

**Perspectives and Recommendations on How Telephone
Number Conservation Can be Enhanced to Extend the Life
of the North American Number Plan (NANP) and Reduce
Illegal Robocalling Activity**

Executive Summary

This white paper describes the challenges that state public utility commissions (State Commissions) encounter in the conservation of telephone numbering resources (Numbering Resources) and recommends solutions to those challenges. State Commissions have delegated authority to manage numbering resources in their state. State Commissions have separately and collaboratively discussed number resource challenges that are consistent across state jurisdictions. These collaborations were initiated in 2020 and have occurred consistently since number resource conservation has become ever more critical with the anticipated exhaust of the North American Number Plan (NANP). These challenges are made more difficult due to a lack of clarity regarding the authority State Commissions have been delegated to manage industry compliance with existing state and federal regulations. In this white paper, State Commissions identify Numbering Resource management challenges directly, share their experiences, and provide recommendations to the Federal Communications Commission (FCC) and Service Providers (SPs).

The State Commissions recommend that the FCC:

- Provide clarity and guidance to the State Commissions in the management of Numbering Resources.
- Support initiatives and audits recommended by State Commissions managing Number Resources.
- Strengthen existing rules and regulations that place strict limits on new requests for Numbering Resources by SPs that are not in compliance with numbering rules.
- Prohibit the sale and brokering of Numbering Resources unilaterally.
- Utilize the FCC's audit authority over Numbering Resources to actively review regulatory filings.
- Revisit past rulings regarding exceptions to requirements on returning unused number blocks for paging companies and require the return of these unused numbers.
- Provide transparency and direct assistance to State Commissions in the reclamation of Numbering Resources.

Introduction

The speed at which Numbering Resources are exhausting nationwide is a critical issue. Numbering Resources are a valuable public resource in limited supply. Exhaust projections from the FCC's North American Numbering Plan Administrator (NANPA) identify the NANP exhausting in approximately by 2060.¹ The FCC's North American Numbering Council (NANC) estimated in a Report to the FCC in 1999 that the total societal cost of expanding the universe of numbering resources in the NANP to be between \$50-\$150 billion dollars (roughly \$90-\$270 billion in 2023 dollars).² Expanding the NANP for more numbers available for assignment would

¹ October 2025 North American Numbering Plan (NANP) Exhaust Analysis at 2.

² North American Numbering Council IoT Working Group Referral Letter: <https://www.fcc.gov/sites/default/files/IoT%20WG%20Referral%20Letter%208%2014%2023%20PDF.pdf>. See also, *Resolution Encouraging the Federal Communications Commission To Investigate the Sale and/or Brokering of Toll-Free and Non-Toll-Free Telephone Numbers to Ensure Number Resource Optimization* (Adopted by the NARUC

require adding two or four digits to all existing and future telephone numbers.³ If the FCC does not enact clear rules or propose new methods to reduce the current speed that numbers are assigned, national number exhaust will occur in the near future. The exhaust will initiate required project plans for NANP expansion absent time to address conservation measures or alternative options. There will be an associated economic strain on consumers and SPs with an expansion of the NANP. Acting on the remedies described herein may significantly extend the timeline of the exhaustion of Numbering Resources in the NANP.

The FCC has delegated some authority over issues related to telephone numbering to State Commissions.⁴ State Commissions have used the authority for number conservation efforts that preserve area codes (a/k/a Numbering Plan Areas or NPAs), monitor SPs' compliance with state and federal numbering rules and industry guidelines, and reduce illegal robocalling. Through these efforts, State Commissions have discovered numbering utilization practices used by SPs and third parties with Numbering Resources that appear inconsistent with the FCC's numbering rules and existing industry guidelines, such as the Thousands Block (NPA-XXX-X) & Central Office Code (NPA-NXX) Administration Guideline (TBCOCAG).⁵

Many robocalling and spam calls and texts are illegal, and place a recurring and costly burden on consumers, SPs, and businesses. These schemes rely on the use of substantial quantities of Numbering Resources to evade detection. These 'spammers' cycle Numbering Resources by obtaining Numbering Resources, using them to robocall and send spam calls and texts to their targets, and then return the used Numbering Resources, only to obtain a new set of Numbering Resources to restart the process again. The cycling of numbers by telemarketers in tandem with spam analytics also leads to over-consumption of Numbering Resources. State Commissions believe that some SPs wholesale telephone numbers on secondary markets, which can foster illegal robocalling and spam and undermine the public's confidence in the telecommunications network.

An example of the impact and breadth of robocalling and spam was when FCC staff and their family members were among potential victims of a scheme purported to be from a fictitious FCC "Fraud Prevention Team."⁶ Telephone numbers used by this particular robocall company

Board of Directors on November 13, 2024.); North American Numbering Council Report and Recommendation on the Feasibility of Individual Telephone Number (ITN) Pooling Trials and Alternative Means for Conserving Numbering Resources (ITN Report) <https://www.fcc.gov/sites/default/files/Final%20NAOWG%20NANC%20ITN%20Approved%20Report%2002282023.pdf>

³ https://access.atis.org/higherlogic/ws/public/document?document_id=46545

⁴ *See*, 47 CFR §52.

⁵ TBCOCAG, ATIS-0300119. Latest version Reissued, Issue 988, released June 13, 2025. The Industry Numbering Committee (INC), a subgroup of the Alliance for Telecommunications Industry Solutions (ATIS), has developed the TBCOCAG to standardize industry practices regarding number assignment.

⁶ [FCC Proposes Nearly \\$4.5M Fine for Apparently Illegal Robocall Scheme](#)

were procured from an interconnected Voice over Internet Protocol (iVoIP) provider⁷ authorized by the FCC to have direct access to Numbering Resources.⁸

Additionally, the decision by the FCC to decline to recharter the NANC in 2025 has closed an important avenue that State Commissions had to engage on issues related to numbering matters with both the FCC and stakeholders. Absent the NANC forum, State Commissions, some of which were members of the NANC, no longer have a clear and efficient way to provide recommendations to the FCC and work in an expedited manner with FCC staff and industry stakeholders on numbering issues and disputes.⁹ Many current numbering rules refer to the NANC. New responsibilities required of FCC Staff related to numbering without the NANC in place require new processes to consider recommendations from the State Commissions. This white paper is one means to address strong stewardship of Numbering Resources.

In this white paper, State Commissions identify practices that contribute to accelerated number exhaust and propose recommendations to reduce the use of numbering resources. Some of these proposed solutions are being implemented at the state level, whereas others will require direct FCC action. The recommendations seek to modernize existing numbering rules to encourage better stewardship of Numbering Resources and to discourage misuse. The primary goal is to streamline processes that currently exist by formalizing rules and directions that are currently absent in the numbering rules. Another goal is to convene dialogues among state regulators SPs, the FCC, and other stakeholders to develop solutions that will preserve numbering resources and help mitigate illegal robocalling.

I. State Commissions' Function and Authority Regarding Numbering Resources

FCC Orders and Industry Guidelines

The FCC has delegated authority to State Commissions to monitor numbering activities in their jurisdictions.¹⁰ This has been in effect for over 25 years. In addition, pursuant to the FCC's *2015 VoIP Direct Access Order*, iVoIP providers with direct access authorization are required to provide a 30-day notice to State Commissions when they seek access to Numbering Resources in a state.¹¹ These SPs are also required to update their contact information whenever there is a

⁷ Many of the issues raised in the White Paper are not limited to iVoIP SPs. There are increasing concerns and challenges as companies transition to, or are new entrants to, the all-IP network.

⁸ See, *In re Telnyx, LLC Notice of Apparent Liability for Forfeiture*, FCC 25-10 (February 4, 2025).

⁹ See, *Resolution Encouraging the Federal Communications Commission To Develop Mechanisms to Coordinate with State Utility State Commissions to Ensure Number Resource Optimization*, adopted by NARUC at the 2025 Summer Policy Summit. In this Resolution, NARUC "urges the FCC to develop a formal mechanism, beyond filing a petition, comments, and ex partes in ongoing proceedings, to identify and act upon NARUC and state commission proposals on telephone numbering issues."

¹⁰ See, e.g., 47 C.F.R. § 52.9(b); 47 CFR § 52.15(g)(3)(ii)(B), (G)

¹¹ See *Numbering Policies for Modern Communications et al.*, WC Docket Nos. 13-97 et al., *Report and Order*, 30 FCC Rcd 6839, 6841, ¶ 43 (2015),

change.¹² In the *VoIP Direct Access Second Report and Order*, the FCC mandated that direct access applicants must comply with both state numbering requirements and the general laws, regulations, and registration requirements applicable to them as businesses operating in that state. Applicants must acknowledge that they will comply with these laws.¹³ Industry guidelines in the TBCOCAG state that SPs must comply with all local and state regulations that relate to services that they provide.¹⁴

Experience of State Commissions in Using their Authority

State Commission Staff actively review the 30-day notifications that iVoIP providers file with their respective State Commissions, per the delegated authority granted to the states. State Commission Staff have found multiple instances of over-broad numbering requests, incorrect information, and failure and/or refusal to respond to data requests regarding the planned usage of the requested Numbering Resources. Despite guidance from the TBCOCAG, some SPs avoid (or even outright attempt to evade) State Commission oversight and obtain significant Numbering Resources for existing or newly established VoIP entities that are often not authorized to operate in the state in which the request falls, and/or may not even serve residents in that state.

Although a request for an initial Location Routing Number (LRN) and an initial number blocks to begin a service introduction (or establish a “footprint”) in a region is expected, SPs often place requests for significantly more growth blocks with no immediate need by end users and, in many instances, provide numbers to third party SPs whose customers are not in the rate centers or the state where the Numbering Resources are requested. In other cases, these requests for Numbering Resources appear to be made to avoid compliance with the requirements for obtaining growth blocks and are requested for potential or anticipated customers that may or may not exist, and not for customers with an immediate need.

Some State Commissions have also faced obstacles with encouraging compliance with state-specific regulations. For example, after the FCC’s *2015 VoIP Direct Access Order*, one state experienced several iVoIP providers attempting to circumvent state certification requirements to offer voice service upon receiving direct access. States have also found that iVoIP providers would routinely claim that because they had no customers and no presence in their state, and State Commissions had no oversight over their requests for Numbering Resources or service offerings, despite requesting and receiving local Numbering Resources. State Commissions have benefited from the additional oversight extended to them by the FCC orders,¹⁵ but continue to find that some iVoIP carriers are still circumventing state rules, regulations, and registration requirements. Many State Commissions have found acquiring information, responses to formal and informal data requests, or engagement from iVoIP providers is difficult.

¹² 47 CFR § 52.15(g)(3)(x)

¹³ *Numbering Policies for Modern Communications Order (VoIP Direct Access Second Report and Order)*. (FCC 23-75) (2023), ¶ 45. See also 47 CFR §§ 52.15(g)(3)(ii)(B).

¹⁴ TBCOCAG, § 3.1.7, § 5.1.10, § 5.2.11.

¹⁵ 47 C.F.R. § 52.15(g)(3).

Recommendations

State Commissions appreciate the directives in the *2015 VoIP Direct Access Order* and the *VoIP Direct Access Second Report and Order* that iVoIP providers must comply with state numbering rules and general requirements. Many iVoIP providers do comply with state requirements when they are directed to do so; others do not and ignore requirements. It is recommended that NANPA take action when informed of non-compliance, by barring noncomplying SPs from obtaining Numbering Resources in all jurisdictions until found compliant by the FCC. Additionally, these SPs should be required to return a defined amount of Numbering Resources. Such actions are consistent with FCC rules that permit State Commissions to recommend denial of Numbering Resources in certain circumstances.¹⁶

In addition, State Commissions request that the FCC provide state jurisdiction support working with iVoIP providers, including instructing iVoIP providers that they must respond to State Commission data requests and inquiries. Stringent penalties for failures to respond, including fines, denial of access to Numbering Resources, and rescinding direct access authorization are means the FCC can assist State Commissions in Numbering Administration. State Commissions also request the FCC create a role to educate new State Commission Staff and SPs on numbering rules.

II. State Commission Experience with Current Numbering Resource Rules and Regulations

A. Numbering Resource Utilization and Forecast (NRUF) Reporting Requirements

1. NRUF Rules and Industry Guidelines – General Issues

FCC rules and industry guidelines require SPs that receive Numbering Resources in the form of telephone numbers from NANPA or another telecommunication carrier report numbering resource utilization and forecast (NRUF) data to NANPA twice a year through NRUF reporting.¹⁷ In their review of state-specific NRUF information, State Commissions raised questions about the information contained in NRUF reports.

Experience of State Commissions

NRUF reports are submitted as “self-certified” by SPs. The self-certification is a concern. State Commissions identify that neither the NANPA nor the FCC are auditing the NRUF reports to confirm information accuracy. State Commissions may request a NANPA denial of Numbering Resources to SPs that do not file NRUF reports, but that is the limit of their currently available recourse.

¹⁶ 47 C.F.R. § 52.15(g)(6).

¹⁷ 47 CFR § 52.15(f)(2), CFR § 52.15(f)(3), CFR § 52.15(f)(6). While the FCC rules separate NANPA and the Pooling Administrator, State Commissions recognize that NANPA now also performs pooling functions. *See also*, TBCOCAG § 4.4.3.

State Commission Staff have reviewed NRUF filings at NANPA and discovered numerous instances of confusing reporting practices by some SPs. Examples include a lack of consistency and adequacy in the completion of the “Notes/Assignee” field of the NRUF Reports. This is where an SP must identify other SPs to which they provide Numbering Resources. State Commission Staff have also found a significant amount of telephone numbers classified as “aging.”¹⁸ in NRUF reports where the “Note/Assignee” field is not completed, not completed adequately, indecipherable, or completed with information not relevant to the report field.

State Commissions that have found a significant pattern of problems in NRUF reports have expended substantial work efforts with NANPA and the FCC to resolve problems. It is recommended that a more collaborative partnership between the FCC, NANPA, and State Commissions be initiated in a formal engagement manner to make these processes efficient and effective.

Recommendations

The State Commissions recommend the FCC and NANPA implement stronger incentives and penalties related to the NRUF. The FCC should:

- initiate regular auditing for SPs to ensure the submission of accurate NRUF reports and to address those SPs that fail to file or that provide incorrect information;
- provide SPs with additional and required training on completing the NRUF;
- impose a penalty if an SP fails to accurately complete the NRUF, similar to the FCC’s Red Light Notice.¹⁹ This would result in the denial of all numbering requests and related transactions until the NRUF report is corrected and confirmed as corrected by the NANPA;
- require that three consecutive non-reporting periods initiate a mandatory reclamation of Numbering Resources with suspension of direct access to Numbering Resources;
- provide monthly reporting on SPs affected by current and future sanctions so that other State Commissions can take action to protect Numbering Resources in their respective jurisdictions.

2. Reporting of Intermediate Numbers in NRUF

Intermediate Number Rules and Industry Guidelines

SPs obtaining telephone numbers from NANPA must classify those telephone numbers in NRUF reports by the way in which they are used.²⁰

¹⁸ “Aging” numbers are disconnected numbers that are not yet available for reassignment. 47 CFR § 52.15(f)(1)(ii),

¹⁹ <https://www.fcc.gov/general/red-light-frequently-asked-questions>

²⁰ 47 CFR § 52.15(f)(5)(i).

Categories include “intermediate” numbers that are made available for use by one SP to another SP to provide a service utilizing Numbering Resources to an end user or customer. Ported numbers are not considered intermediate numbers.²¹ SPs that classify numbers as intermediate must provide the name and contact information of the entity receiving intermediate numbers on their NRUF reports.²² SPs receiving numbers from other providers must file an NRUF report.²³ For intermediate numbers controlled by non-carriers (such as retailers or unified messaging SPs), the original carrier must report utilization and forecast data to NANPA.²⁴

Experience of State Commissions

State Commission Staff have experienced intermittent success in requiring SPs that provide intermediate numbers (originating SPs) to identify SPs receiving intermediate numbers (receiving SPs). Although required, State Commissions discovered the majority of receiving SPs are not filing NRUF reports. Further, the receiving SPs are not being compelled to file the NRUF reports by NANPA. State Commission Staff have found that many of the originating SPs do not provide the names and contact information for the entities to which they provide intermediate numbers and are reluctant or refuse to provide this information, claiming privacy and legal concerns as reasons.

SPs also appear to classify Numbering Resources provided to other SPs in varied ways. Reasons for the varied classifications reported by SPs may be linked to different business models or a lack of training regarding reporting requirements. The various classifications lead to confusion and increased State Commission workload, leading to additional inquiries.²⁵ State Commission Staff have received guidance from NANPA that if an originating SP knows that numbers classified as “intermediate” are in use, the originating SP must classify those numbers as “assigned.” There is concern that this guidance is not applied consistently across the industry due to existing failures to report numbers as “intermediate.”

State Commissions view accurate reporting of intermediate numbers, and the NRUF in general, as critical and the first stage of compliance with the Know Your Customer (KYC) obligations. The FCC rules require all voice SPs to know their customers and exercise due diligence prior to originating calls.

Telnyx LLC (Telnyx) is an SP that the FCC proposed fining \$4,492,500 due to government imposter robocalls made on its network. The FCC alleges that Telnyx failed to verify the identity

²¹ 47 CFR § 52.15(f)(1)(v).

²² TBCOCAG § 4.4.3. *See also*, TBCOCAG § 21 [Glossary], at 169.

²³ 47 CFR § 52.15(f)(2),

²⁴ [GeoJobAid.pdf \(nationalnanpa.com\)](#)

²⁵ NARUC has attempted to provide additional clarity for State Commission Staff by organizing panel discussions on numbering topics, including NRUF reporting, at recent conferences. *See*, Where Have All the Numbers Gone? panel at the NARUC 2024 Winter Policy Summit; Strategies for Number Conservation; Deciphering the NRUF, panel at the NARUC 2024 Annual Meeting.

of its customer that placed the scam robocalls.²⁶ The alleged violations by Telnix suggest that the company was not complying with KYC obligations. Rigorous enforcement of KYC obligations is expected to deter illegal robocalls.

Recommendations

Clarification from the FCC is needed on the meaning of the term “intermediate” in number assignment. For example, when must a number be classified as intermediate and when it is to be classified as assigned?

It is recommended that the FCC mandate that all SPs that provide intermediate numbers to other SPs provide the identity of the receiving SP and the amount of telephone numbers provided to each SP in the “Notes/Assignee” column to assist in the reconciliation of intermediate numbers by the non-reporting SPs who were provided Numbering Resources. Failure to do so should result in fines, reductions to direct access, or other consequences that encourage accurate NRUF reporting.

Additionally, the FCC should require that SPs who receive intermediate numbers and do not properly meet their NRUF reporting obligations for those Numbering Resources be denied access to further Numbering Resources until compliant with all requirements and potentially be subject to reclamation of current Number Resources.

3. Effect of Number Rotation on NRUF Reporting

Large quantities of numbers are assigned to a particular SP, used for a short period of time, abandoned, and then replaced by another large quantity of numbers by the same SP in some circumstances. This number rotation process is often used by large call centers to replace numbers labeled as spam. In some cases, the abandoned telephone numbers are captured in NRUF reports as numbers that are “aging,” but it is unclear how long these numbers stay in the aging category.²⁷ In other circumstances, it is unclear how these numbers are classified, especially after being labeled as spam. The lifespan of this spam label and how the label impacts reassignment of the number is also not clear.

State Commission Experiences

State Commissions found some SPs identify in excess of 10 percent of their thousand blocks as aging. The ten percent is an important threshold for block assignment. Because of the nature of NRUF reporting, it is unclear if these numbers were returned to the originating SPs by their customers (other SP or end users needing significant amounts of phone numbers) or if these SPs used the numbers themselves at a higher-than-average rate. Due to the lack of transparency in

²⁶ <https://www.fcc.gov/document/fcc-proposes-nearly-45m-fine-apparently-illegal-robocall-scheme>

²⁷ As noted above, “aging” numbers are disconnected numbers that are not available for assignment for a limited period of time. For numbers assigned to business customers, a number may be aged for no less than 45 days and no more than 365 days. 47 C.F.R. § 52.15(f)(1)(ii).

the reasons that some SPs have high levels of aging numbers, and the difficulty of State Commissions in obtaining this information, it cannot be determined why some SPs have such high rates of aging telephone numbers in their NRUF reports. High numbers of aging telephone numbers suggest number rotation or other misuses of numbering resources. High churn (turnover) in an SP's end users may be a cause but, it is important to know how Number Resources are used to distinguish between Numbering Resources that are being used for legitimate purposes at a high rate or being used for illegal robocalls.

Recommendations

Regarding the large volumes of Numbering Resources in the aging category, it is thus recommended that:

- the FCC create a threshold for aging numbers to prevent misuse of Numbering Resources;
- SPs exceeding this threshold triggers an investigation by the FCC and/or NANPA into their usage;
- the FCC facilitate methods to have abandoned numbers returned to the pool;
- the FCC audit SPs with large numbers of aging numbers.

For audits, the State Commissions recommend:

- The initial trigger for an audit would be 20 percent of aging numbers in any single thousand block;
- Subsequent triggers lower the threshold to 15 percent and then 10 percent should the SP continue to have significant numbers of aging numbers;
- Culminating in a complete ban on further numbering resource requests at the Parent OCN level and a "probationary" period after remedial actions are undertaken.

B. Requests for Number Use in Other Jurisdictions

State Commissions observed instances when Numbering Resources have been obtained by SPs from one state to be used in another state (for example, obtaining numbers in Maryland to be used in Pennsylvania). These SPs often have no physical presence or customers in the state from which the numbers are obtained.

The FCC rules do not constrain the use of the numbers obtained in one State to be used within that State's boundaries. In the *VoIP Direct Access Second Report and Order*, the FCC defined "minimum contacts" as "the amount of contact a provider would need to have with a state before it could obtain numbering resources in that state" but did not impose a standard for "minimum contacts."²⁸ The FCC referred this question to the NANC's Numbering Administration Oversight Working Group (NAOWG) but the NAOWG did not discuss such a definition.²⁹

²⁸ *VoIP Direct Access Second Report and Order*, ¶ 51, n. 164.

²⁹ Direct Access Report at 17-18.

However, it is clear the FCC and the NAOWG were both concerned that these practices may be unnecessarily contributing to the premature exhaust of Numbering Resources. Although the FCC has deferred imposing a standard for minimum contacts, it has acknowledged that iVoIP providers are required to comply with applicable laws, regulations, and registration requirements for businesses where the authorization holder seeks to obtain numbers.³⁰ The NAOWG similarly concludes in their report that the FCC and many states currently have various registration and notice requirements, with some specifically requiring iVoIP providers to register with state entities.³¹

Although these compliance standards are not defined as minimum contact standards by the FCC, they could ultimately serve as a de facto standard for an iVoIP SP or all other telecommunications providers using Numbering Resources from a state. Unfortunately, some SPs fail to comply with these compliance requirements. When State Commissions reach out to SPs that are failing to comply, they are often ignored.

To combat perceived abuses in numbering rules and laws, some States Commissions notify NANPA of an SP's non-compliance. NANPA, in turn, notifies the FCC. This typically stops SPs from requesting more Numbering Resources in the state in question until the SP comes into compliance. However, this does not stop the SP from requesting telephone numbers through other wholesale providers in the state through the wholesale market.

Experience of State Commissions

State Commission Staff find that many SPs fail to meet numerous federal and state requirements designed to assure Numbering Resources are used prudently. Some states, such as Maine, have registration requirements to track new entrants and numbering requests. However, in many cases, states have found that iVoIP companies routinely fail to register with the State Commission, Secretary of State's office, or the third-party universal service fund administrator, where such requirements apply. State Commission staff found that some SPs do not complete their required FCC Form 499s or 477s, nor file NRUF reports.

In the experience of State Commissions, iVoIP SPs are the biggest violators of both federal and state numbering rules that serve the wholesale market. Unlike wireless, cable, or CLEC providers, that have extensive experience following both state and federal rules, many iVoIPs fail to follow the most basic rules and laws that other SPs follow giving the non-compliant SP an unfair advantage in a competitive market environment and incentivizing further industry non-compliance. Non-compliant iVoIP SPs flagged by State Commissions and the FCC for failing to comply with state and federal numbering rules lose their direct access to Numbering Resources in a state until they come back into compliance. Despite this prohibition, many of these SPs continue to operate through the wholesale market. State Commissions only become aware that a non-compliant iVoIP is utilizing the wholesale market when a wholesale provider lists the iVoIP as a customer on their NRUF, indicating that they may be utilizing part or all of a block in one or more rate centers to which they could otherwise be denied access.

³⁰ VoIP Second Report and Order, ¶ 50.

³¹ [NANC \(NAOWG\) Response to FCC Charge Letter \(December 13, 2024\)](#)

A non-compliant iVoIP may only be identified by State Commissions as using the wholesale market if a wholesaler of telephone numbers is accurately completing their NRUF. State Commissions are aware of numerous SPs that are not accurately completing their NRUF and providing a list of wholesale customers in their notes field. Ultimately wholesale providers of Numbering Resources failing to accurately complete their NRUF can create a de facto black market for bad actors. Through extensive research, State Commissions have linked illegal robocalls to SPs that are actively utilizing the wholesale market.

Although iVoIP companies routinely report that they have no presence or customers in various states, they continue to forecast the need for significant volumes of numbers in thousand blocks in the same jurisdictions. Since the FCC authorized iVoIP SPs licensed by the FCC to receive direct access to Numbering Resources, 193 companies have applied and 131 have been granted direct access to date. Many State Commissions have observed that iVoIP providers seek authorization for a small subsection of states than they intend to request telephone numbers from, as there is nothing preventing those providers from requesting Numbering Resources elsewhere after receiving the FCC authorization. As such, some State Commissions proactively communicate to iVoIP providers with pending direct access applications to inquire if they intend to offer service in their states; in many cases, the answer has been yes.

Recommendations

State Commissions request full transparency in the usage of numbers to prevent Numbering Resource exhaust. The FCC should establish reasonability standards to prohibit the requesting of Numbering Resources beyond a specified threshold if the SP does not have physical facilities or an operational presence in the NPA or state. Beyond this threshold, non-local SPs should be required to request a waiver from State Commissions and explain clearly why they require more Numbering Resources than the threshold allows. The FCC should also require responsiveness by these SPs to any data requests or requirements that State Commissions issue, backed by automatic denial of the numbering request should SPs fail to respond accordingly. Any denial of Numbering Resources to an SP for failing to comply with numbering rules should be made public in an appropriate FCC docket. Additionally, wholesale providers of telephone numbers should be prohibited from providing a non-compliant SP with Numbering Resources until such time that that SP is found to be in compliance.

More action is needed to define minimum contacts or further reinforce state authority to enforce numbering rules to ensure SPs requesting Numbering Resources in a state use those numbers to serve customers in that state. According to NANPA, there are more than 28,156 rate centers in the United States.³² Under a loose interpretation of FCC rules by iVoIP providers, they can request Numbering Resources in any rate center at any time regardless of the need for Numbering Resources to serve customers in that service territory. Without proper adherence to state and federal rules, State Commissions will continue to be overwhelmed by requests for Numbering Resources that are not related to serving customers in their jurisdictions.

³²

<https://www.nanpa.com/reports/thousands-block-reports/npa-rcr>

C. Sale of Numbering Resources

Rules and Industry Guidelines

The FCC's numbering rules explicitly prohibit the acquisition of toll-free numbers for the purpose of selling those numbers to another entity for a fee.³³ Service Management System and local exchange carriers' toll-free database access tariffs are required to have specific language regarding the prohibition on the sale of toll-free numbers.³⁴ Although there are no similar rules regarding non-toll-free numbers, the FCC has stated on several occasions that Numbering Resources are not the property of SPs and subscribers and cannot be sold. For example, in the *CiC Order*, the FCC indicated that on several occasions, the FCC had determined that telephone numbers were not the property of the SP since they are a public resource.³⁵ In the *First VoIP Numbering Report and Order*, the FCC noted that Numbering Resources are a public resource that are not owned by the SP or the subscriber.³⁶ In the *IP-Based TRS Report and Order*, the FCC noted that "[w]e also remind all parties that telephone numbers are a public resource, not private property. They may not be bought or sold."³⁷

Additionally, the TBCOCAG explicitly states that "Numbering Resources cannot be sold, brokered, bartered, or leased by the Assignee for a fee or other consideration. If a Numbering Resource is sold, brokered, bartered, or leased for a fee, the resource is subject to reclamation."³⁸

Several companies sell telephone numbers (Number Sellers).³⁹ Some of them are international entities. Some SPs that have been granted or seek direct access to Numbering Resources by the FCC even state directly on their websites that a customer can purchase a local number from their inventory for use for \$1 or more per number or explicitly advertise their telephone numbers for sale as second or even third phone numbers.⁴⁰

Number Sellers without direct access to Numbering Resources often partner with SPs that have direct access to Numbering Resources to obtain access to the SP's inventory of unassigned numbers. For example, NumberBarn, LLC (NumberBarn) states that it is common practice for an SP to request one telephone number out of a thousand block to obtain access to a rate center and

³³ 47 CFR § 52.107(a)(2).

³⁴ 47 CFR § 52.107(b).

³⁵ *CiC Order*, 12 FCC Rcd. 17876, ¶ 59, 1997.

³⁶ *First VoIP Numbering Report and Order*, 22 FCC Rcd. 19531, 23 FCC Rcd. 1647, ¶ 20, n. 63, (2007).

³⁷ *IP-Based TRS Report and Order*, 23 FCC Rcd. 11591, ¶ 32, 2008

³⁸ TBCOCAG, § 2.1.

³⁹ See e.g., numberbarn.com, ringboost.com, secondline.com, burnerapp.com, hushed.com

⁴⁰ See, e.g. <https://telnyx.com/pricing/numbers>.

that there is an incentive to sell the rest of the numbers.⁴¹ NumberBarn further states that it specifically aggregates availability information from many SPs about these unassigned numbers to make them available for sale on its website.⁴²

Experience of State Commissions

Some SPs that allow entities access to their numbering inventories have presented this partnership as beneficial to conserving telephone numbers, despite the violation of industry-developed guidelines. State Commission staff believe that such partnerships exacerbate the exhaust of Numbering Resources by advertising and making more commercially available ‘vanity’ telephone numbers, stranding other “non-vanity” numbers in a thousands-block.

State Commission staff have found that many numbers sold by these Number Sellers have been ported to carriers that do not hold the responsibility for the thousands-block from which the phone number originates. In response to inquiries, at least one SP has changed its acceptable use policies to disallow this practice.

Recommendations

State Commissions oppose the sale of Numbering Resources. As the FCC has stated on multiple occasions, Numbering Resources are a public good that should not be monetized for any entity’s benefit. Sale of Numbering Resources, particularly “vanity” numbers, exacerbates NPA exhaust. NANPA should be able to identify those SPs mining number blocks for vanity numbers. State Commissions request the FCC amend its rules to explicitly prohibit the sale of Numbering Resources in line with statements in numerous FCC orders, ATIS guidelines, and past NARUC resolutions.⁴³ Further, the FCC should deny direct access to any entity that sells Numbering Resources and should use its audit authority to investigate complaints about the sale of Numbering Resources.

D. Audits

Rules and Industry Guidelines

The FCC has the authority to perform “for cause” and random audits of SPs to ensure compliance with FCC numbering rules and industry guidelines.⁴⁴ The FCC has not exercised its

⁴¹ Reply Comments of NumberBarn, LLC (NumberBarn Reply Comments), at 5-6 *in the Matter of NumberBarn LLC’s Application for Authorization to Obtain Numbering Resources Pursuant to Section 52.15(g) of the Commission’s Rules*, WC Docket No. 19-99

⁴² NumberBarn Reply Comments at 6.

⁴³ *See, Resolution Encouraging the Federal Communications Commission To Investigate the Sale and/or Brokering of Toll-Free and Non-Toll-Free Telephone Numbers to Ensure Number Resource Optimization*, approved by the NARUC Board of Directors at the NARUC 2024 Annual Meeting.

⁴⁴ CFR § 52.15(k). The TBCOCAG references the FCC’s auditing authority. TBCOCAG, § 2.3.

audit authority since 2006. The recent NANPA budget includes a \$200,000 line item for audit expenses.⁴⁵ State Commissions urge the FCC to use this audit authority.

Experience of State Commissions

A resolution passed at the NARUC 2024 Winter Policy Summit requested that FCC guidance on how State Commissions can file requests for audits.⁴⁶ NARUC followed up on this resolution with another resolution at the 2024 Annual Meeting encouraging the FCC to investigate the sale and/or brokering of telephone numbers.⁴⁷ The FCC was also asked to audit NumberBarn's numbering practices in an FCC filing made by several states.⁴⁸ State Commissions continue to encourage the FCC to exercise its auditing authority.

State Commission Staff have undertaken their own investigations pursuant to state authority. These inquiries have found that many SPs suspected of partnering with Number Sellers are reticent to provide details about their dealings with Number Sellers. State Commissions acknowledge NumberBarn is not the only company selling and/or brokering telephone numbers. Dozens of other such companies exist and are currently operating with limited and absent oversight and may be offering the same telephone numbers as NumberBarn, drawn from the same repositories of SP Numbering Resources.

Recommendations

The FCC and NANPA should create procedural structures to more easily audit SPs suspected of misusing Numbering Resources in contravention of federal regulations and industry guidelines. Additionally, a request that SPs certify that they are not selling Numbering Resources could be a tool to assist in an audit. Failing the audit could lead to fines, suspension of direct access to Numbering Resources, or other punitive measures. Without proactive action by the FCC and NANPA in this matter, Numbering Resources will continue to be treated like commodities, accelerating exhaust and/or the misuse of Numbering Resources.

E. FCC Form 499 Reporting

FCC Rules

⁴⁵ See, NANP Fund Budget And Contribution Factor For October 2025 To September 2026.

⁴⁶ *Resolution Encouraging the Federal Communications Commission To Stop Robocalling and Improve the Efficiency of Numbering Resources by Auditing Telecommunications Carriers and Voice over Internet Protocol SPs Failing to Legally and Efficiently Use Finite Telephone Numbers.*

⁴⁷ *Resolution Encouraging the Federal Communications Commission To Investigate the Sale and/or Brokering of Toll-Free and Non-Toll-Free Telephone Numbers to Ensure Number Resource Optimization.*

⁴⁸ WC Docket No. 19-99, Comments of the State Commissions Regarding the Interconnected VoIP Numbering Authorization Application Filed by NumberBarn, LLC Pursuant to Section 52.15(g) of the Commission's Rules at 9, filed November 9, 2024.

The FCC requires telecommunications carriers and certain other providers of telecommunications (including iVoIP SPs) to report each year the revenues they receive from offering service on the FCC Form 499-A,⁴⁹ The FCC Form 499-A is due on April 1 of each year. Separately, SPs are also required to indicate the jurisdictions within the United States in which they are providing service.

Experience of State Commissions

Some iVoIP providers are receiving Numbering Resources from a state's area code(s) but have not indicated the state as a jurisdiction on their FCC Form 499. State Commissions have noted that there are hundreds of companies listed in the FCC's Form 499 database for their state that have not filed NRUF reports for their states, nor registered with the listed states despite state and federal registration requirements.⁵⁰ State Commissions believe that that other companies are "over-complying" with the FCC Form 499 and still others are not complying at all. The federal government relies on the Form 499 to determine appropriate interstate revenues from providers to support federal programs and services and reported intrastate revenues. Due to these inaccurate filings, both the States Commissions and the federal government do not know from where these voice SPs are actually providing service, nor do they know the status of their assigned Numbering Resources.

Recommendations

State Commissions benefit from access to data from the FCC Form 499 to evaluate eligible telecommunications carriers use of federal funds prudently and would benefit from confidential access to the FCC Form 499 data to determine which carriers are engaging in intrastate and in-state interstate services in their state. State Commissions also recommend that the FCC require all filers for Form 499 to do so accurately and that they only list states in which they currently have customers and/or Numbering Resources.

F. Reclamation

Reclamation is the process by which SPs are required to return Numbering Resources to NANPA.⁵¹ Reclamation most often occurs when an SP fails to activate new Numbering Resources within six months of receipt. Under FCC rules, State Commissions have several roles in the reclamation process. FCC rules permit State Commissions to investigate whether SPs activate Numbering Resources allocated to them, and permit State Commissions to require proof of such activation.⁵² If an SP does not activate its Numbering Resources within six months of receipt, the SP can explain the reason for its delay. Absent an explanation, the State Commission can direct

⁴⁹ See 47 CFR §§ 52.17(b), 52.32(b), 54.708, 54.711, 64.604(b)(5)(iii)(B).

⁵⁰ For example, there are 2,459 filers in the Form 499 Database for Maine as of January 2026.

⁵¹ 47 C.F.R. § 52.15(i)(1).

⁵² 47 C.F.R. § 521.15(i)(2).

NANPA to reclaim the Numbering Resources. NANPA must abide by the State Commission decision.⁵³

FCC rules also state that SPs may be required to reduce contamination levels to facilitate reclamation, but they do not provide any further guidance on such reclamations.⁵⁴

In the Direct Access Charge Letter, the FCC sought input from the NANC's NAOWG regarding the potential impacts of reclamation of Numbering Resources that would be required if the FCC were to revoke an iVoIP provider's direct access to Numbering Resources.⁵⁵ The Direct Access Report discussed three scenarios for Numbering Resource reclamation: reclamation of unassigned numbers only; reclamation of unassigned and assigned numbers obtained through direct access; and reclamation of all numbers obtained through direct access and wholesale/resale arrangements.⁵⁶

Experience of State Commissions

State Commissions are pursuing reclamation of numbers from SPs that do not activate Numbering Resources in the required six-month timeframe. NANPA has established a process for informing State Commissions when Numbering Resources have not been activated within the six-month period, so that State Commissions can investigate and determine whether an extension of time to place the numbers into service is warranted or whether the numbers should be reclaimed by the NANPA.

State Commissions are involved in reclamation when SPs exit the market. One example is Arizona, where Commission staff requested the reclamation of resources in the 480 and 602 NPA relief proceeding,⁵⁷ which created the current 480-602-623 Phoenix area geographic overlay. As part of a March 29, 2022, memo and proposed order, Arizona Commission staff recommended the reclamation of Numbering Resources from defunct or market-exiting entities.⁵⁸ After a decision was approved by the Arizona Commissioners, the request was sent to NANPA and then the FCC.⁵⁹ This request remained unresolved for more than three years, until finally, on January 5, 2026,

⁵³ 47 C.F.R. § 521.15(i)(4) and (5).

⁵⁴ 47 C.F.R. § 521.15(i)(3).

⁵⁵ Federal Communications Commission Charge Letter to the Numbering Administration Oversight Working Group, February 20, 2024.

⁵⁶ Direct Access Report at 19-20.

⁵⁷ Application of the North American Numbering Plan Administrator, on behalf of the Arizona Telecommunications Industry, for relief of the 480 Numbering Plan Area. (T-00000A-21-0187 - <https://ecommission.azcc.gov/Company/Case;docketID=25893>)

⁵⁸ <https://docket.images.azcc.gov/E000018500.pdf?i=1740433769884>

⁵⁹ <https://docket.images.azcc.gov/E000018500.pdf?i=1740433769884>

Arizona Staff was notified by NANPA that that it had received approval from the FCC to reclaim the remaining codes.

Recommendations

The reclamation processes for un-activated numbers and for numbers surrendered by an SP exiting the telecommunications market can be an effective tool in increasing the supply of Numbering Resources.

FCC rules provide that SPs can be required to reduce contamination levels to facilitate reclamation but provide no further guidance. State Commissions request further guidance on actions that they can take to facilitate reclamation of such thousands-blocks.

There is also concern that Numbering Resources may be used in ways that are incompatible with FCC numbering rules and industry guidelines. Because some SPs may not be fully aware of their obligations, it is recommended that these SP be required to take mandatory and additional training about compliance with FCC rules and industry guidelines. Access to Numbering Resources should be limited for SPs who have repeatedly or egregiously violated FCC rules and industry guidelines. For iVoIP providers, the FCC's process for revocation of direct access to Numbering Resources can be expanded to include other SPs.⁶⁰

State Commissions should be kept informed of revocations and/or reclamation .of Numbering Resources in a monthly report from NANPA to each state jurisdiction. There has been limited action by the FCC in completing reclamation procedures. State Commissions recommend that the FCC and NANPA move more expeditiously in reclaiming unused or abandoned numbering resources going forward by establishing a shot-clock so that there is a deadline to act.

G. Status of CO Codes Assigned Pre-Pooling -Pager Company Numbering Resources

The *Numbering Resources Optimization Third Report and Second Order on Reconsideration (NRO Third Report and Second Order)* exempted paging carriers from pooling requirements.⁶¹ This exemption has allowed paging carriers to accumulate significant numbers of Numbering Resources without any requirement to return them, since at the time, it was considered prohibitively expensive to require paging carriers to interconnect with other types of carriers.⁶²

Experience of State Commissions

State Commissions have identified multiple paging carriers that hold millions of Numbering Resources in aggregate. Paging number resources are allocated by code, not block. Some of these paging carriers have stated that they do not have any obligation to return these

⁶⁰ 47 C.F.R. § 52.15(g)(3)(viii).

⁶¹ *NRO Third Report and Order*, ¶ 16 (2002).

⁶² *NRO Third Report and Order*, ¶ 16.

unused Numbering Resources and erroneously believe that if they were to return them, they would be forced to reassign the numbers used by their existing customers, who would then cancel their service.

Some State Commissions have requested paging companies return unused numbers to pool for reassignment. Although some State Commissions have been unsuccessful in having paging numbers returned, other State Commissions have been very successful getting underutilized paging numbers returned for use by other SP.

Recommendations

The FCC's determination regarding the costs for paging companies to pool numbers was made in 2001 and has not been revisited. Considering the transformation of the telecommunications industry, State Commissions recommend that the FCC investigate whether these financial constraints continue to exist.

As of 2022, the utilization rate for paging SPs was 5.3 percent. This is significantly below all other SPs.⁶³ This suggests that the majority of Numbering Resources held by paging SPs are unused or underutilized. State Commissions recommend that a certain proportion of uncontaminated pre-pooled codes be identified and allocated for pooling and costs reduced where possible. It is also requested that the exemption for paging companies in the *NRO Third Report and Second Order* be modified to permit reclamation of unused paging numbers and to require paging companies to request new Numbering Resources in thousands-blocks instead of codes.

CONCLUSION

Many State Commissions are actively engaged in activities that they anticipate will conserve Numbering Resources and preserve the NANP. The recommendations in this white paper are not exhaustive, but are intended to begin a dialogue that will hopefully result in the clarification of rules and guidelines relating to NRUF reporting and reclamation, an explicit prohibition on the sale of Numbering Resources, increased education of SPs in numbering practices that are compliant with FCC rules and industry guidelines, investigation of how unused paging numbers can be reclaimed, increased auditing by the FCC, and increased enforcement of state regulations. These recommendations seek to modernize many aspects of the current numbering rules to encourage better stewardship of Numbering Resources and to create a clearer framework and path forward for existing processes. To achieve these goals, State Commissions seek to engage collaboratively with the FCC, SPs, and other stakeholders. With constructive engagement, the future of the NANP can be significantly extended with minimal to no cost.

⁶³ Numbering Resource Utilization in the United States: Status as of December 31, 2022. Industry Analysis Division of the Office of Economics and Analytics, Federal Communications Commission. July 2025. <https://www.neca.org/docs/default-source/wwpdf/public/71125numberreport2.pdf>