaps the more appropriate analysis is to always treat roads as channels of interstate commerce that may only be regulated for interstate activity with the exception of the *Gibbons* rule. In *Gibbons*, an injunction preventing ferry travel was an unconstitutional burden on interstate commerce. Because Congress is charged with facilitating the channels interstate commerce, the analysis of roads can stay outside of the realm of instrumentalities and courts can instead look to *Gibbons* for guidance. 22 U.S. (9 Wheat.) at 1-2.

98. *Overstreet*, 318 U.S. at 129-30 (describing the function of a drawbridge).

99. *Perez*, 402 U.S. at 150.

100. 222 U.S. at 27.

101. *See generally id.* at 25; *Perez*, 402 U.S. at 150 (noting that aircraft are instrumentalities of interstate commerce).

102. *See supra*, Part II.A.

located.[103] Computers can be legally distinguished from the Internet for the purpose of jurisdictional analysis under the Interstate Commerce Clause because unlike the Internet, if seen as instrumentalities, computers could be directly regulated regardless of actual interstate movement.[104] The nature of such regulation would most likely come in the form of general safety or environmental restrictions, as seen with federal regulation of cars,[105] or even in the form of criminal prohibitions against the destruction of Internet servers. Regardless of the form of regulations for computers, it is critical to recognize that they function as instrumentalities—a factor that clearly distinguishes them from the Internet.

3. Activity Substantially Affecting Interstate Commerce in the Aggregate

The "substantially affects" approach has been the focus of modern Interstate Commerce Clause litigation.[106] The Court clearly stated the rule in *Lopez*, declaring that "Congress' commerce authority includes the power to regulate those activities having a substantial relation to interstate commerce, i.e., those activities that substantially affect interstate commerce."[107] Under the substantially affects approach, Congress may regulate even purely intrastate activity if the activity sufficiently affects interstate commerce.[108]

While an Internet transmission violating 18 U.S.C § 2252 may constitute an act substantially affecting interstate commerce,[109] not all Internet transmissions have such an effect. In amending 18 U.S.C § 2252, Congress asserted that sending images of child pornography over the Internet constitutes an act substantially affecting interstate commerce,[110] thus distinguishing Internet transmissions of child pornography from Internet transmissions generally. This is a logical distinction because countless Internet transmissions are mere

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103. *See id.*

104. For example, Congress has given the Secretary of Transportation the authority to regulate certain safety aspects of motor vehicles and railroads. *See* 49 U.S.C. § 30101 (2000) ("The Secretary . . . shall complete a rulemaking proceeding . . . to establish a standard designed to enhance passenger motor vehicle occupant protection . . . ."); *id.* § 20103 ("The Secretary of Transportation, as necessary, shall prescribe regulations and issue orders for every area of railroad safety . . . .").

105. *See* Energy Independence and Security Act of 2007, Pub. L. No. 110-140, § 102(a)(2), 121 Stat. 1492, 1499 (2007) (prescribing fuel economy standards for various classes of automobiles).

106. *See generally* United States v. Morrison, 529 U.S. 598 (2000) (holding that the federal civil remedy for victims of gender-related violence does not sufficiently affect interstate commerce to invoke Interstate Commerce Clause jurisdiction for purely intrastate activity); United States v. Lopez, 514 U.S. 549 (1995) (holding that a federal law creating gun-free zones around schoolyards was unconstitutional because the jurisdictional prong bore only an attenuated link to interstate commerce).

107. 514 U.S. at 558-59 (citations omitted).

108. *Morrison*, 529 U.S. at 609.

109. Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 102(1), 122 Stat. 4001 (2008) ("Child pornography is estimated to be a multibillion dollar industry of global proportions . . . ."); *see also* United States v. Adams, 343 F.3d 1024, 1033 (9th Cir. 2003) (holding that child pornography sufficiently affects interstate commerce to exercise Commerce Clause power).

110. Effective Child Pornography Prosecution Act of 2007 § 102.

noncommercial acts of communication.[111] Treating all Internet transmissions as substantially affecting interstate commerce stretches the meaning of commerce too far—and is simply not an honest assertion.[112]

4. Gonzales v. Raich *and Regulatory Schemes*

Under *Gonzales v. Raich*, the Interstate Commerce Clause grants power to regulate purely local, noncommercial conduct if failure to regulate such conduct would undercut a federal regulatory scheme.[113] The activity in *Raich* was noncommercial, personally grown marijuana for medical use.[114] Because this noncommercial use, though legal under California law, still affected the illicit drug market, there was a sufficient nexus with interstate commerce to justify regulation of local conduct.[115]

For purposes of the illicit child-pornography market, noncommercial, purely intrastate Internet transmissions of such images fall squarely within the *Raich* definition of that which may be regulated by Congress.[116] But it is critical to realize that this is only true because child pornography substantially affects interstate commerce.[117] Consequently, *Raich* does not apply to Internet transmissions generally—it *only* applies to Internet transmissions that undercut a federal regulatory scheme of conduct that substantially affects interstate commerce.[118]

III. TANGLED IN A WEB—THE CIRCUIT SPLIT

This section evaluates how various circuits interpreted 18 U.S.C. § 2252 before it was amended, thus revealing how courts analyze Internet transmissions when federal statutes require interstate movement to obtain Interstate Commerce Clause jurisdiction—a requirement when the Internet conduct does not substantially affect interstate commerce.[119]

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111. *See generally* POSTEL, *supra* note 6 (describing the process of e-mail communication using standard software protocol).

112. *Cf. Lopez*, 514 U.S. 549 (discussing a gun-free-zone law's attenuated link to interstate commerce).

113. 545 U.S. 1, 18 (2005).

114. *Id.* at 6.

115. *Id.* at 32 ("Congress could have rationally concluded that the aggregate impact on the national market of all the transactions exempted from federal supervision is unquestionably substantial.").

116. *Id.* at 17 (Congress can regulate purely intrastate, noneconomic conduct to prevent undercutting a federal regulatory scheme—such as preventing the spread of child pornography, which is sometimes, but not exclusively, commercial in nature).

117. *See* United States v. Adams, 343 F.3d 1024, 1033 (9th Cir. 2003) (holding that child pornography sufficiently affects interstate commerce to exercise Interstate Commerce Clause power); Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 102, 122 Stat. 4001 (2008) (listing congressional finding related to child pornography).

118. *Raich*, 545 U.S. at 17-19.

119. *See* Effective Child Pornography Prosecution Act of 2007 (amending 18. U.S.C. § 2252 and finding

A. *The "Actual Proof" Standard of* United States v. Schaefer

In *United States v. Schaefer*, the Tenth Circuit addressed whether defendant Schaefer's Internet use was sufficient evidence to establish that Schaefer's Internet transmissions traversed state lines.[120] Schaefer was charged with several counts of possessing and receiving child pornography in violation of 18 U.S.C. § 2252.[121] The court distinguished the statutory phrase "in commerce" from "affecting commerce" or "facility of interstate commerce," holding that Congress' use of the former "signal[ed] its decision to limit federal jurisdiction and require actual movement between states to satisfy the interstate nexus."[122] The court noted that Congress could have invoked the full power of the Interstate Commerce Clause and could validly regulate all activity substantially affecting interstate commerce, even if purely intrastate.[123] But the Supreme Court interprets "in commerce" as a limiting phrase, and statutes invoking this form of Interstate Commerce Clause power have been held to require actual movement across state lines.[124]

According to information from the Immigration and Customs Enforcement Agency, Schaefer "used his computer and his credit cards to subscribe to websites containing images of child pornography."[125] After obtaining a search warrant, agents searched Schaefer's Kansas residence and seized his desktop computer and various CD-Rom disks.[126] Forensic testing on the computer revealed Schaefer had signed up for the subscriptions and that images of child pornography existed within the computer's "unallocated clusters"—hidden files not directly accessible to users.[127] Analysis of the "cache" files—"file[s] that retain[] information about recently visited websites" for the purpose of faster

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that the illicit child pornography market has a multi-billion dollar impact); United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (requiring proof of interstate transmissions before Congress amended 18. U.S.C. § 2252). *But see* United States v. Runyan, 290 F.3d 223 (5th Cir. 2002) (assuming interstate transmission as a matter of law and finding jurisdiction regardless of interstate travel before Congress amended 18. U.S.C. § 2252).

120. 501 F.3d at 1199-1201.

121. *Id.* at 1197 (referring to 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007).

122. *Id* at 1201; *see also* Circuit City Stores, Inc. v. Adams, 532 U.S. 105, 115-16 (2001) (noting that the phrase "affecting commerce" "indicates Congress' intent to regulate to the outer limits of its authority under the Commerce Clause," while the phrase "in commerce" limits Congress' Interstate Commerce Clause reach); Russell v. United States, 471 U.S. 858, 859 (1985) (noting Congress' use of "affecting interstate or foreign commerce" conveys full Interstate Commerce Clause power).

123. *Schaefer*, 501 F.3d at 1201-02.

124. *Id.* at 1201; Scarborough v. United States, 431 U.S. 563, 571 (1977) ("As we have previously observed, Congress is aware of the 'distinction between legislation limited to activities "in commerce" and an assertion of its full Commerce Clause power so as to cover all activity substantially affecting interstate commerce.'" (quoting United States v. Am. Bldg. Maint. Indus., 422 U.S. 271, 280 (1975))).

125. *Schaefer*, 501 F.3d at 1198.

126. *Id.*

127. *Id.* at 1198 & n.2.

loading—revealed additional pornographic images.[128] The parties stipulated that one CD had eight images of child pornography.[129]

The prosecution presented no evidence at trial indicating Schaefer downloaded the images using his computer and subsequently burned them to the CD.[130] No evidence explained the images' origin or how they arrived on the CD.[131] Nor was there evidence showing "where the websites Mr. Schaefer accessed were based, where the websites' servers were located, or where Mr. Schaefer's Internet provider's server was housed."[132] However, the prosecution presented evidence showing that one of the websites Schaefer accessed used a third-party billing company located in New Jersey that coordinated its billing with a company from Florida.[133] Microsoft, based in Washington, issued Schaefer's e-mail address.[134]

The Tenth Circuit reversed Schaefer's conviction because the government presented insufficient evidence to show the required interstate nexus to prove receipt and possession under 18 U.S.C. § 2252.[135] According to the court, lack of proof that the images traversed state borders was grounds for reversal, as it is insufficient to assume Internet transmissions necessarily traverse state borders in interstate commerce.[136] Under *Schaefer*, the fact that many Internet transmissions may in fact traverse state borders does not preclude a case by case analysis.[137]

The Tenth Circuit was the only Circuit to reverse on these grounds and consequently was the only Circuit that correctly analyzed 18 U.S.C. § 2252 before Congress invoked full Interstate Commerce Clause power by replacing "in commerce" with "in or affecting commerce."[138]

B. *Substantially Affecting Interstate Commerce as Grounds for Federal Jurisdiction Under* United States v. Adams

In *United States v. Adams*, the Ninth Circuit held that the Interstate Commerce Clause was satisfied because child pornography substantially affects interstate commerce.[139] Defendant Adams stipulated to possession of a diskette

128. *Id.* at 1198 & n.3.

129. *Id.*

130. *Id.* at 1199.

131. *Id.*

132. *Id.*

133. *Id.* at 1199 n.4.

134. *Id.*

135. *Id.* at 1201 (referring to 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, 122 Stat. 4001 (2008)).

136. *Id.* at 1200-01.

137. *Id.* at 1201.

138. Effective Child Pornography Prosecution Act of 2007 (amending 18 U.S.C. § 2252).

139. 343 F.3d 1024, 1033-34 (9th Cir. 2003).

containing images of child pornography downloaded from the Internet.[140] Although Adams was arrested in California and the prosecution presented evidence that the images were downloaded from a Texas website, the court was unconcerned with whether the images crossed state lines in an Internet transmission.[141] Instead, the court determined that Congress did not exceed its Interstate Commerce Clause power for even purely intrastate possession because child pornography substantially affects interstate commerce.[142] The court explained that the law was part of a larger congressional scheme to eradicate the market for child pornography and by criminalizing its possession, the law sufficiently impacted the market.[143] Because Adam's intrastate possession satisfied the Interstate Commerce Clause, the origin of the download was irrelevant.[144]

The Ninth Circuit had previously rejected the "jurisdictional hook" theory offered by the government.[145] In *United States v. McCoy*, the court held 18 U.S.C. § 2252(a)(4)(B) unconstitutional as applied to *McCoy*'s factual circumstances.[146] Although interpreting the pre-amended statute, the case is instructive for purposes of its analysis of the rejected "jurisdictional hook" theory based on 18 U.S.C. § 2252(a)(4)(B).[147]

Defendant McCoy created an image of child pornography using Kodak film manufactured in New York, Australia, China, Mexico, England, France, Brazil, Indonesia and India.[148] The government argued the international nature of the film—which must have been transported in interstate or foreign commerce—was sufficient to establish Interstate Commerce Clause jurisdiction despite the purely intrastate locality of the images.[149] But the court rejected this theory because "virtually all criminal actions in the United States involve the use of some object that has passed through interstate commerce," leaving the "jurisdictional hook" theory useless.[150]

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140. *Id.* at 1027.

141. *Id.* at 1026-28.

142. *Id.* at 1027-29, 1033.

143. *Id.* at 1033-34.

144. *Id.*

145. The "jurisdictional hook" theory posits that illicit use of materials transported in interstate commerce permits Interstate Commerce Clause jurisdiction for purely intrastate conduct using such materials. United States v. McCoy, 323 F.3d 1114, 1124-26 (9th Cir. 2003) (analyzing pre-amended 18 U.S.C. § 2252(a)(4)(B), which provided jurisdiction for possession of images simply made with materials transported in interstate or foreign commerce).

146. *Id.* at 1126, 1133.

147. McCoy's conviction was reversed because the government claimed jurisdiction under the rejected "jurisdictional hook" theory. While courts still reject the "jurisdictional hook" theory, it has now been established that even non-commercial, purely intrastate possession of images of child pornography satisfies the interstate commerce clause. Thus, if McCoy were tried today, the conviction would likely stand. *See Adams*, 343 F.3d at 1033.

148. *McCoy*, 323 F.3d at 1116.

149. *Id.*

150. *Id.* at 1126 (internal quotations omitted).

The Ninth Circuit interpretation of 18 U.S.C. § 2252 is consistent with the Effective Child Pornography Prosecution Act of 2007; both the Ninth Circuit and Congress have asserted that child pornography substantially affects interstate commerce.[151] The exact route of Internet transmissions is irrelevant when Congress can simultaneously regulate both intra- and interstate conduct because the conduct substantially affects interstate commerce.[152] Consequently, the Ninth Circuit established the correct method of analyzing 18 U.S.C. § 2252 now that Congress has invoked full Interstate Commerce Clause power.[153]

C. *"Inexorably Intertwined" Under* United States v. MacEwan

The Third Circuit deemed the Internet "inexorably intertwined" with interstate commerce in *United States v. MacEwan*, where the defendant was convicted under 18 U.S.C. § 2252 for knowingly receiving images of child pornography obtained from an Internet transmission.[154] *MacEwan* held that the Internet is a channel and instrumentality of interstate commerce that can be regulated under 18 U.S.C. § 2252 regardless of whether the Internet transmissions cross state lines.[155] Though noting that "unless monitored by specific equipment, it is impossible to know the exact route taken by an Internet user's website connection request," the court acknowledged that requests "can travel *entirely* intrastate."[156] But under *MacEwan*, the Internet is so "inexorably intertwined" with interstate commerce, that *any* Internet download satisfies the Interstate Commerce Clause.[157] With no necessity to prove actual interstate transmission, mere Internet use suffices.[158]

The Third Circuit erred in analysis but reached the correct result, because child pornography substantially affects interstate commerce.[159] In passing the Effective Child Pornography Prosecution Act of 2007, Congress asserted that child pornography is a multibillion dollar industry.[160] Accordingly, under the

151. Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 102, 122 Stat. 4001 (2008) (amending 18 U.S.C. § 2252); *Adams*, 343 F.3d at 1033.

152. United States v. Lopez, 514 U.S. 549, 558-59 (1995).

153. *See* Effective Child Pornography Prosecution Act of 2007 (amending 18 U.S.C. § 2252).

154. 445 F.3d 237, 253 (3rd Cir. 2006).

155. *Id.*

156. *Id.* at 244 (emphasis added).

157. *Id.* at 245-46.

158. *Id.*

159. Congress has noted that child pornography is a multibillion dollar industry. Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, §102, 122 Stat. 4001 (2008) (amending 18 U.S.C. § 2252). Consequently, Congress' declaration that "transmission of child pornography using the Internet constitutes transportation in interstate commerce" is justified. *Id.* Congress may regulate conduct substantially affecting interstate commerce in the aggregate regardless of actual interstate movement on a case by case basis. United States v. Lopez, 514 U.S. 549, 558-59 (1995).

160. Effective Child Pornography Prosecution Act of 2007 §102(1) (amending 18 U.S.C. § 2252).

amended version of 18 U.S.C § 2252, the channels of interstate commerce (i.e., the Internet) may be regulated irrespective of inter or intrastate travel.[161]

By declining to analyze 18 U.S.C § 2252 under the "substantially affects" prong of *United States v. Lopez*, the Third Circuit implies that Congress can regulate the Internet without limit simply because it is "inexorably intertwined" with interstate commerce.[162] However, Congressional power to regulate channels of interstate commerce is limited to instances of misuse for interstate transportation, with the exception of the *Gibbons* rule.[163]

The Third Circuit is correct in holding that the Internet is a channel of interstate commerce.[164] But the Internet should be regulated with the same limitations affecting any other channel of interstate commerce.[165] Consequently, the complex nature of the Internet should not eliminate traditional limitation on Congressional regulation.[166]

D. The Flawed Progeny of United States v. Thomas

The Sixth Circuit decision of *United States v. Thomas* is the foundation of the case line holding that Internet transmissions are tantamount to movement across state borders.[167] But *Thomas* merely held that the intangible form by which computer-generated images move does not preclude convictions under 18 U.S.C. § 1465 for knowingly transporting obscene material in interstate or foreign commerce.[168] Unfortunately, the First Circuit misinterpreted *Thomas* in *United States v. Carroll*,[169] and the Fifth Circuit relied on *Carroll* in a subsequent conviction under 18 U.S.C. § 2252.[170] Citing and distorting the reasoning of

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161. *Lopez*, 514 U.S. at 558-59.

162. *MacEwan*, 445 F.3d at 245 ("[W]e need not proceed to an analysis of *Lopez*'s third category when Congress clearly has the power to regulate such an activity under the first two.").

163. The channels of interstate commerce may be regulated to prevent misuse for *interstate* transport. *Perez*, 402 U.S. at 150 (citing 18 U.S.C. § 2312 (2006) (prohibiting transportation of stolen vehicles "in interstate or foreign commerce"), 18 U.S.C. § 2313 (2006) (prohibiting sale or receipt of motor vehicles that have crossed U.S. or State borders), 18 U.S.C. § 2315 (2006) (prohibiting the sale or receipt of stolen goods that have crossed U.S. or State borders), and 18 U.S.C. § 1201 (2006) (prohibiting willful transportation of individuals who have been kidnapped in interstate or foreign commerce)); *see also* Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824).

164. *MacEwan*, 445 F.3d at 245.

165. The Internet is a channel of interstate commerce. *See supra* Part II.B.1. The channels of interstate commerce may be regulated to prevent misuse for *interstate* transport. *Perez*, 402 U.S. at 150.

166. *See Lopez*, 514 U.S. at 558-59 (discussing the three types of activity that Congress can regulate); *Perez*, 402 U.S. at 150 (discussing the "three categories of problems" that "the Commerce Clause reaches").

167. 74 F.3d 701, 706-07 (6th Cir. 1996).

168. *Id.* at 706-07 & 706 n.2.

169. *See* 105 F.3d 740, 742 (1st Cir. 1997) (citing *Thomas* for the proposition that transmitting photographs "by means of the Internet is tantamount to moving photographs across state lines and thus constitutes transportation in interstate commerce").

170. *See* United States v. Runyan, 290 F.3d 223, 239 (5th Cir. 2002) ("We join the First Circuit in holding that '[t]ransmission of photographs by means of the Internet is tantamount to moving photographs across state lines and thus constitutes transportation in interstate commerce'. . . ." (quoting *Carroll*, 105 F.3d at 742)).

Thomas, the First Circuit held that Internet transmissions are "tantamount" to movement across state lines and therefore constitute transportation in interstate commerce.[171] This is remarkable because *Thomas* never held that Internet transmissions are tantamount to movement across state borders.[172] The following quote from *Thomas* illustrates the point:

> Defendants focus on the means by which the GIF files were transferred rather than the fact that the transmissions began with computer-generated images in California and ended with the same computer-generated images in Tennessee. The manner in which the images moved does not affect their ability to be viewed on a computer screen in Tennessee or their ability to be printed out in hard copy in that distant location.[173]

Hence, *Thomas* did not hold that Internet transmissions are tantamount to movement in interstate commerce—it simply held that the amorphous, intangible nature of the technology did not preclude a conviction.[174] The fact that images started in California and ended in Tennessee was dispositive.[175]

In *Carroll*, the First Circuit cited *Thomas* in sustaining a conviction under 18 U.S.C. § 2251,[176] holding that Internet transmissions are equivalent to movement across state lines.[177] The First Circuit reasoned that the victim's testimony that the defendant discussed distribution of photographs over the Internet was sufficient evidence to satisfy the Interstate Commerce Clause.[178] But the court failed to discern the crucial distinguishing factor: in *Thomas*, the defendant succeeded in using the Internet to send images *from one state to another.*[179] Mere Internet use was not the issue—the problem was determining whether sending computer images from California to Tennessee over the Internet constituted interstate

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171. *Carroll*, 105 F.3d at 742.

172. *Thomas*, 74 F.3d at 706-07 (holding that the intangible form by which computer-generated images moved from the defendants' bulletin board in one state to personal computer in another state did not preclude conviction for interstate transportation of obscene materials).

173. *Id.* at 707.

174. *Id.* at 706-07.

175. *Id.* at 704-06 (describing the undercover agent's acts of registering with the defendants' California based website and downloading images from Tennessee).

176. 18 U.S.C. § 2251 (2006) prohibits sexual exploitation and other abuse of children. Provision (a) prohibits conduct if the defendant knows an image *will be* transported in, or will affect, interstate commerce. 18 U.S.C. § 2251(a) (stating that any person who "knows or has reason to know that such visual depiction will be transported or transmitted using any means or facility of interstate or foreign commerce" will be punished "as provided under subsection (e)") (emphasis added). Hence, if a defendant intends in the future to send an image across state borders, grounds for conviction may avail. Courts analyze § 2251 as they do § 2252 for Interstate Commerce Clause purposes, but the difference is that § 2251 prohibits mere intent and does not require actual transmission between states. *See Carroll*, 105 F.3d at 742.

177. *Carroll*, 105 F.3d at 742.

178. *Id.*

179. *Thomas*, 74 F.3d at 704-06 (describing the undercover agent's acts of registering with the defendants' California based website and downloading images from Tennessee).

movement for the purpose of the Interstate Commerce Clause.[180] Consequently, citing the denial of certiorari in *Thomas* does little to support the First Circuit's assertion that mere Internet use establishes Interstate Commerce Clause jurisdiction.[181] Factual disparity between *Thomas* and *Carroll* renders the reasoning of *Thomas* inapplicable to *Carroll*.

E. Misinterpretation Applied in United States v. Runyan

In *United States v. Runyan*, the Fifth Circuit affirmed the district court's jurisdictional interpretation of 18 U.S.C. § 2252 because the prosecution had linked the evidence to the Internet.[182] The court affirmed possession and receipt convictions against Runyan.[183] Citing *Carroll*, the court held that "'transmissions of photographs by means of the Internet is tantamount to moving photographs across state lines and thus constitutes transportation in interstate commerce.'"[184]

But like *Carroll*, in *Runyan* the government failed to present evidence of a destination state other than the state of origin.[185] This is critical, because both cases are ultimately built on the reasoning of the Sixth Circuit in *Thomas*,[186] where the images at issue travelled between more than one state.[187] This disparate factor shows the unstable footing of the presumption that "'Internet [transmission] is tantamount to moving . . . across state lines and thus constitutes transportation in interstate commerce.'"[188] The holding is based on an exaggerated interpretation of *Thomas* that does not reflect the reality of Internet transmissions. The flawed progeny of *Thomas* has left some circuits relying on legal fiction to obtain jurisdiction—by assuming, instead of proving, that Internet transmissions cross state lines.

IV. HOW TO REGULATE INTERNET TRANSMISSIONS AND WHY

Federal regulation of the Internet under the Interstate Commerce Clause requires actual proof that Internet transmissions traverse state borders unless the regulated conduct substantially affects interstate commerce.[189] But courts should

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180. *Id.* at 707 (holding that the intangible form by which computer-generated images moved from the defendants' bulletin board in one state to a personal computer in another state did not preclude conviction for interstate transportation of obscene materials).

181. However, in *Carroll* there were multiple grounds for Interstate Commerce Clause jurisdiction, including the defendant's intent to physically move the film for development in another state. 105 F.3d at 742.

182. 290 F.3d at 242-43.

183. *Id.* at 231.

184. *Id.* at 239 (quoting *Carroll*, 105 F.3d at 742).

185. *Id.* at 242-43 (sustaining a possession conviction because the government linked at least one image to the Internet).

186. *Runyan*, 290 F.3d at 239.

187. 74 F.3d 701, 704-07 (1996).

188. *Runyan*, 290 F.3d at 239 (quoting *Carroll*, 105 F.3d at 742).

189. United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (requiring proof of interstate

not deny the reality of *intrastate* Internet transmissions.[190] Such denial operates as an excuse to avoid regulating the Internet as a traditional channel of interstate commerce, which would limit regulation to: (1) preventing misuse for *interstate* transport,[191] (2) effectuating interstate travel under the *Gibbons* exception,[192] and (3) regulating conduct that substantially affects interstate commerce.[193] Internet conduct falling under *Gibbons* would include attempts by states, or even private citizens, to prevent interstate communication via the Internet.[194] Preventing such conduct is analogous to the injunction lifted by Chief Justice Marshall to allow Gibbons to sail between New York and New Jersey.[195]

Congress can only ignore the channel and instrumentality distinction when regulating conduct substantially affecting interstate commerce.[196] Thus, while regulating child pornography may not require proving interstate Internet transmission, this rationale cannot apply to Internet transmissions generally because a mere Internet transmission does not substantially affect interstate commerce.[197] Absent one of the aforementioned exceptions—and because interstate movement is the traditional trigger for federal jurisdiction over channels of interstate commerce and millions of Internet transmissions remain intrastate—federal prosecutors must prove Internet transmissions cross state lines.

A. Legal Fiction

Consequently, to satisfy the Interstate Commerce Clause, prosecutors would often be required to prove Internet transmissions cross state lines instead of simply assuming they do because the Internet is "complex."[198] Indeed, an analysis of the *Thomas* case line demonstrates that prosecutors and judges are all too willing to indulge in legal fiction to effectuate federal prosecution of

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transmissions); United States v. Morrison, 529 U.S. 598, 609 (2000) (noting that Congress may regulate conduct that in the aggregate substantially affects interstate commerce).

190. Gibbard, *supra* note 33; *see also* United States v. MacEwan, 445 F.3d 237, 244 (2006) (noting that "a website connection request can travel entirely intrastate").

191. Perez v. United States, 402 U.S. 146, 150 (1971).

192. Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 1-2 (1824).

193. United States v. Lopez, 514 U.S. 549, 558-59 (1995).

194. *See Gibbons*, 22 U.S. (9 Wheat.) 1 (lifting injunction to effectuate travel between New York and New Jersey).

195. *Id.*

196. United States v. Morrison, 529 U.S. 598, 609 (2000) (noting that Congress may regulate conduct that in the aggregate substantially affects interstate commerce); *Perez*, 402 U.S. at 150 (noting that channels may be regulated for interstate misuse).

197. *See* United States v. Adams, 343 F.3d 1024, 1033-34 (9th Cir. 2003) (holding that child pornography sufficiently affects interstate commerce to exercise Interstate Commerce Clause power and consequently distinguishing Internet transmissions containing images of child pornography from Internet transmissions generally).

198. United States v. MacEwan, 445 F.3d 237, 245-46 (3rd Cir. 2006).

unsympathetic defendants.[199] These ends do not justify the means because one can only expect the federal government to seek expanded areas of Internet regulation beyond prohibiting sending images of child pornography.[200] The analysis of obtaining federal jurisdiction by treating all Internet transmissions as "per se interstate" cannot be allowed to trickle into judicial interpretation of federal Internet regulation.[201] The analysis demonstrated in *MacEwan* and *Runyan* is flawed because intrastate Internet transmission is not only feasible, it is *probable*, and it reflects the growing trend in ideal configuration of Internet infrastructure.[202]

B. Federalism, Truly Local Conduct, and Effective Prosecution

Intrastate Internet transmission should be the concern of the states, not the Federal Government.[203] Allowing states to regulate truly local transmissions solves the problem of proving the transmission's origin and destination because it eliminates the necessity of satisfying the Interstate Commerce Clause.[204]

Further, if Congress generally limited Internet regulation to conduct substantially affecting interstate commerce, federal prosecutors would not have to prove interstate transmission because conduct substantially affecting interstate commerce may be regulated irrespective of actual interstate movement.[205] Finally, allowing Congress to focus on conduct that legitimately affects the national and international economy while leaving truly local conduct to the states is consistent the framer's intent of a federalist government.[206]

C. Why the Tenth and Ninth Circuits Are Correct

Because Congress has invoked the full power of the Interstate Commerce Clause by amending 18 U.S.C. § 2252 to replace "in commerce" with "in or

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199. *Id.*; United States v. Runyan, 290 F.3d 223, 239 (5th Cir. 2002).

200. *See, e.g.*, 18 U.S.C. § 1030 (2006) (prohibiting fraud and related activity in connection with computers).

201. *Runyan*, 290 F.3d at 242-43 (holding that linking the subject images to the Internet was sufficient evidence for conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 103(a)(3), 122 Stat. 4001 (2008)).

202. Packet Clearing House, *supra* note 41; *see also* GIBBARD, *supra* note 47 (arguing for improvement of Internet infrastructure in regions that are far away from Internet core servers through building more IXPs to facility localized Internet transmissions in countries that rely on IXPs from other countries).

203. United States v. Morrison, 529 U.S. 598, 617-18 (2000) ("The Constitution requires a distinction between what is truly national and what is truly local.").

204. *See* U.S. CONST. art. I, § 8, cl. 3.

205. *See Morrison*, 529 U.S. at 609.

206. The Constitution provides for a federalist government. U.S. CONST. art. I, § 8 (containing the Necessary and Proper Clause and the Interstate Commerce Clause); U.S. CONST. amend. X, § 8 ("The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.").

affecting commerce,"[207] the Ninth Circuit's analysis of the statute is currently the correct method. If Congress phrases a statute's jurisdictional provision as "affecting commerce," then conduct substantially affecting interstate commerce falls under federal jurisdiction regardless of interstate movement.[208] Therefore, the Ninth Circuit, by ignoring whether Internet transmissions under 18 U.S.C. § 2252 actually cross state borders, presents the ideal form of analysis and should be modeled by other circuits struggling to fit Internet transmissions of child pornography into the framework of the Interstate Commerce Clause.[209]

On the other hand, when Congress seeks to regulate Internet transmissions that do not substantially affect interstate commerce—such as mere e-mail communication or noneconomic activity—the Tenth Circuit analysis is the correct model.[210] This is because Internet transmissions simply do not, as a matter of law or fact, always traverse state borders.[211] Not only is it entirely feasible, especially in a state like California that contains many IXPs, but truly local Internet transmissions are a hallmark of an effective Internet infrastructure.[212] Therefore, because the Internet must be regulated like any other channel of interstate commerce, the Tenth Circuit requirement of actual proof of interstate transmission is ideal.[213]

D. 18 U.S.C. §2252

This Comment does not argue the merits of regulating child pornography.[214] Rather, this Comment emphasizes that the proper analysis for federal regulation of child pornography under the Effective Child Pornography Prosecution Act of 2007 is the substantially affects prong.[215] The conduct prohibited under 18 U.S.C. § 2252 represents the worst of society and prosecution should be pursued with zeal.[216] Under the Effective Child Pornography Prosecution Act of 2007, this can

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207. Effective Child Pornography Prosecution Act of 2007, Pub. L. No. 110-358, § 103(b), 122 Stat. 4001 (2008) (amending 18 U.S.C. § 2252).

208. *Id.*; *Morrison*, 529 U.S. at 609.

209. United States v. Adams, 343 F.3d 1024, 1033-34 (9th Cir. 2003) (holding that child pornography sufficiently affects interstate commerce to exercise Interstate Commerce Clause power).

210. United States v. Schaefer, 501 F.3d 1197, 1198 (10th Cir. 2007) (holding that the Government must prove that the Internet transmission traversed state borders in order to obtain a conviction under 18 U.S.C. § 2252, *amended by* Effective Child Pornography Prosecution Act of 2007).

211. Gibbard, *supra* note 33 ("Although considerable work remains to be done, Internet traffic now stays local in many places where it once would have traveled to other continents, lowering costs while improving performance and reliability.").

212. Packet Clearing House, *supra* note 41; Gibbard, *supra* note 33.

213. *Schaefer*, 501 F.3d at 1198.

214. Congress has determined that "[t]he technological ease, lack of expense, and anonymity in obtaining and distributing child pornography over the Internet has resulted in an explosion in the multijurisdictional distribution of child pornography." Effective Child Pornography Prosecution Act of 2007 § 102(5) (amending 18 U.S.C. § 2252).

215. United States v. Adams, 343 F.3d 1024, 1033-34 (9th Cir. 2003).

216. As Congress has determined, "[c]hild pornography is a permanent record of a child's abuse and the

easily be accomplished without straining the Constitutional basis for the law because child pornography substantially affects interstate commerce—eliminating the need to prove interstate transmission.[217] Thus, this Comment offers no criticism of prosecution under 18. U.S.C. § 2252 as amended, and instead offers a mode of analysis for other areas of federal Internet regulation.

V. CONCLUSION

Internet transmissions are a function of the channel of interstate commerce known as the Internet and are distinct from computers—which operate as instrumentalities of interstate commerce. Thus, federal regulation of the Internet under the Interstate Commerce Clause requires actual proof that Internet transmissions traverse state borders, unless the regulated conduct substantially affects interstate commerce.[218] The time has come for courts to apply well-recognized jurisdictional standards to the Internet in a way that reflects the reality of purely intrastate transmissions.[219] Blinding ourselves to this reality makes it easier for prosecutors to obtain convictions—but it is possible that in the future, not all defendants will be as unsympathetic as those convicted under 18 U.S.C. § 2252.[220]

The Internet has become a way of life for most of us.[221] Courts should remember that "[t]he Constitution requires a distinction between what is truly national and what is truly local,"[222] and nothing is more local than pressing "REPLY" in response to your neighbor's 21st Century "Hello."[223]

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distribution of child pornography images revictimizes the child each time the image is viewed." Effective Child Pornography Prosecution Act of 2007 § 102(3) (amending 18 U.S.C. § 2252).

217. Congress asserted that the child pornography industry substantially affects interstate and foreign commerce, estimating it to be a multi-billion dollar industry. Effective Child Pornography Prosecution Act of 2007 § 102(1) (amending 18 U.S.C. § 2252). Consequently, Congress may be able to regulate even purely intrastate transmissions of child pornography. *See* United States v. Lopez, 514 U.S. 549, 558-59 (1995) (discussing Congress' power to regulate activities having a "substantial relation to interstate commerce").

218. *Schaefer*, 501 F.3d at 1198; *Lopez*, 514 U.S. at 558-59.

219. Gibbard, *supra* note 33.

220. Violators of 18 U.S.C. § 2252 are among the least sympathetic class of defendants. Effective Child Pornography Prosecution Act of 2007 § 102(5) (amending 18 U.S.C. § 2252) (Congress has determined that "[c]hild pornography is a permanent record of a child's abuse and the distribution of child pornography images revictimizes the child each time the image is viewed").

221. Central Intelligence Agency, *supra* note 5 (estimating that there are 223 million Internet users in the United States).

222. United States v. Morrison, 529 U.S. 598, 617-18 (2000).

223. *See generally* POSTEL, *supra* note 6 (describing the process of e-mail communication using standard software protocol).

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