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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)

Petition of Twilio Inc.)

For An Expedited Declaratory Ruling Stating)
That Messaging Services Are Title II)
Services)

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PETITION FOR EXPEDITED DECLARATORY RULING
OF TWILIO INC.

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Twilio Inc. (“Twilio”) petitions¹ the Commission to clarify that messaging services² have been, and continue to be, governed by Title II. The Commission brought messaging services under Title II in 2003 for purposes of the TCPA.³ That decision, among others detailed below, resulted in messaging services falling under Title II for all purposes, as set forth in the D.C. Circuit’s *Verizon* decision⁴ and the Commission’s *Open Internet Order*.⁵ That is, a service subject to Title II for one purpose is subject to Title II for all purposes.⁶

I. INTRODUCTION AND SUMMARY

In 2014, over 2 *trillion* SMS and MMS messages were sent and received by consumers and businesses over the public telephone network. Well beyond teenagers texting one another, messaging has become an essential form of communication among all sorts of parties, consumers and businesses alike. All SMS and MMS messages have at least the following in common. The sender chooses the content of the message, specifies a recipient or recipients, and hits “send.” The message is the same as sent and received, and users of messaging services rightly expect service providers to carry these communications to the intended recipients, just like other calls.

¹ “The Commission may, in accordance with section 5(d) of the Administrative Procedure Act, on motion or on its own motion issue a declaratory ruling terminating a controversy or removing uncertainty.” 47 C.F.R. § 1.2(a).

² As used herein, the term “messaging services” includes (1) Short Message Service (“SMS”), (2) Multimedia Messaging Service (“MMS”), and (3) short-code based services, that are sent from or received by devices connected to the public switched telephone network (“PSTN”) and/or utilize North American Number Plan (“NANP”) telephone numbers for routing purposes.

³ See *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, CG Docket No. 02-278, Report and Order, 18 FCC Rcd. 14014, 14115 ¶ 165 (2003) (“2003 TCPA Order”) (“This [prohibition] encompasses both voice calls and text calls to wireless numbers including, for example, short message service (SMS) calls...”).

⁴ *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) (“*Verizon*”).

⁵ *Protecting and Promoting the Open Internet*, GN Docket No. 14-29, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) (“*Open Internet Order*”).

⁶ *Verizon*, 740 F.3d at 650-59.

Despite this reasonable expectation, grounded in the historic ubiquity and seamlessness of the nation's telephone network, the wireless carriers take the position that they can unilaterally block messages, discriminate on the basis of content, and refuse to interconnect with other messaging services providers. Indeed, discrimination and anti-competitive practices have increased to the point of becoming the *de facto* industry standard because the Commission has not expressly folded messaging services into Title II for all purposes.

In this Petition, Twilio first establishes that the wireless carriers' practices of blocking, throttling, and imposing discriminatory content restrictions on messaging services traffic is not only a daily occurrence, but an increasing threat to the ubiquity and seamlessness of the nation's telephone network. Indeed, the effect of Title II classification of voice services compared to the limbo of messaging services cannot be overstated. For voice services, a consumer or business can easily obtain service within minutes and be assured that they can call anyone with a ten-digit telephone number without fear of being blocked. By contrast, for messaging services, the wireless carriers use call blocking as means to force certain subscribers into a premium tier of service – their proprietary common short code system – after the wireless carriers block the user from using Congressionally established, Commission regulated, ten-digit North American Numbering Plan telephone numbers. In the shadow system established by the wireless carriers, potential consumers must wait months to obtain the wireless carriers' approval of their use cases, can only send content pre-approved by the wireless carriers, and can be blocked without notice for any reason, or no reason at all.

The wireless carriers also use these practices as a form of price discrimination to artificially inflate the cost of messaging services. The intercarrier compensation rates for a single SMS message are over 2 to 6 times higher than a minute of voice, despite SMS messages

requiring a tiny fraction of the bandwidth compared to voice. Just as the Commission found with respect to broadband Internet access service providers, wireless carriers “have the economic incentives and technical ability to engage in practices that pose a threat to [messaging services] openness by harming other [messaging services] providers, edge provider, and end users.”⁷ As a result, expedited consideration of this petition is warranted.

As a matter of law and policy, after the D.C. Circuit’s *Verizon* decision and the Commission’s *Open Internet Order*, there are no reasonable – or lawful – grounds to treat messaging services as anything but Title II services for three independent reasons.

First, under *Verizon*, the Commission cannot subject messaging services to Title II in certain respects without classifying messaging services as telecommunications services. The Commission has been subjecting messaging services to certain Title II requirements since 2003, and thus the Commission must classify messaging services as Title II services as a whole.

Second, messaging services are undeniably telecommunications services subject to Title II under the Communications Act and the Commission’s *Open Internet* framework. Indeed, the *only* offering the wireless carriers make to the public with respect to messaging services is the ability of consumers to send and receive messages of the consumers’ design and choosing. Refusing to classify messaging services as Title II services would therefore create an untenable contradiction in the statutory framework.

Third, messaging services are also undeniably commercial mobile services because they are interconnected with the public switched telephone network, as the Commission has previously found. Congress mandated that CMRS services be regulated as common carrier services under Title II. It therefore must follow that messaging services are subject to Title II on

⁷ *Open Internet Order*, 30 FCC Rcd. at 5628, ¶ 78.

this independent basis.

In sum, Twilio respectfully petitions the Commission to remove all doubt concerning the regulatory status of messaging services, and classify such services as Title II services in order to constrain the wireless carriers' monopoly power over their end users. This result will prohibit the wireless carriers' unfettered call blocking, and permit fair interconnection, fair routing, and the fair use and allocation of telephone numbers.

II. TWILIO'S ROLE IN THE MODERN TELECOMMUNICATIONS NETWORK AND ITS INTEREST IN A LEVEL PLAYING FIELD GOVERNED BY TITLE II

A. Twilio Is A Next Generation Communications Provider

Twilio was founded in 2007 as an innovative cloud-based, developer-platform company that is reinventing telecom by merging cloud computing, web services, and traditional voice and messaging communications. Twilio hosts a developer infrastructure web service in the cloud, allowing web developers to integrate phone calls, text messages, and IP voice communications into their web, mobile, and traditional phone applications. Using Twilio, a company can integrate each of these communications channels into a single product. In short, Twilio takes things that are complicated about telecom and makes them simple.

Using Twilio's software platform and simple developer tools, web developers and businesses can build sophisticated unified communications solutions such as call centers, office phone systems, call tracking tools, and more that interoperate with multiple telephone networks. Twilio's powerful API minimizes the learning curve required to build advanced, reliable communications applications on the Internet that solve critical business and consumer needs. Twilio's service interoperates with voice phone service and messaging services using Twilio's existing web service APIs for making and receiving phone calls and SMS/MMS messages. Twilio's products work simultaneously across platforms, allowing web browsers, mobile phones,

and tablets running iOS or Android to communicate seamlessly. Over 700,000 developers have used Twilio to integrate communications capabilities into their applications and products.

By making integration of web, mobile, and app products easy for developers, Twilio benefits consumers by providing them with a host of new products and services that otherwise wouldn't be possible. Many companies and organizations are using Twilio to simplify their telecommunications needs to the benefit of their customers and users. Using Twilio, Nordstrom was able to create an MMS application that allowed its sales associates to text photos of merchandise requested by its customers, after one-third of its customers informed Nordstrom that "they prefer to be contacted by text message and more importantly text messaging with pictures to share fashion images or photos of merchandise with each other."⁸ Similarly, consumers' ability to easily summon Uber drivers from their mobile phones is made possible by Twilio's service. The Red Cross incorporated Twilio's API that integrated with its existing response processes and databases to reduce its disaster response time by over 50 percent, while also allowing it to track the status of each responder. Using Twilio, companies can create synergies across different communications channels, where before there were only silos.

New companies and business models are being created using Twilio as a foundational tool. GroupMe, which provides a free group text messaging service, was created using Twilio during a programming contest in 2010. GroupMe was quickly able to add features and attract users by using Twilio to easily increase the reach of their products and services. GroupMe has been so successful that it was acquired by Skype. As another example of the thousands of new businesses being built with the help of Twilio, Disruptive Multimedia, founded by Grammy-

⁸ See *Nordstrom's New Mobile Marketing Tool: Texting Photos*, Wall Street Journal (blog), Sept. 18, 2014, available at <http://blogs.wsj.com/cio/2014/09/18/nordstroms-new-mobile-marketing-tool-texting-photos/>.

nominated performer and producer Ryan Leslie, incorporated Twilio's API into the company's application that established the first direct-to-consumer record label, and which permits artists to engage their fans directly through messaging services.⁹

In short, Twilio is part of a new generation of service providers involved in telecommunications that are benefiting consumers by opening up new applications, products, and services for existing companies and those founded on Twilio's API. By allowing developers to easily integrate telecommunications into their products and applications, Twilio is an important and unique part of the mobile ecosystem. New mobile applications using Twilio are being developed everyday, which means that mobile users are benefiting every day.

B. Some Industry Players Treat Messaging Services As If They Are In A Regulatory No-Man's Land

Protecting consumers and competition by preventing blocking and promoting the free flow of communications among consumers and businesses has been a hallmark of Commission policy since the inception of the 1934 Communications Act. In fact, one of the key objectives of the Communications Act is "to make available, so far as possible, to all the people of the United States ... a rapid, efficient, Nation-wide and world-wide wire and radio communications services with adequate facilities."¹⁰ "The blocking of telephone calls is antithetical to this fundamental goal."¹¹ Because of this, the Commission has consistently taken action to require all

⁹ See PandoMedia Inc., With the Help of Ben Horowitz, Rapper Ryan Leslie Wants to Reinvent the Record Label for the New Music Economy, *available at* <https://pando.com/2014/11/20/with-the-help-of-ben-horowitz-rapper-ryan-leslie-wants-to-reinvent-the-record-label-for-the-new-music-economy/>.

¹⁰ 47 U.S.C. § 151 *et seq.*; *see also* 47 U.S.C. § 254(b)(1)-(7) (directing the Commission to adopt policies that preserve and advance universal access to reliable and affordable telecommunications and information services).

¹¹ *Policies and Rules Concerning Operator Service Providers; Amendment of Policies and Rules Concerning Operator Service Providers and Aggregators; Petition for Declaratory Ruling of Securus Technologies, Inc.*, CC Docket Nos. 90-313 and 94-158 and WC Docket No. 09-144,

communications providers (carriers and non-carriers alike) to route calls appropriately and to prevent all forms of unlawful call blocking. Without a general ban on call blocking, “callers might never be assured that their calls would go through.”¹²

Like pure broadband services, messaging services, which are necessarily interconnected with the public telephone network because they utilize ten-digit telephone numbers, need to be affirmatively folded into the Commission’s regulatory framework to protect consumers’ ability to access lawful content, and ensure that competition can flourish. Simply put, consumers should be able to decide with whom and how they communicate via messaging services, not the wireless carriers.¹³ Although Twilio and its customers have made great strides, the situation is far from perfect and, as detailed below, often depends on the whims of the wireless carriers and others.

As noted above, Ryan Leslie founded Disruptive Media to permit artists to directly engage with their fans. On July 31, Mr. Leslie wrote to Twilio, and began by stating “Twilio has literally changed my life.” Unfortunately, the remainder of his message was all too common after certain wireless carriers began blocking all of his messages:¹⁴ “Twilio support has advised

Declaratory Ruling and Order, 28 FCC Rcd. 13913, 13916 ¶ 8 (2013).

¹² *Access Charge Reform*, CC Docket No. 96-262, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 9923, 9932-99, ¶ 24 (2001).

¹³ To be clear, Twilio supports the Commission’s recent clarification that nothing in the “Communications Act or the Commission rules ... limit *consumers’ right* to block calls, *as long as the consumer makes the choice to do so.*” *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, CG Docket No. 02-278, Declaratory Ruling and Order, 30 FCC Rcd. 7961, 8035, ¶ 156 (rel. Jul. 10, 2015) (emphasis added), *available at*, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-72A1_Rcd.pdf (“*2015 TCPA Declaratory Ruling*”). As the Commission emphasized here, carriers cannot block calls absent a consumer directing the carrier to do so. And as the Commission reiterated once again, “**our use of the term ‘call’ includes text messages.**” *Id.* 7964 ¶ 1 n. 3 (emphasis added).

¹⁴ Twilio provides a description of a number of blocking events here, and Twilio anticipates that comments on this Petition will generate a substantial number of additional examples of

me that this is because those carriers have reviewed the overall traffic and the content of my SMS messages from [Mr. Leslie's ten-digit telephone number] and have flagged my 15,600 thank you's and other messages as marketing-related material. These are person to person communications that are only initiated when someone sends me a text first." As this example further demonstrates, such blocking of messaging services traffic that uses ten-digit numbers often occurs without any warning to the subscriber and with no explanation as to how the content is in any way objectionable.¹⁵ In short, there is no recourse and no accountability because there is no oversight as a result of the wireless carriers believing that this traffic falls into a regulatory black hole.

Twilio and its subscribers were also recently the victims of call blocking related to Twilio's toll-free text messaging service. Twilio provides an integrated service that allows businesses to send and receive text messages from the same toll-free number that they publish to field voice calls from consumers. Twilio's subscribers and their customers enthusiastically embraced the option of texting with a customer service agent using the same toll-free number. For example, a bank or credit card company could use the same toll-free number listed on the back of a consumer's credit card to field inquiries by text or through a live voice call. Then one day Twilio's customers just stopped receiving text messages from their customers for no apparent reason. When Twilio asked the wireless carriers what was happening, they informed Twilio that they decided to route this traditionally "called-party-pays" traffic to an alternative messaging aggregator (presumably under revenue-sharing agreements). This other aggregator

recent and current blocking events.

¹⁵ As detailed more fully below, the blocking of messaging services traffic sent from a subscriber using a ten-digit telephone number is part of a strategy to force particular users to use the premium common short code system. The wireless carriers, in effect, use blocking to enforce price discrimination.

then demanded that Twilio enter into a contract requiring Twilio to pay for this toll-free traffic that the wireless carriers' customers were sending (or, more accurately, *trying* to send) to Twilio's customers before turning the spigot back on, despite prior Commission precedent prohibiting blocking in the context of intercarrier compensation disputes.¹⁶ This example demonstrates how wireless carriers are able to leverage their monopoly connections to increase artificially the price of toll-free messaging, which is now approximately three times higher than non-toll-free messaging traffic.

Such call blocking to extract a better intercarrier compensation deal would be clearly unlawful if the same calls were voice calls. But in the absence of a definitive declaration by the Commission, the wireless carriers and their business partners are emboldened to abuse their monopoly power over their end user's connection. Indeed, blocking and the threat of blocking inhibit growth in this sector because applications can be rendered useless if a wireless carrier blocks text messages to and from its subscribers. Developers are reluctant to create new applications knowing they are susceptible to being shut down by a carrier without notice.

The wireless carriers also take the view (at least privately) that they can deny requests for direct interconnection for messaging traffic exchange.¹⁷ They then refuse to interact with service providers like Twilio on the basis that no direct interconnection exists, and instead instruct Twilio to speak to the aggregator. In other words, a wireless carrier will begin blocking one of Twilio's subscriber's traffic by instructing its messaging services aggregator to block the traffic.

¹⁶ As the Wireline Competition Bureau previously made clear, "Commission precedent provides that no carriers ... may block, choke, reduce or restrict **traffic in any way**." *In the Matter of Establishing Just and Reasonable Rates for Local Exchange Carriers; Call Blocking by Carriers*, WC Docket No. 07-135, 22 FCC Rcd 11629, 11631, ¶ 6 (2007) (emphasis added). Stated differently, it is not a legitimate negotiating tactic for the wireless carriers and their aggregator partners to route traffic to a dead end until Twilio and other service providers agree to pay for the traffic's release.

¹⁷ Again, this would not be possible in the voice context.

If Twilio asks the wireless carrier why it is blocking the traffic, Twilio is told by the wireless carrier *it's* not blocking the traffic, the aggregator (it told to) is, so Twilio needs to talk to the aggregator. When Twilio talks to the aggregator, Twilio is told to talk to the wireless carrier who told the aggregator to block the traffic. This is clearly a deliberate circle to nowhere, which the wireless carriers believe they can maintain because messaging services have not yet been explicitly folded into the existing regulatory framework established under Title II.¹⁸

Stated simply, arbitrary limits on the use of a technology, here messaging services, inhibit growth and innovation with that technology. A wireless carrier legally could not unilaterally block a voice phone call because of the content of the call and the called party. And the Commission has now prevented both wireless and fixed broadband Internet access service providers from blocking content over the Internet. Indeed, under the Commission's Open Internet rules, a wireless carrier could not block messaging services sent or received from an application using a consumer's data plan, and this prohibition against blocking is predicated on Title II. How could messaging services sent to or received by ten-digit NANP telephone numbers be any less deserving of protection under Title II?

As established below, they are not, and cannot be as a matter of law. This has been the

¹⁸ Recently, the wireless carriers have dispensed with blocking messaging services traffic only indirectly – that is, by instructing the aggregator to block the traffic from the service provider to the aggregator. They instead have begun to block the traffic directly and without notice to the aggregator, such that the traffic appears to be flowing smoothly as between the service provider and the aggregator. As a result, it is not apparent to any entity in the call flow, except the wireless carriers, that the traffic at issue is being blocked. Such message blocking therefore is not obvious or easy to detect, and is generally uncovered only after end users complain that they are not receiving any reply messages. The wireless carriers, however, will still largely refuse to speak with affected service provider, claiming that they are not obligated to because the service provider and the wireless carriers are not directly interconnected. Although this scenario is more of a straight line to nowhere, the underlying problem is the same: the wireless carriers do not believe they are constrained by the blocking prohibitions mandated under Title II.

case at least since 2003, and the Commission should confirm that conclusion by granting this Petition.

III. BACKGROUND ON MESSAGING SERVICES

A. Creation Of Messaging Services And Interoperability Between Carriers

Although text messaging has a history dating back to the early 1990s, widespread use has only occurred in the last fifteen years,¹⁹ and it has grown exponentially since 2000. As of December 2014, the number of SMS and MMS messages (1.92 *trillion* and 152 billion messages, respectively, or 2.06 trillion total) transmitted over the telephone network were roughly on par with the number of wireless voice minutes (2.455 trillion MOU) in 2014.²⁰ And as CTIA-The Wireless Association® (“CTIA”) also notes, at the end of 2014, 44% of U.S. households were wireless only.²¹ Thus, roughly half of U.S. households exclusively use wireless service, and roughly half of the telephone calls sent or received by the 355 million active U.S. wireless subscribers are SMS or MMS messages.²²

To see how we got to this state of functional equivalence, a brief summary of the technical aspects of, and industry developments associated with, messaging services demonstrates that the Commission was prescient in 2003 when it declared that a call is a call, including “a text call,” under Title II.²³ To get to a mobile phone, text messages are sent on a

¹⁹ Patricia Moloney Figliola, Cong. Research Serv., RL34632, *Text and Multimedia Messaging: Emerging Issues for Congress* at 1 (July 10, 2010) available at http://assets.opencrs.com/rpts/RL34632_20100720.pdf.

²⁰ CITA Annual Wireless Industry Survey (June 2015), available at <http://www.ctia.org/your-wireless-life/how-wireless-works/annual-wireless-industry-survey>

²¹ *Id.*

²² *Id.*

²³ 2003 TCPA Order 18 FCC Rcd. at 14115 ¶ 165 (2003) (“This [prohibition] encompasses both voice calls and text calls to wireless numbers including, for example, short message service (SMS) calls...”); see also *Satterfield v. Simon & Schuster, Inc.*, 569 F.3d 946, 954 (9th Cir.

wireless channel between the mobile phone and the mobile tower called the “control channel.” A mobile phone is constantly communicating through the control channel with mobile towers to determine which network the mobile phone is in and what towers it is using. Text messaging utilizes the control channel as well. The control channel is a different channel than what is used for wireless voice communications and can only accommodate small amounts of data. Thus, the actual amount of data used by a text message is extremely small (approximately 140 bytes) because it operates on the control channel.²⁴ The control channel is independently necessary apart from SMS because of the need of a mobile phone to calibrate with mobile towers. SMS simply takes advantage of unused capacity on the control channel to send the low-data SMS messages as well. Thus, there are negligible, if any, marginal costs to the wireless carriers to provide SMS ability to their subscribers, as these messages are sent over the existing control channel, which uses the same amount of bandwidth whether it carries a message or not. Stated differently, almost all of the wireless carriers’ charges to their subscribers for SMS service are pure profits.

For some time after text messages were introduced by the wireless carriers, they could only be exchanged between users of the same wireless carrier. In other words, a Verizon customer could only send and receive text messages to and from other Verizon customers.

2009) (affirming FCC’s determination that a text message is a call for purposes of § 227). And as noted above, the Commission recently reiterated that “the term ‘call’ includes text messages.” *2015 TCPA Declaratory Ruling*, ¶ 1 n.3.

²⁴ One minute of voice is the data equivalent of about 3,000 text messages.

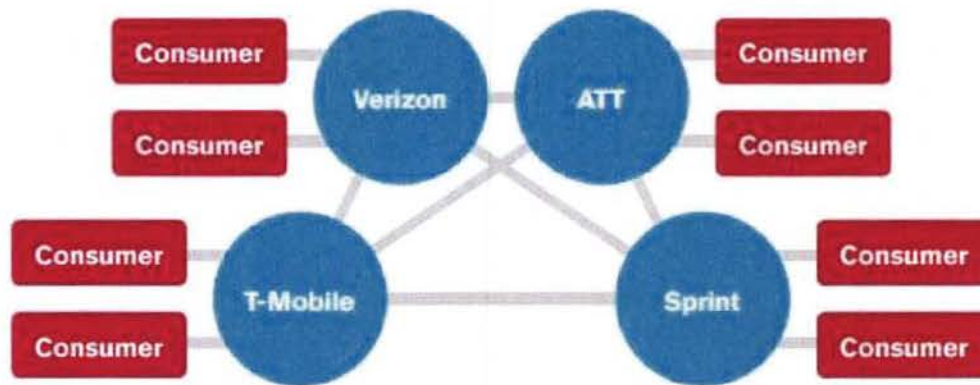


In 2001, the wireless carriers agreed to interconnect their networks so that text messages could be exchanged across carriers.²⁵ As noted by CTIA in its SMS Interoperability Guidelines, “[a]t the first inter-carrier messaging meeting in Las Vegas on October, 25th 2001 all participating carriers indicated their intent to support inter-carrier messaging. This service enables wireless subscribers *to send and receive messages using their phone number* (MSISDN/MIN) to and from any wireless network.”²⁶ Thus, a Verizon customer with a ten-digit telephone number could send a text message to a Sprint customer with a ten-digit telephone number. The wireless carriers, however, only established interoperability with themselves at

²⁵ Patricia Moloney Figliola, *Text and Multimedia Messaging: Emerging Issues for Congress* at 1.

²⁶ CTIA SMS Interoperability Guidelines, Version 3.2.2, § 1.1 at 4 (Effective Date: Jan. 1, 2015) (emphasis added), available at http://www.ctia.org/docs/default-source/default-document-library/sms_interoperability_guidelines_v3-2-2_jan_2015-as-posted.pdf?sfvrsn=2. For MMS messages, CTIA similarly states that “MMS Messaging” is a service that “enables wireless subscribers to *send and receive MMS messages based on their phone number* (MSISDN/MDN). CTIA MMS Interoperability Guidelines, Version 3.0.2, § 1.1 at 7 (Effective Date: Jan. 1, 2015) (emphasis added), available at <http://www.ctia.org/docs/default-source/default-document-library/mms-interoperability-guidelines-v3-0-2jan2015-as-posted.pdf?sfvrsn=2> (further noting that MMS interoperability discussions began taking place in 2004).

this time; that is, text messages only worked with mobile telephone numbers, not for telephone numbers associated with wireline telephone service.



By 2009, however, both SMS and MMS services were fully integrated with the PSTN, such that wireless subscribers could send and receive SMS and MMS messages not only with landline telephones, but also IP-based services interconnected with the PSTN. As CTIA stated in a press release in March 2009, “the previously established industry guidelines for text messaging (SMS) and multi-media messaging (MMS) have been extended beyond the wireless ecosystem. These new guidelines will promote messaging between wireless and wireline, converged and next-generation IP Multimedia Subsystem (IMS) networks.”²⁷

In short, messaging services are services “interconnected with the public switched network, or interconnected with the public switched network through an interconnected service provider, that gives subscribers the capability to communicate to or receive communications

²⁷ CTIA – *The Wireless Association Announces Updates to SMS/MMS Interoperability Guidelines*, Reuters, Mar. 31, 2009 available at <http://www.reuters.com/article/2009/03/31/idUS140902+31-Mar-2009+BW20090331>.

from all other users on the public switched network.”²⁸ Shorter still, messaging services are CMRS.²⁹

B. The Wireless Carriers Refuse To Act Like Common Carriers For This Common Carrier Service

Despite messaging services being fully interconnected with the public switched network and reliant on PSTN resources, such as NANP telephone numbers, the wireless carriers have continued to treat this traffic as if it is outside the realm of Title II. Perhaps because they themselves are uncertain of the regulatory classification of messaging services, the wireless carriers and their business partners have taken on the role of traffic cops, routinely blocking consumer access to the content of their choosing, artificially limiting throughput, or otherwise refusing to route lawful content to and from a consumer’s desired destination. With over 2 *trillion* SMS and MMS messages exchanged in 2014, the wireless carriers’ decision to assume this umpire role is already unsustainable and is stifling innovation.

As noted above, Twilio and its toll-free service customers were the victim of effective call blocking when the wireless carriers – without notice to Twilio – routed Twilio’s subscribers’ text messaging traffic to an intermediary holding the messages for ransom. And Twilio was not alone. Late last year, a service provider called HeyWire Business faced a similar existential threat to its business, as described in an article published in Wired:

When Verizon pulled the plug on Gene Lew’s company, it gave no warning. At first, Lew thought some sort of router had crashed inside the network. “It wasn’t until we did a lot of digging,” Lew says, “we found out that someone turned the switch off.” Lew is the chief technology officer at HeyWire Business, a 35-person Cambridge, Massachusetts company that gives businesses a way to receive text messages on their toll-free 800 numbers. But when the outage hit on April 3, it temporarily put a stop to that. If anyone tried to text these numbers from a phone on Verizon’s network—the second largest in the U.S.—their texts went

²⁸ 47 C.F.R. § 20.3 (defining “Interconnected Service”).

²⁹ 47 U.S.C. § 332(d)(1).

into a black hole. There was no error message. Nothing. Then Verizon told HeyWire that it was changing the way it handled the company's traffic. "We were told: 'There's a new set of fees. There's a new set of rules. And you'll have to create a new business relationship to be able to let our customers text your company,'" says Meredith Flynn-Ripley, HeyWire's CEO. For HeyWire Business, that was a big problem. Flynn-Ripley says it was a way for Verizon to squeeze more money out of her company, charging higher fees to have those texts delivered. Citing a non-disclosure agreement, she can't reveal what rules Verizon laid down and what fees the carrier is charging her company, but—more importantly—she says Verizon has unfair control over [] how her business operates—and she sees this a violation of net neutrality, the notion that all online traffic should be treated equally.³⁰

Of course, this was not *online* traffic. This was telecommunications traffic sent and received by devices utilizing NANP numbers. That is, it is traffic interconnected to the PSTN.

Further, the wireless carriers invariably also engage in content review and approval. These content restrictions lead to situations where a wireless carrier decides that even if its customers want text messages from a certain business or organization, it will not allow it, as detailed above in the case of the artist Ryan Leslie communicating with his fans that specifically reached out to *him*. As an additional example, in September 2007, Verizon Wireless notified NARAL Pro-Choice America that it was rejecting NARAL's request to open Verizon's network for NARAL's pro-choice common short code (CSC) text messages.³¹ Although NARAL would only send the text messages to mobile phone users who requested that NARAL send the text messages, Verizon rejected NARAL's request based on an undisclosed internal policy against "controversial or unsavory" text messages. However, Verizon quickly recanted when faced with widespread criticism and, the next day, opened its network to NARAL's text messages.³² Even

³⁰ See Robert McMillan, *A New Net-Neutrality Battle Brews Over... Text Messages*, *Wired* (Dec. 3, 2014), available at <http://www.wired.com/2014/12/fcc-sms/>.

³¹ Adam Liptak, *Verizon Blocks Messages of Abortion Rights Group*, *N.Y. Times*, Sept. 27, 2007, at A1, 2007 WLNR 18960271, available at <http://www.nytimes.com/2007/09/27/us/27verizon.html>.

³² Adam Liptak, *Verizon Reverses Itself on Abortion Messages*, *N.Y. Times*, Sept. 28, 2007,

after recanting with regard to NARAL, Verizon maintained its right to choose what messages it transmits, even in cases where consumers were seeking to access the lawful content of their choosing.³³

Other wireless carriers have also been involved in an instance of blocking a CSC text message based on content objections. All of the carriers have blocked a company called Rebtel from using CSCs, starting with Verizon in late 2007.³⁴ Rebtel allowed mobile phone users to text the company an international telephone number and Rebtel would then text back a local number that after being dialed, would then connect the mobile phone user to the international telephone number previously sent by text message. By using the local telephone number, the mobile phone user avoided the wireless provider's much higher rates that would apply by dialing the international number directly. T-Mobile, Alltel, and Verizon all blocked Rebtel's text messaging, cutting off the ability of Rebtel to send the local telephone number. In response to calls that the wireless providers should not block text messages, Verizon unequivocally stated that it can block calls to a competitor's CSCs.³⁵ In other words, Verizon won't allow content on CSCs that competes with its own services.

In short, a wireless carrier can block any messaging services traffic at any moment, with no advance warning and no explanation. Carrier blocking of all messaging services traffic is thus

at A20, 2007 WLNR 18998680, *available at* <http://www.nytimes.com/2007/09/28/business/28verizon.html>.

³³ *Id.*

³⁴ Bruce Meyerson, *Not on Our Network, You Don't*, BusinessWeek, Dec. 12, 2007, *available at* <http://www.bloomberg.com/bw/stories/2007-12-12/not-on-our-network-you-dont>.

³⁵ *Id.*

a real and present danger to the “ubiquity and reliability of the nation’s telecommunications network.”³⁶

C. The Wireless Carriers Block Traffic As A Means Of Forcing Consumers To Use The Premium Common Short Code System

Below and in Annex A, Twilio provides a brief overview of the common short code (“CSC”) system. It is important to note at the outset, however, that wireless carrier blocking of messaging services sent by ten-digit numbers or common short codes should not be viewed as separate problems. In fact, they should be viewed as the flip side of same problem: wireless carriers believe they are unconstrained by the prohibitions of Title II.

In other words, and as established below, wireless carriers use call blocking, as well as call throttling and the refusal to directly interconnect, on messaging services traffic utilizing ten-digit numbers to force telecommunications subscribers to the more expensive, “premium” CSC messaging service.³⁷ Blocking and throttling ten-digit messaging services to drive it to the CSC system is itself a form of price discrimination. The “second-level review” that occurs during the months-long “program brief” phase of the common short code approval process is an enhanced form of call *and* use-case blocking that allows the wireless carriers to screen out and disallow services that compete with their own, as in the Rebtel case detailed above.

In short, the wireless carriers “have the economic incentives and technical ability to engage in practices that pose a threat to [messaging services] openness by harming other [messaging services] providers, edge provider, and end users.”³⁸

³⁶ *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, Declaratory Ruling and Order, 22 FCC Rcd 11629, 11629, ¶ 1 (2007).

³⁷ To be clear, Twilio believes a call is a call, including calls sent through messaging services. And messaging services are messaging services. It is only the wireless carriers and their business partners that have drawn these arbitrary distinctions.

³⁸ *Open Internet Order*, 30 FCC Rcd. at 5628, ¶ 78.

1. The Short Code Approval Process And Content Control

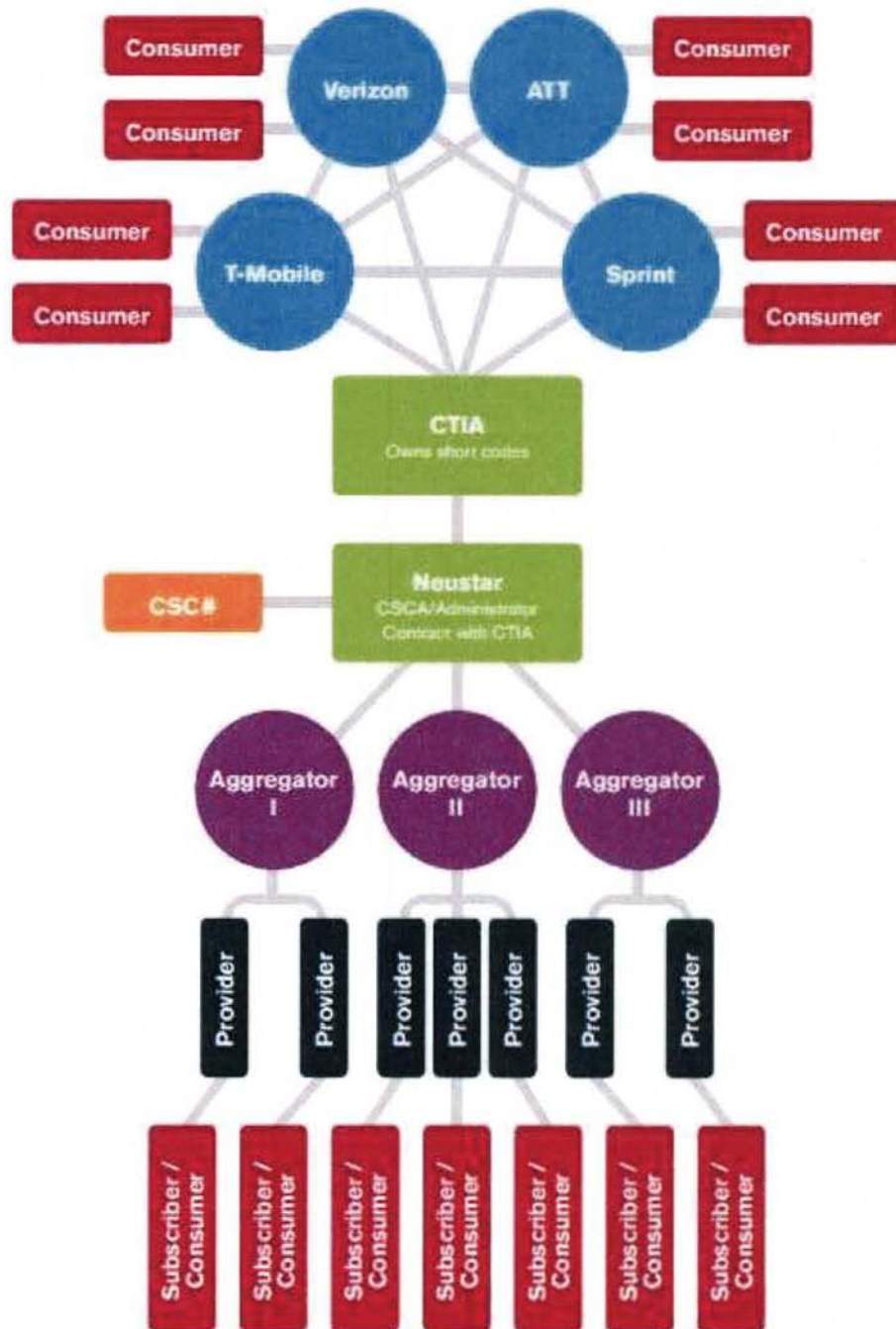
A business or nonprofit that wants to send a text message to a consumer must go through a multistep, multi-cost process before getting to the point of actually being able to send a text message. This is in sharp contrast to the process that the same business would undergo to obtain a ten-digit telephone number for which there is no technical limitation to use for commercial purposes.

To obtain a short code, a service provider or other business must lease it from CTIA through Neustar, the CSC Administrator. As detailed more thoroughly in Annex A, a randomly generated short code costs \$500/month and a specifically selected short code costs \$1000/month. The benefit of choosing a specific short code is to make it memorable (40404 for Twitter) or consistent with a mnemonic device (92466 is YAHOO on a keypad). The lease costs must be paid in 3, 6, or 12 month increments. The cost to lease a CSC has not changed since the CSC system was established in 2003. The lease fee is set out in the contract between CTIA and Neustar, which suggests CTIA set the lease fee when it hired Neustar to run the registry.³⁹

Once a service provider or other business has leased a CSC, it then must contract with another company to be able to indirectly connect to the wireless carriers. The wireless carriers refuse to directly connect with all but a few preferred companies. Instead, companies with a newly-leased CSC must contract with an aggregator. Aggregators are companies that have connections to multiple wireless carriers and become a middleman between the business or nonprofit with the short code and the wireless carrier. The aggregators and wireless carriers have

³⁹ *Amended and Restated Common Short Code License Agreement Between CTIA — The Wireless Association ® and Neustar, Inc.* (Effective June 2, 2008), available at: http://google.brand.edgar-online.com/EFX_dll/EDGARpro.dll?FetchFilingHtmlSection1?SectionID=6093247-317731-749867&SessionID=uAZFHqfYVohHtP7 (the lease fee is set out in Exhibit C-1).

contracts with each other for revenue disbursements. The business or nonprofit has to pay the aggregator to be able to connect to the wireless carrier:



The business or nonprofit also has to pay per-message fees to the aggregator. Those per-message fees are in large part set by the wireless carriers even though they might be paid to the aggregator; aggregators almost always “pass through” any per-message carrier fees directly to the business using the CSC. Demonstrating the inefficiency of this market arrangement, per-message fees are substantially higher for messaging services compared to voice messages. In addition to substantial upfront fees ranging from \$500 to \$1,500 to set up an account with an aggregator, intercarrier message termination rates for SMS are currently priced around \$0.0015-\$0.002/SMS message and 3 times that rate for toll-free number SMS termination. Comparable intercarrier rates for voice termination are either pursuant to a bill-and-keep arrangement or \$0.0007/minute. And again, this is despite the fact that one minute of a voice call corresponds with roughly the same amount of data as 3,000 text messages. Stated differently, and assuming that a service provider is even paying to exchange voice traffic at \$0.0007, the intercarrier compensation rates for SMS traffic are over 2 to 6 times higher than a minute of voice, despite SMS messages requiring a minute fraction of bandwidth compared to voice. The rates for MMS are even more distorted, ranging around \$0.05 per message terminated, and \$0.02 per message originated.

Once an entity has leased a CSC and established connections with the wireless carriers through an aggregator, that entity still must submit what’s called a “program brief” to the aggregator and wireless carriers. The program brief is required to outline what the CSC will be used for, which necessarily includes a description of the content that will be in the text messages sent by the business.⁴⁰ The wireless carriers each charge for reviewing the program brief. For

⁴⁰ Short codes can later be blocked if the content of future messages deviates from the use cases outlined in the program brief, despite the future content being entirely lawful. Relative to the process for obtaining voice telephone service, the requirement to submit a program brief to

example T-Mobile charges \$500 to review a program brief and recently instituted a policy that Fortune 500 companies can get expedited review if they ask, while other companies can get expedited review by paying an additional \$1,500.

If the program brief is accepted by a carrier, that means that carrier has approved of the description of the content that the business will send. Sometimes one carrier will accept a program brief and another will not, further delaying a ubiquitous offering.⁴¹ If the program brief is rejected, the wireless carrier will rarely explain what is objectionable and the business will have to fix and resubmit the program brief and pay a fee again. This process takes 12 to 16 weeks or longer,⁴² and there is no recourse if a wireless carrier disapproves of an applicant's use case for a particular reason, or no reason at all. In addition, if a short code lessee wants to alter its use case, it has to go through the same approval process all over again.⁴³

2. Wireless Carrier Call Blocking In The Context Of Short Codes

Once the program brief is accepted, the service provider can finally begin transmitting commercial text messages to mobile phone users. However, the end user initiating the message,

pre-justify the content of an entity's future text messages is absurd. Imagine if consumers or businesses were required to detail in advance the content of the voice calls they intend to make in the future before being able to make a voice call. Such a system of prior restraint on voice traffic would be unthinkable.

⁴¹ Of course, it often makes little sense to follow through on a use case blocked by one or more wireless carriers because the strength of messaging services is – or should be – the ubiquity and seamlessness of the communications channel. If, for example, Verizon rejected the use case, the end user would be prevented from communicating with 35% of the nation's wireless subscribers. This would be like buying a car that could only travel on 65% percent of roads.

⁴² See Natalie Gagliardi, *The Other Net Neutrality Debate: After FCC Ruling, SMS Still Mired in Ambiguity*, ZDNet (Mar. 10, 2015), <http://www.zdnet.com/article/the-other-net-neutrality-debate-should-mobile-messaging-be-subject-to-provider-policing/>; see also *The Easy-to-Understand Guide To SMS Aggregators, Carriers, and Providers*, Txtwire Technologies (last visited Aug. 5, 2015), available at <https://www.txtwire.com/blog/the-easy-to-understand-guide-to-sms-aggregators-carriers-and-providers/>.

⁴³ In essence, the wireless carriers have married the inefficiency of the DMV with the arbitrariness of that HOA board member who doesn't like your new shrubs for some reason.