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Federal Communications Commission
Office of Secretary

North American Numbering Council
c/o Columbia Institute for Tele-Information
Columbia Business School
1A Uris Hall
3022 Broadway
New York, NY 10027-6902

May 14, 2003

Mr. William Maher
Chief, Wireline Competition Bureau
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: Use of Telephone Numbers as Universal Service Fund Allocator

Dear Mr. Maher:

In early March, the Wireline Competition Bureau's staff asked the North American Numbering Council (NANC) to review the technical implications of using working telephone numbers as a possible means of assessing service providers' contributions to the Universal Service Fund. At its March 19 meeting, NANC established an Issues Management Group (IMG) to respond to the staff's request.

The purpose of this letter is to forward, on behalf of NANC, the IMG's report which was considered and approved at NANC's May 13 meeting.

I should note that the IMG's assignment was to examine the technical numbering-related issues raised in paragraph 99 of the Commission's December 13, 2002 Second Further Notice of Proposed Rulemaking and six additional questions raised by the staff. The IMG (and NANC) avoided any consideration of policy issues associated with the issue of how contributions to the USF should be assessed and neither the Commission nor any party to the proceedings should infer any such policy judgments from the IMG's report.

I should also note that the IMG's report does not have extensive discussion of technical "benefits" beyond noting the existence of an appropriate mechanism. The NANC did not draw any conclusions from the relative paucity of "benefits" compared to the "hurdles."

A copy of this letter and the IMG's report will be filed in the following dockets:

CC Docket No. 96-45, CC Docket No. 98-171, CC Docket No. 90-571, CC Docket No. 92-237, NSD File No. L-00-72, CC Docket No. 99-200, CC Docket No. 95-116, and CC Docket No. 98-170

Please let me know if there are any questions about the IMG's report or if the staff would like the IMG to address additional issues.

Sincerely,

Robert C. Atkinson by RJ Blue

Robert C. Atkinson
NANC Chair

cc: Diane Griffin - FCC
Eric Einhorn - FCC
Cheryl Callahan - FCC
Sanford Williams - FCC
Jennifer Gorny - FCC
Pam Slipakoff – FCC
NANC Members

NANC USF IMG
Final Report

The USF Issues Management Group (IMG) met via teleconference on eight occasions from March 25 through May 9 for a total of approximately 13 hours.

Participants in at least one of the meetings were:

Matthew Adams – SBC
Bob Atkinson – NANC Chair
Michael Altschul – CTIA
Marybeth Banks– Sprint
Chris Bowe - Nextel
Alan Bozcka - MCI
Nancy Brockway – New Hampshire Commission
Jim Castagna – Verizon
Pamela Connell – AT&T
Rosemary Emmer – Nextel
Cathy Forbes – BellSouth
Tiki Gaugler – ALTS
Ken Havens – Sprint
Hoke Knox - Sprint
Jim Lambertson - Verizon
Mark Lancaster – AT&T
John Manning – NANPA
John McHugh - OPATSCO
Lori Messing – CTIA
Helen Mickiewicz - CPUC
Karen Mulberry - MCI
Karen Norcross – Michigan PSC
Michael O'Connor (IMG Chair) - Verizon
Beth O'Donnell – Cox Communications
Susan Ortega – Nextel
Jay Paull - Nextel
Peter Pescosolido – Connecticut PUC
Christine Sealock-Kelly - NYPSC
Bill Shaughnessy – BellSouth
Beth Sprague - NANPA
Michelle Thomas – T-Mobile
Mike Whaley – Qwest
Sanford Williams – FCC
Cassie Yang – SBC

Overview

1. The IMG's role is to advise the FCC on technical considerations associated with using telephone numbers (TNs) as a Universal Service Fund (USF) allocator. This IMG will not attempt to make a recommendation on the policy question of whether or not a TN allocator is better or worse than other allocators under consideration – i.e. revenue allocators, connections-based allocators, or a hybrid allocator.

2. The IMG assumes that a TN-based allocator for determining USF fund contributions will be based upon "Assigned" TNs as defined by the FCC[1].

3. The IMG concludes that the Number Resource Utilization Forecast (NRUF) report administered by the North American Numbering Plan Administrator (NANPA) is the only existing available industry TN repository that can be the basis for any TN-allocator mechanism, and additionally agrees no new mechanism should be contemplated. This conclusion does not preclude modifications to NRUF.

4. The IMG agrees that the choice of using NRUF-reported assigned numbers as the foundation for a TN-based USF allocator raises technical issues that would benefit from further examination. These issues are itemized below in the section titled "Additional Considerations."

5. As the IMG has assumed the NRUF tool for determining the TN-allocator would be viewed in the context of "Assigned" numbers as defined by the FCC, the sections titled, "Benefits" and "Hurdles" are expressed within this parameter.[2]

6. The IMG is unable to identify the specific costs of changes to carrier billing systems, TN inventory systems, and other Operational Support Systems which would be required to mitigate and/or eliminate identified hurdles to using NRUF.

7. The IMG notes that any use of assigned TNs as the basis for allocating USF fund contributions would not capture the identical universe of current contributors.

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[1] FCC definitions of Telephone Number (TN) categories can be found in CFR 47 §52.15(f).

[2] Other FCC TN classifications are: "Aging", "Reserved", "Administrative", "Intermediate", and "Available" numbers.

Benefits of Using Assigned TNs As Basis For a TN-based USF Allocator

1. NRUF process is already in place.[3]

2. Carriers are required to file NRUF reports twice a year.

Hurdles with using Assigned TNs as a TN-based USF Allocator

The FCC could determine that the carrier to which the numbers are assigned by NANPA is always responsible for USF contributions allocated to those numbers. This would mean that the assigned carrier would bear the risk and complexity of trying to recover the USF contribution from carriers to which the number is ported (perhaps many times), from resellers and from other service providers that utilize TNs in their services (i.e., paging services, VoIP, etc.). This would be extremely burdensome and is likely to lead to numerous disputes and disruptions to the flow of contributions.

Alternatively, the FCC could determine that the carrier benefiting from the end user revenue should bear the responsibility of the USF contribution. The IMG believes that this approach would be preferable because it is much simpler and more reliable, although it too has problems as outlined below:

1. Numbers ported-out from the carrier to which the numbering resource was originally issued appear as "Assigned" TNs on the original carrier's NRUF. This hurdle could potentially be overcome if NRUF data can be reconciled with Number Pooling Administration Center (NPAC) data. The NPAC is the centralized database that stores all porting information. This might be a significant hurdle because NRUF data and NPAC data reside in separate repositories. Currently, no mechanized interface exists to reconcile these data elements. If a mechanized interface were required, changes to NRUF reporting and the NPAC would need to occur, at considerable cost and administrative burdens to the industry. An alternative (and potentially less costly approach) would be to allow carriers to report the net effect of ported TNs on their inventory. Reporting could be accomplished through a modified NRUF or through a separately developed reporting vehicle. Intra-service provider porting / pooling further complicates the ability to reconcile this data. With wireless (CMRS) porting due November 2003, the extent of this distortion will grow. Migration of Type 1 interconnection arrangements between wireline and wireless carriers[4] will add to the distortion associated with CMRS participation in porting. Additionally, there is the potential for double-counting TNs in contaminated blocks.

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[3] Some IMG members believe that there are indirect benefits of using the NRUF process:

- solutions which enhance NRUF may improve NRUF accuracy, numbering optimization, fairness, and competitive neutrality. Some members believe these benefits would clarify the universe of those using numbers and make it easier to make numbering-related decisions.
- a TN-based allocator might eliminate the need for jurisdictionalizing revenue which some members maintain is more difficult given the current market direction of bundled services.

[4] Type 1 Interconnection is an arrangement between wireline and wireless carriers where numbers that are provided to wireline Carrier A are routed through Carrier A's switch to wireless Carrier B for assignment to wireless Carrier B's end users.

2. Numbers used by resellers are usually reported as "Assigned" by the underlying carrier. This hurdle could be overcome if a) the underlying carrier passes on the USF charges to the reseller[5] or b) resellers report their own TNs.

3. Centrex blocks that are at least 50% utilized can be classified as "Assigned" by a carrier. TNs associated with PBX trunks are typically classified as "Assigned" whether or not the TN is associated with a line station on the PBX. Cyclical or seasonal TNs can be classified as "Assigned" if they are working at least 90 days in a calendar year. Thus, some TNs associated with Centrex, PBX, and cyclical seasonal uses will not reflect a true measure of "Assigned" TNs at the time of the NRUF report. The various methods for classification of assigned TNs across these services (Centrex, PBX, and cyclical/seasonal TNs) demonstrate that the use of Assigned TNs as an allocator for determining USF fund contributions may impact those services and customers. The IMG has not identified specific impacts, but notes the potential for FCC consideration.

4. There is a lack of consistency in how Service Providers (SPs) report "Intermediate Numbers". This hurdle could be overcome with FCC clarification.[6]

5. To match current USF intervals of reporting, NRUF-data would need to be collected four times annually. The IMG believes the need for more than semi-annual reporting would require a cost/benefit analysis. Attachment A identifies the historical variability of assigned TNs by industry segment. The data does not show the variability of assigned TNs among carriers within the industry segments. This latter variability, which is competitively sensitive, may require additional consideration by the FCC.

6. USF revenue data had been collected based upon historical revenues with annual true-up. The FCC changed that approach to projected revenue with true-up. The NRUF report provides a semi-annual historical view of assigned TNs. The FCC may need to consider the difference in approaches when determining the allocation methodology.

7. Carriers who fail to file NRUF will create an additional USF burden for those who do file NRUF. Failure to file NRUF increases the USF burden per TN for those who do file NRUF forms.

Additional Considerations

The IMG agreed the most basic and most simple form of a TN-based allocator would be based upon Assigned TNs. This analysis is provided in the "Benefits" and "Hurdles" sections. The IMG also considered the potential that the FCC may consider permutations of a numbering-based allocation scheme that are not simply related to

[5] In the case underlying carriers passing on charges to resellers some IMG members believe there could be further complications in the area of uncollectibles.

[6] Some members believe that the intermediate TN hurdle may require a rule or definitional change. For a discussion of the intermediate TN problems see the "Intermediate IMG Report" at http://www.nanc-chair.org/docs/Oct/Nov02_Intermediate_IMG_Report.rtf.

Assigned TNs. Below, the IMG addresses what it believes to be the more probable permutations.

1. A TN-based allocator for determining USF contributions would automatically result in USF contributions from any new service that utilizes TNs.[7]

2. If the FCC attempts to implement a TN-based allocator system where USF contribution varies based on type of service or type of customer (i.e. residence, business, lifeline, schools and libraries), then NRUF would need to be modified to capture service types. The more granular the data associated with the TN, the more robust and expensive it would become to modify both the NRUF data collection (national system) and the NRUF data reporting (carrier systems that provide NRUF detail). Audit procedures would need to be adjusted, for they currently reference only the FCC's six broad categories of TNs.

3. At a simpler level, one additional NRUF category "Authorized Exemptions" (i.e., not liable for USF contribution) would be easier to manage by the national system administrator. Carriers, however, would still need to modify systems that provide NRUF data to include each of the sub-category exemptions. Similarly, audit procedures would still need to be adjusted. Some IMG members questioned the ability to authenticate an "exception" category.

4. A hybrid solution that includes both TNs and connections as a USF allocator may require NRUF adjustments because the categories are not mutually exclusive.

5. Private line services, subject to USF today, which do not use TNs, would be excluded from any calculation using a TN based allocation method.

IMG Answers to Specific Questions Asked by the FCC

Q1. Are telephone numbers reported electronically now? If not, are there plans to move to electronic filing? What audit procedures are in place?

A1. NRUF TNs are reported electronically on a semi-annual basis. Numbering audit procedures are in place for NRUF as it is currently configured. The FCC established audit authority in FCC 00-429.

Q2. Reports are filed twice a year. How quickly are numbers being assigned, i.e. how much growth between filings? Is there a sense of whether that growth remains relatively constant month to month?

A2. Changes to NRUF data occur daily, but may not always signal "growth". In fact, it should not be assumed that growth is always present month to month. Some service areas may remain stagnant or may experience a reduction in assignments. Since NRUF is designed to be a semi-annual snapshot of how

[7] A new service, which uses TNs, will have those TNs reported by the underlying carrier through the normal NRUF process. It is presumed that the underlying carrier will, either explicitly or implicitly, pass through the USF cost assessment to the new service provider.

numbering resources are utilized, the "real-time" accounting necessary for USF contributions is not inherent to the reporting process. For example, NRUF is filed February 1 based on December 31 data. There is an additional period of time (45 days) in which the North American Numbering Plan Administrator (NANPA) must compile the data. It is, therefore, impossible for the data to be current or precise given the daily changes. The growth factor is not constant month to month for all service types. Fourth (4th) Quarter seasonality, churn, and prepaid product offerings are a factor for the wireless industry. Please refer to Attachment A and the limitations of Attachment A referenced in "Hurdles" bullet 6.

Q3. Does NANC have an opinion regarding burdens associated with monthly reporting?

A3. The NRUF is considered to be a rigorous and time-consuming effort with its current semi-annual reporting schedule. Since many carriers have Billing and TN systems across multiple network platforms, the preparation for each NRUF usually exceeds one month. Therefore, the potential requirement to report TN activity on a monthly basis is considered to be a significant hurdle. Additionally, monthly reporting appears to be beyond the scope of current NANPA obligations. Today, NANPA is allowed a 45-day window to compile the data and validate all filed reports. NANPA staff resources and timeframes for monthly data compilation may require substantial contract changes and FCC approval.

Q4. Is it easy to distinguish between facilities-based providers and resellers? For example, would it be easy to identify resellers under a telephone number-based system?

A4. Facilities-based providers maintaining secondary inventories for Resellers ostensibly report those resources as "Intermediate" or "Assigned". Resellers may or may not file NRUF reports, and the current NRUF format does not draw a distinction between the telephone numbers utilized by facilities-based providers and resellers. The NANC developed a report on the use of Intermediate numbers addressing the variations associated with reporting on the telephone numbers assigned to resellers. The NRUF does not address the number of Reseller telephone lines. (Intermediate Number Report report: **http://www.nanc-chair.org/docs/Oct/Nov02_Intermediate_IMG_Report.rtf**)

Q5. Are there entities that may be assigned working telephone numbers that would not be subject to the Commission's contribution authority?

A5. This question may be directed to a legal determination that the IMG is not qualified to make. However, the IMG understands there are users with assigned TNs that are exempt from USF contributions as a matter of FCC policy. Examples include lifeline customers, and customers of carriers whose USF contribution would be less than $10,000. NRUF does not separately identify these categories of users. The IMG's discussion of "Additional Considerations", above, illustrate the difficulty of collecting additional date about specific TNs.

Q6. What types of changes to existing carrier systems would need to be made to track telephone numbers?

A6. Carriers track telephone numbers today through NRUF. If NRUF were to be changed, the scope of the carrier changes is dependent on the choices made by the FCC with regard to the "Hurdles" and "Additional Considerations" outlined above. The more complex the changes, the more significant the impact on carriers.

Paragraph 99 – Other Questions not Covered Above

Q. Do current reports adequately identify a telecom carrier that receives a telephone number from a non-carrier?

A. Telecom carriers do not receive TNs from non-carriers.

Additional Individual Views of IMG Members

IMG members are generally in agreement with the report provided. Nonetheless, there are nuances with regard to the technical considerations of using TNs as an allocator for USF contributions. The comments (Attachment B) allow individual IMG members to elaborate on these technical considerations.

ATTACHMENT A - NRUF Data

1000's of Assigned TNs

	6/30/01	12/31/01	6/30/02	12/31/02
CMRS	111,734	128,493	139,854	151,721
PAGE	23,621	18,001	16,417	14,851
ILEC	305,938	305,430	308,397	300,595
CLEC	27,942	30,941	30,211	33,325
Total	469,235	482,865	494,879	500,492

% Change Over Prior NRUF

	6/30/01	12/31/01	6/30/02	12/31/02	AVG % Change
CMRS	na	15.00%	8.84%	8.49%	10.74%
PAGE	na	-23.79%	-8.80%	-9.54%	-13.84%
ILEC	na	-0.17%	0.97%	-2.53%	-0.59%
CLEC	na	10.73%	-2.36%	10.31%	7.73%

% of Total Assigned Numbers

	6/30/01	12/31/01	6/30/02	12/31/02
CMRS	23.81%	26.61%	28.26%	30.31%
PAGE	5.03%	3.73%	3.32%	2.97%
ILEC	65.20%	63.25%	62.32%	60.06%
CLEC	5.95%	6.41%	6.10%	6.66%

Attachment B

Additional Individual Views
Of USF IMG Members

AT&T

- USF IMG participants considered the NRUF report to be the only logical tool if a TN allocator is developed, based on the fact that NRUF is the only standard, required, nationwide submission regarding TN use.

- One byproduct of NRUF's use is an expectation of enhanced accuracy and participation. Additionally, significant opportunities may be gained by refinements to the NRUF process:

  - Ported-out TN (Hurdle 1.) tracking would be a useful tool in understanding the intricacies of competitive incursion.

  - A TN allocator will bring emerging technologies into focus, and standardize USF around the common use of the TN among all services.

  - NRUF's semi-annual reporting of actual TN counts may be an adequate frequency for USF purposes.

  - As the data seems to indicate, TN fluctuations, while trending directionally, are comparably stable and useful for generalization to other applications such as USF.

  - Reseller TN reporting may solve Intermediate Number issues.

- Any change to either the NRUF process, or the USF revenue allocator will produce new costs and implementation challenges. The current USF system produces costs, and as would any TN solution. Of the issues raised in the IMG study none present major obstacles to implementing a TN allocator solution.

BellSouth

- An unintended consequence of using NRUF to determine USF allocations is the increased need for audits designed to address compliance with the universal service obligations rather than number conservation efforts. There would have to be specific audit procedures developed for universal service purposes. Currently, NRUF is structured so that it is a self-reporting vehicle by which users of NANP resource provide a snap shot of how their TNs are currently being used at a specific point in time. Although there are data checks that must be met for NRUF to be accepted by NANPA, there are no

checks that guarantee that all service providers are consistent in how they categorize TNs in the NRUF. Also, if NRUF were modified such that new categories need to be self-reported, assurances would need to be in place so there is consistency across the industry.

- A service provider that is losing customers (assigned TNs) might be dissatisfied with the use of semi-annual NRUF reporting to determine USF payments because they would overpay up front. On the other hand, a carrier with positive access line growth might be satisfied with semi annual NRUF filings to determine USF payments because they will under pay initially and defer some of their payments until true up. It should be noted that the FCC recently moved from a contribution system based on historical revenues to one based on projected revenues because it found that carriers with declining revenues were disadvantaged. The use of historical numbering data could give rise to the same concerns. Semi-annual NRUF reporting may not be sufficient; however, increasing the frequency of NRUF reporting and increasing information that comprise NRUF increases costs, administrative burdens, the opportunity for errors, and the need for audits.

Michigan Public Service Commission

The use of numbering resources as a basis for USF contributions will improve the reporting of telephone number usage by:

- Strengthening the need for proper reporting of numbering resource categories.
- Redirecting carrier staffs from current USF duties to NRUF reporting activities, therefore allowing NRUF to be done more frequently.
- Enabling auditors, at both NRUF and the USAC, to work hand-in-hand ensuring proper reporting and usage of telephone numbers.

The MPSC firmly believes that the use of TNs for USF allocation will have no impact on wireless number portability.

SBC

- The IMG report captured many hurdles associated with using a TN-Based Allocator but was unable to identify many benefits beyond the NRUF process already being in place and that carriers are required to report certain information twice a year. As noted in the report, NRUF reporting is already a "rigorous and time-consuming effort with its current semi-annual reporting schedule." SBC wants to emphasize that any changes to NRUF, including reporting frequency, definitional modifications, and changes in report fields could be quite burdensome and require changes to carrier billing and TN inventory systems.

- Additionally, SBC wishes to emphasize the lack of consistency in how Service Providers (SPs) report "Intermediate Numbers." This inconsistency impacts the allocation of payments among carriers dependent on how the carriers report Intermediate Numbers, i.e. some carriers may report numbers as Intermediate while others may report the same numbers as Assigned. The IMG references in its report a NANC recommendation on intermediate numbers that is still pending FCC consideration.

Sprint

- If the FCC decides to adopt a forward-looking approach to USF allocations, which would be similar to the interim, projected revenues approach used today, that process could be implemented with a number-based methodology. The FCC would define the numbers on which a carrier would be assessed. Each carrier would provide a quarterly forecast of its numbers which are deemed to be assessable. Thus, for example, if the FCC determines that the carrier billing the end user should be the carrier to report the number, numbers which are assigned to a carrier but ported out would be excluded from a carrier's forecast. There could be annual or semi-annual true-ups based on the NRUF data as reported today. Therefore, no additional reporting of NRUF data would be required.

- The NRUF's assigned numbers include ported out numbers (ported out to other carriers). Ported out numbers are identified as a Hurdle in the IMG's report. Sprint is already working with NeuStar on the capability to identify ported out numbers. This would allow Sprint to meet the true-up process in a numbers-based approach to USF allocations by identifying the quantity of ported out numbers from the assigned numbers as reported in NRUF. Sprint would provide the ported out report numbers in conjunction with the NRUF report. Other carriers should be able to request a similar report from NeuStar to follow Sprint's proposed process of identifying ported out numbers.

T-Mobile

Assigned telephone numbers should not be further considered as a USF allocation methodology until there is a thorough understanding and recommendation by the industry on how to improve the treatment of ported numbers via the current NRUF reporting scheme. Specifically, a resolution to the known problem of double counting ported numbers, exacerbated by wireless LNP, must be addressed prior to the advancement of these efforts.

Finally, it would be prudent to defer any further consideration of this calculation methodology until the industry has fully appreciated and remediated the likely obstacles and complications associated with the flash-cut deployment of wireless LNP later this year.