

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC**

In the Matter of)	
)	
Targeting and Eliminating Unlawful Text Messages)	WC Docket No. 21-402
)	
)	

COMMENTS OF NETNUMBER, INC.

NetNumber, Inc. (“netnumber”), a global provider of data solutions that guide messaging and voice traffic, hereby provides comments in response to the Notice of Proposed Rulemaking (“NPRM”) issued by the Federal Communications Commission (“FCC” or “Commission”) in the above referenced docket.¹ As a key player in the mobile messaging ecosystem, netnumber offers these comments on the Commission’s proposed blocking of certain spam text messages. The Commission should not mandate blocking of the proposed types of numbers due to the complexity of messaging delivery and the success the messaging ecosystem has had in combatting fraud and spam in the past and the ongoing industry initiatives that continue to demonstrate strong results. Instead, the Commission should facilitate the use of existing voluntary industry repositories used to identify and mitigate unlawful text messages. The Commission should also explore a safe harbor from liability for erroneous blocking for messaging providers that rely on such repositories.

I. BACKGROUND

netnumber was founded over 15 years ago with a mission to equip every telecom operator and enterprise in the world with critical phone number routing and intelligence data to streamline

¹ *Targeting and Eliminating Unlawful Text Messages*, CG Docket No. 21-402, Notice of Proposed Rulemaking, FCC 22-72 (rel. Sept. 27, 2022) (NPRM).

their operations, reduce costs and combat fraud. netnumber offers a broad set of solutions that solve complex ecosystem challenges and reduce both costs and operational complexity for its customers. netnumber's solutions are designed to support a service provider's day to day operations – providing the data that drives their routing, rating, billing, authentication, and fraud prevention initiatives.

netnumber does this by collecting and organizing detailed network and services attributes for telephone numbers globally, including enhanced, high resolution network identification capabilities that are unique to netnumber. The solutions include information about all types of services offered today, including Voice over Internet Protocol (VoIP), Mobile Virtual Network Operator (MVNO), Application-to-Person (A2P) and Rich Communication Services (RCS) information. netnumber combines this data with global number plan information, global title data, global number portability and carrier identification data to enable operators to identify, rate and route telephone calls and text messages. In total, netnumber offers information on over 2.9 billion telephone numbers in several hundred data sets that span countries and networks globally, many of which are updated in real time, eliminating the complexity that operators would face if they sourced these disparate datasets (with different formats) on their own.

Fifteen years ago, the predominant use cases for netnumber's solutions involved the routing of voice traffic to landline numbers, mobile numbers, and IP-based numbers. However, netnumber's solutions have been designed to enable new use cases to emerge, provided they are consistent with industry best practices. Increasingly, a variety of attributes and service types associated with telephone numbers are emerging which are not native to the underlying voice network provider. For example, a service provider may route voice traffic over one network but messaging traffic over another provider's network. As these attributes are established,

netnumber provides a central platform where the telephone number and such attributes can be published globally, for use cases that comply with policies established by stakeholders (including tier 1 carriers, CLECs, and messaging hubs) in the voice and messaging markets.

II. THE MESSAGING ECOSYSTEM IS COMPLEX AND CAPABLE

As messaging has grown in popularity, so has it grown in complexity. There are thousands of messaging service providers such as MVNOs, MNOs, OTT providers, messaging aggregators and others that offer SMS, MMS, and other messaging services. Wireless text messaging has become one of the most popular forms of communication today, with industry estimates of over 2 trillion text messages sent annually.

This has led to an explosion in the need for messaging data by mobile operators. For the United States alone, netnumber processes and distributes hundreds of millions of records to all major messaging and interconnection providers every day.

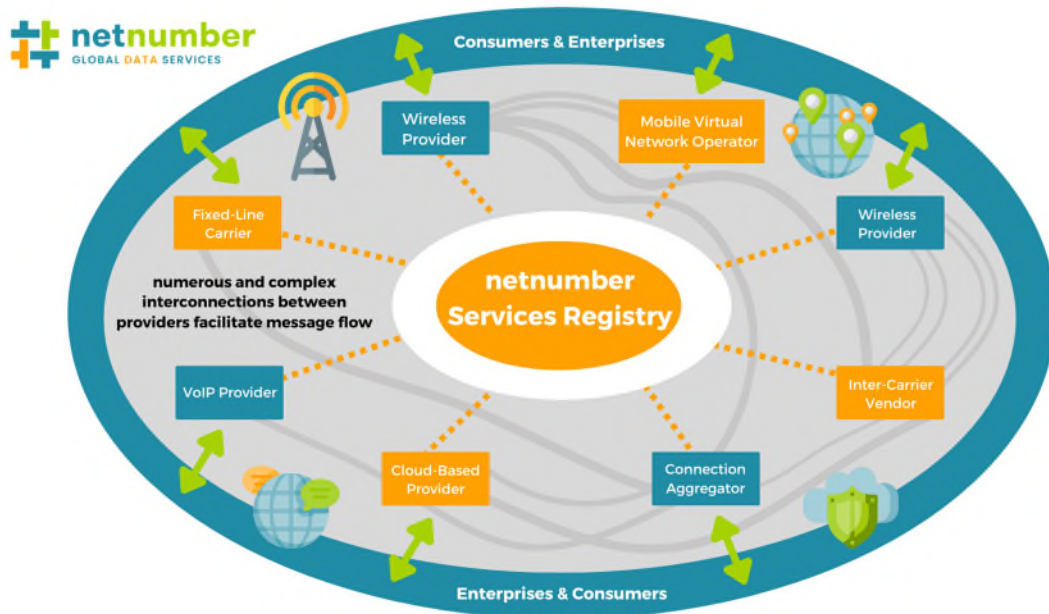


FIGURE 1 netnumber is at the heart of the messaging ecosystem - our phone number data services enable use cases that comply with best practices established by the industry on top of the diverse and complex messaging interconnection layer.

The netnumber Services Registry is an industry repository that enables new, innovative telecommunication services. It is used extensively by the North American messaging ecosystem to identify if a messaging service has been assigned to a given telephone number so that SMS and MMS messages can be routed effectively to text-enabled fixed-line numbers, mobile numbers allocated to a virtual (MVNO) operator, toll-free numbers, or VoIP operators. The netnumber Services Registry is also a key enabler of toll-free texting and 10-digit long code (10DLC) / A2P messaging campaign information, as explained further below. As of the date of these comments, the netnumber Services Registry has grown to become one of the world's largest telecom registries with hundreds of millions of telephone numbers and dozens of millions of updates per month. netnumber has been delivering these innovative services for more than fifteen years and today, certain types of text message routing would not be possible in North America without the netnumber Services Registry.

The netnumber Services Registry enables operators to provide many novel types of services, including but not limited to:

- MVNO: A mobile operator (MNO) wants to allow a mobile virtual network operator (MVNO) to control messaging services on all MVNO telephone numbers while the MNO continues to provide underlying voice and data services.
- VoIP: User signs up for a VoIP service and is assigned a new telephone number which the VoIP carrier sources from an underlying voice provider. The underlying voice provider may operate voice services, while the VoIP carrier operates messaging services.
- Fixed-line and toll-free texting: A business (from a major brand down to a small medical office) wants to communicate with its customers via text message using the same telephone number that the customers recognize for voice calls. The voice service provider remains the same, with a messaging provider added on top for messaging traffic addressed to these numbers.
- Fraud prevention: Attributes of telephone numbers in the netnumber Services Registry are a critical source of information used by mobile operators, messaging hubs and their designated spam detection vendors to identify fraudulent messages and treat them accordingly.

In addition, netnumber's Services Registry is used in connection with spam protection measures implemented in the 10DLC/A2P environment. 10DLC/A2P is a business text messaging channel sanctioned by major mobile operators which has many components:

- Brands trigger 10DLC/A2P message transmission to consumers. These entities are responsible for the message content and typically work with a specialized messaging service provider that can help create and manage campaigns.
- Campaign Service Providers (CSPs) are companies specialized in 10DLC/A2P messaging that run a messaging campaign platform to perform campaign creation and management on behalf of their brand customers. CSPs work with Direct Connect Aggregators (DCA) or their resellers to transmit messaging traffic onto the mobile operator network.
- The Campaign Registry (TCR) provides a unified interface where Campaign Service Providers submit and edit the Brand owner and associated messaging registrations of 10DLC/A2P campaigns based upon consolidated mobile operator policies and compliance rules.
- Reseller Aggregators (CSPs and/or Connection Partners) have agreements with Direct Connect Aggregators to resell their services into the market.
- Direct Connect Aggregators have direct contracts and technical connections with the messaging hubs used by mobile operators.
- Messaging hubs, or Inter-Carrier Vendors function as the gateway and run the messaging traffic to and from mobile operator networks they have partnered with.
- Mobile operators define rules for 10DLC/A2P messaging arriving on their network, including acceptable use cases, termination cost, and scale of outreach which is captured in the TCR registration process.

netnumber is an integral part of 10DLC/A2P messaging with its netnumber Services Registry. 10DLC/A2P campaign information along with telephone number campaign association is provisioned by both the authorized number provisioners and TCR into the netnumber Services Registry. This data is processed by the netnumber Services Registry to ensure consistency and compliance with industry policies and is distributed to the entire industry for routing and fraud prevention. This enables the messaging industry to associate 10DLC/A2P campaigns with specific senders and to route the traffic at approved message volumes and in compliance with permissible use cases to protect against spam. If spam is detected, messaging providers may block and treat them accordingly. For example, telephone numbers that are used to originate

10DLC/A2P traffic but are not labeled as 10DLC/A2P are subject to detection and blocking measures in the industry. Another example is the identification of bad actors. As soon as one or a few telephone numbers have been identified as originating fraudulent messages, the netnumber Services Registry enables the industry to determine all other telephone numbers that belong to the same campaign or originating entity and expand the blocking of fraudulent traffic in a fast and effective manner.

These and other protections help make messaging one of the more trusted communications methods available today. According to industry sources, while over 2 trillion messages are sent annually, wireless providers blocked 14 billion spam messages from completion. Indeed, in 2018, the Commission remarked that “wireless messaging remains a relatively spam-free service.”²

III. BLOCKING OF CERTAIN TEXT MESSAGES SHOULD NOT BE MANDATED

The Commission proposes to require mobile wireless providers to block text messages at the network level if they purport to come from invalid, unallocated, or unused numbers, or from numbers on a Do-Not-Originate (DNO) list.³ This proposal contrasts sharply with the way voice calls of the same types are treated, where blocking is permissive, not mandatory.⁴

netnumber believes that blocking of these types of text messages should be permissive, not mandatory, just as they are treated in the voice market. The NPRM does not offer the text of any proposed rules, and it is not clear what “mobile wireless providers” would bear

² *Petitions for Declaratory Ruling on Regulatory Status of Wireless Messaging Service, Declaratory Ruling, 33 FCC Rcd 12075, FCC 18-178, at ¶ 12 (2018) (Wireless Messaging Declaratory Ruling).*

³ NPRM at ¶ 19.

⁴ *See* 47 C.F.R. § 64.1200(k)(1)-(2).

responsibility for blocking in this instance. Wireless providers' knowledge and capabilities vary widely, which could lead to uneven blocking of such numbers, absent a definitive industry method or other source for blocking.

Moreover, the industry appears well equipped to identify and block fraudulent and scam traffic using existing capabilities. netnumber's experience with 10DLC/A2P campaigns, for example, shows that the industry already scrutinizes 10DLC/A2P messaging campaigns. Campaigns are registered and vetted prior to sending, and campaigns are assigned maximum volume thresholds commensurate with the trustworthiness of the sender and campaign. Further, as noted, if fraudulent or scam messages are detected, netnumber's Services Registry can be utilized to identify all other numbers used by the same campaign and block or restrict that traffic promptly. Given these features, a mandate to block certain types of messages is unnecessary.⁵

Furthermore, unlike in the voice market, spoofing of originating telephone numbers is not common.⁶ SMS messages contain an "A" number (sender) and a "B" number (receiver), plus the actual message payload. Typically, providers that manage wireless operators' interconnections only accept messages with an "A" number if the technical connection through which it was sent is associated with that number. In essence, "A" numbers are authenticated via the interconnection method used. Spoofing of originating numbers is not possible in this arrangement and illegal or deceptive spoofing is not the problem that it is in the voice market.

⁵ With respect to OTT messaging (¶ 23), some OTT providers have taken measures to protect their users from spam and fraudulent traffic, but implementation appears to vary widely. Best practices would dictate that OTT providers also permit business use of the messaging platform only after initial vetting, volume limits based upon trustworthiness, and monitoring of traffic and complaints.

⁶⁶ See NPRM at ¶ 20 (asking whether spoofing is a problem with regards to text messaging).

Generally, senders seeking to avoid detection are using large volumes of validly assigned numbers, not spoofed numbers, to send “snowshoe spam.”

One key to enabling permissive blocking of invalid, unused, or unallocated numbers, as well as DNO numbers, is to facilitate the collection of information that can reliably guide any blocking in industry repositories. Voluntary repositories of this type are in use in the industry today (including netnumber’s Services Registry) to provide verification and fraud protection. Such repositories could be used to identify with sufficient reliability those numbers which are unallocated or unused, so that blocking can be implemented based on the sender ID associated with the message. In addition, DNO lists currently are kept by carriers and may vary in their content and comprehensiveness. If providers were encouraged to submit DNO requests to a central repository (or repositories), more providers would have the data needed to identify DNO numbers reliably and block messages originating from those numbers. netnumber believes more providers would be willing to contribute data to such repositories if they had assurances that their blocking of messages would not lead to liability.

netnumber recommends that providers be offered protection from liability if they contribute data to industry repositories of unused and unallocated numbers and if they rely upon industry data to determine whether to block an incoming text message. The Commission has used this approach in the voice market to offer a safe harbor for blocking based on reasonable analytics.⁷ Providers should contribute their data to such resources in order to ensure that they are as robust and comprehensive as possible. Without provider-contributed data, it would be difficult to determine allocated but unused numbers, or numbers that are not message-enabled numbers. Therefore, as a way to encourage the comprehensiveness of such repositories, the

⁷ See 47 C.F.R. § 64.1200(k)(3)

Commission could establish a safe harbor for those entities that contribute such data. The safe harbor would then be available to a provider that contributes to a repository when it relies upon such data when making a blocking decision.

With respect to redress protections, netnumber agrees that, with proper repositories available, erroneous blocking of invalid, unused, unallocated, or DNO numbers should be minimal.⁸ However, some elements of the necessary information are not readily available, particularly numbers that are allocated but unused and DNO numbers. Therefore, if the Commission were to allow blocking based upon such numbers, it should facilitate the expanded use of comprehensive industry repositories upon which to base such decisions. netnumber supports the establishment of a single point of contact within each service provider's organization for any complaints of erroneous blocking.⁹

V. CONCLUSION

For the foregoing reasons, netnumber recommends that the Commission permit blocking of text messages that contain invalid, unused, or unallocated numbers, or that are sent using numbers on a DNO list. Mandatory blocking is unwise due to the complexity of mobile messaging and is unnecessary due to the many methods that the industry uses to control spam and fraud today. Instead, the Commission can facilitate the expanded use of industry repositories to provide these additional measures of protection by creating a safe harbor for those that contribute to and rely upon such voluntary repositories. The netnumber Services Registry is proof that industry-led solutions can provide verification and fraud prevention solutions to assist

⁸ NPRM at ¶ 27.

⁹ *Id.*

the battle against scam and fraudulent practices. Promotion of such solutions would advance the Commission's goal of preventing spam in text messaging.

Respectfully Submitted,

NETNUMBER, INC.

A handwritten signature in black ink that reads "Steven A. Augustino". The signature is fluid and cursive, with a large initial 'S'.

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November 10, 2022

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