

## DOCKET FILE COPY ORIGINAL

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August 3, 1999

VIA HAND DELIVERY

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
TW- B204F  
Washington, DC 20554

RECEIVED  
AUG 3 1999  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: In the Matter of Numbering Resource Optimization,  
CC Docket No. 99-200

Dear Secretary Salas:

Enclosed please find an original plus four copies of the Ad Hoc Telecommunications Users Committee's ("Ad Hoc") Erratum to its Comments filed on July 30, 1999, in the above-referenced proceeding.

The Erratum makes no substantive change to the Comments as originally filed. The Erratum merely corrects typographical errors that appeared on pages 16-18 of the originally filed Comments. The purpose of the enclosed Erratum is to provide the Commission with corrected and complete copies of Ad Hoc's Comments.

If you have any questions or concerns regarding this Erratum please do not hesitate to contact me at (202) 857-2550.

Respectfully submitted,



Suzanne M. Takata  
Legal Assistant

Enclosures

No. of Copies rec'd 0+5  
List ABCDE

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Connecticut Department of Public Utility	)	RM No. 9258
Control Petition to Amend the	)	
Commission's Rule Prohibiting	)	
Technology-Specific or Service-Specific	)	
Area Code Overlays	)	
	)	
Massachusetts Department of	)	NSD File No. L-99-17
Telecommunications and Energy	)	
Petition for Waiver to Implement a	)	
Technology-Specific Overlay in the	)	
508, 617, 781, and 978 Area Codes	)	
	)	
California Public Utility Commission	)	NSD File No. L-99-36
and the People of the State of California)	)	
Petition for Waiver to Implement a	)	
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Area Code	)	

**Erratum to the  
Comments of the Ad Hoc  
Telecommunications Users Committee**

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Counsel for  
The Ad Hoc Telecommunications  
Users Committee

August 3, 1999

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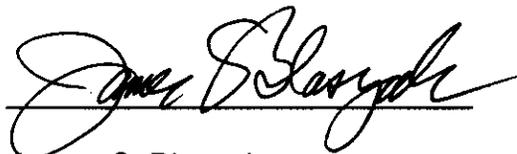
The Ad Hoc Telecommunications Users Committee ("Ad Hoc" or "the Committee"), hereby submits this Erratum to its Comments filed July 30, 1999, and respectfully requests that the Federal Communications Commission ("Commission") accept this document for filing.

Ad Hoc's Comments, as originally filed, contained a few typographical errors on pages 16-18; the corrected pages do not give rise to substantive changes. The pages have been corrected and are enclosed herewith as

Attachment 1. In addition, five complete copies of Ad Hoc's comments, including the corrected pages, are enclosed as Attachment 2. A disk containing this Erratum and Ad Hoc's corrected Comments in WordPerfect 5.1 format is enclosed as Attachment 3. Lastly, the address for Ad Hoc's Counsel, wherever it appears, should be corrected to read; Levine, Blaszak, Block and Boothby, LLP, 2001 L Street, NW Suite 900, Washington, DC 20036.

WHEREFORE, the Ad Hoc Telecommunications Users Committee respectfully requests that the Commission accept this Erratum.

Respectfully submitted,



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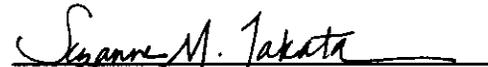
Counsel for  
The Ad Hoc Telecommunications  
Users Committee

August 3, 1999

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## Certificate of Service

I, Suzanne M. Takata, hereby certify that true and correct copies of the preceding Erratum to the Comments of the Ad Hoc Telecommunications Users Committee in CC Docket No. 99-200, Numbering Resource Optimization, were served this the 3<sup>rd</sup> day of August, 1999 upon the following party via hand delivery.

  
Suzanne M. Takata

ITS  
1231 20<sup>th</sup> Street, NW  
Washington, DC 20554

## **ATTACHMENT 1**

Redlined and Corrected Pages of the Ad  
Hoc Telecommunications Users  
Committee's Comments in CC Docket  
No. 99-200

**REDLINED**

3. *Rate Center Consolidation Is Advisable; SS7-Based Rating Is Not.*

As the Commission has recognized and as some states have already begun to explore,<sup>25</sup> rate center consolidation is one measure that could contribute to number conservation. The Ad Hoc Committee supports rate consolidation as one of several number conservation measures.

Rate center consolidation can reduce the future demand for NXX codes, prolonging the life of a given area code, but this measure is only effective in conjunction with other number conservation measures and only if the rate center consolidation occurs early in the life of the particular area code. Thus, while states should be encouraged to consider rate center among the measures for number conservation, this approach should not be mandated nor should it be given higher priority than number pooling and other more effective measures.

As a possible alternative to rate center consolidation as a means for conserving the use of NXX codes, the Notice seeks comment on “whether there are ways to separate the call rating functions, from the call routing functions, which would result in a reduced demand for NXX codes.”<sup>26</sup> The Commission specifically refers to the suggestion of the Colorado Telephone Numbering Task Force, which, it states, “recommends eliminating the link between call rating and NXX codes by investigating the possibility of using the Signaling System 7 (“SS7”) network, rather than the current reliance on associating NPA-NXXs with

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<sup>25</sup> Massachusetts D.T.E. 98-38, Investigation to Determine the Need for New Area Codes and Whether Measures can be Implemented to Conserve Exchange Codes within Eastern Massachusetts.

<sup>26</sup> Notice at para. 119.

the specific vertical and horizontal (V&H) coordinates of a rate area to transmit the information required for the rating and routing of every call.<sup>27</sup> Such de-linking of call rating and routing, *even if feasible as a technical matter*, would represent a fundamental and far-reaching revision in one of the two bedrock functions of the numbering plan. Customers understand that the treatment (local v. toll) and price of a given call is determined by the NPA-NXX of the called number. It is likely that every white pages telephone directory published in the United States contains consumer information defining the “local calling area” specifically on the basis of NPA-NXX codes. PBXs and other business/institutional/government telephone systems screen calls on the basis of the NPA-NXX both usage accounting, call restriction, and customized routing purposes.

Under SS7-based call rating solution, the called party’s central office switch would be required to return to the calling party’s central office switch the identification of the specific rate center to which the called number has been assigned. The calling party’s switching would have the process this information for billing and, perhaps, for customer notification purposes (*i.e.*, to inform the calling party that the call will involve a long distance toll charge), in the latter case signaling the calling party in “real time” that the call he/she has just placed will involve a toll charge. Some means will need to be found to provide this same time of rating information to PBX systems. Currently few, if any, PBX systems

---

<sup>27</sup> *Id.*, footnote omitted.

possess the capability to process and react to SS7 signaling and information messages; billions of dollars would likely be required to upgrade and/or replace this non-SS7-capable installed base.

Inasmuch as any *cost* differences as between calls rated as “local” and those rated as “toll” have all but disappeared, and inasmuch as distance is no longer a consequential cost driver for any “toll” calls, it seems utterly pointless to impose massive costs and confusion for the dubious purposes of preserving an anachronistic pricing structure that makes artificial and arbitrary distinctions between “local” and “toll” and/or that sets the price of a given call on the basis of the distance between the calling and called parties’ respective rate centers. Rate center consolidation and the resulting expansion of local calling areas, will both serve to conserve number resources as well as to eliminate obsolete pricing methods. No valid purpose will be served in either respect by eliminating the call rating function of the NANP by overlaying costly SS7 technology in an area where this additional complexity, even if technically feasible, cannot be economically justified.<sup>28</sup>

---

<sup>28</sup> While the Committee has not specifically analyzed the technical feasibility of call rating via SS7, it has serious doubts as to its practicality and technical feasibility. Operating system software upgrades, and possibly complete switch replacements, might well be required in the majority of central office switches; massive customer education and training will be required; LECs will be forced to expend additional resources addressing and resolving billing disputes; and business/institutional/government users will be required to acquire the SS7 capability in their unwanted and potentially excessive charges for individual calls. The Commission should also be mindful of the potential for fraud and abuse, where the called party’s central office switch would be empowered to “rate” calls addressed to it and where the carrier serving that switch has no direct relationship with the calling party.

**CORRECTED**

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## **ATTACHMENT 2**

Corrected Comments of the Ad Hoc  
Telecommunications Users Committee  
(August 3, 1999)

**LEVINE, BLASZAK, BLOCK & BOOTHBY, LLP**

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July 30, 1999

VIA ELECTRONIC COMMENT FILING SYSTEM

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
TW-B204F  
Washington, DC 20554

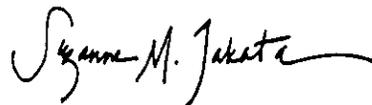
Re: In the Matter of Numbering Resource Optimization,  
CC Docket No. 99-200

Dear Ms Salas:

Pursuant to the June 2, 1999, Notice of Proposed Rulemaking ("Notice") in the above-referenced proceeding enclosed please find the Comments of the Ad Hoc Telecommunications Users Committee ("Ad Hoc") addressing those issues raised in the Notice. Ad Hoc's Comments are formatted in WordPerfect 5.1 and are being transmitted to the Federal Communications Commission via the Federal Communications Commission's Electronic Comment Filing System.

If you have any questions or concerns please do not hesitate to contact me at (202) 857-2550.

Respectfully submitted,



Suzanne M. Takata  
Legal Assistant

Before the  
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Economic Consultants

Counsel for  
The Ad Hoc Telecommunications  
Users Committee

July 30, 1999

## SUMMARY

The Commission should quickly adopt number resource conservation policies. The telecommunications carriers who have long controlled administration of the North American Numbering Plan (NANP) have administered the plan in a very wasteful manner. Of the approximately 6.4 billion numbers in the NANP, only 328 million are in use. Yet new area codes are being introduced with alarming frequency and exhaust of the NANP is on the horizon unless dramatic steps are taken very soon. There is no credible reason to believe that the carriers suddenly will be concerned about the huge and needless costs they continue to impose on society through their control of the NANP. It is time for prompt Commission intervention.

Of the possible number conservation measures identified by the Commission, number pooling and specialized overlays would likely produce the greatest benefit at the lowest cost to the public. The technology needed to support number pooling is now in place in most major markets. Numbers should no longer be assigned in 10,000 number blocks. Pooling at the 1000 number level should be implemented as quickly as possible. Moreover, the Commission should require that unassigned numbers be made available for porting to CLECs. Ad Hoc also recommends that the Commission allow state regulatory authorities to move carriers who do not participate in local number pooling and who thus may not have deployed the facilities needed to support number pooling into overlay NPA's.

These two measures are far more cost effective and less disruptive than requiring ten or eleven digit dialing for all domestic calls. Ten digit dialing for local calls with the same area code will be at least confusing to consumers. Moreover, ten digit dialing would produce only very minimal number conservation benefits. The slight gain in numbers from such dialing is far outweighed by confusion that it will bring. The Commission could achieve far greater benefit, with far less disruption of consumers, through number pooling and unassigned number assignment.

## Table of Contents

	<u>Page</u>
SUMMARY .....	i
A. Area Code Proliferation Creates Huge Societal Costs .....	4
B. NANP Exhaust Is Unthinkable And Must Be Avoided.....	6
C. State PUCs Should Immediately Be Given Discretion To Pursue A Broader Range Of Number Optimization Measures. ....	10
D. Preferred Number Conservation Solutions .....	13
1. Number pooling.....	13
2. Specialized overlays. ....	14
3. Rate Center Consolidation Is Advisable; SS7-Based Rating Is Not .....	16
4. Administrative measures.....	19
E. Measures Which Should Be Deferred And/Or Adopted Only If Primary Measures Prove Inadequate. ....	20
1. Charging for numbering resources as a means of encouraging number conservation.....	20
2. Mandatory 10-digit dialing .....	21
CONCLUSION .....	23

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**Comments of the Ad Hoc  
Telecommunications Users Committee**

The Ad Hoc Telecommunications Users Committee ("Ad Hoc"), representing large corporate telecommunications users across the country, hereby comments on the Commission's June 2, 1999 Notice of Proposed Rulemaking ("Notice") in the above captioned proceeding.<sup>1</sup> Ad Hoc strongly

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<sup>1</sup> *In the Matter of Numbering Resource Optimization, CC Docket 99-200, Connecticut Department of Public Utility Control Petition for Rulemaking to Amend the Commission's Rule Prohibiting Technology Specific or Service-Specific Area Code Overlays, RM No. 9258, Massachusetts Department of Telecommunications and Energy Petition for Waiver to Implement a Technology-Specific Overlay in the 508, 617, 781 and 978 Area Codes, NSD File No. L-99-17,*

supports the Commission's goals of: (1) assuring availability of numbering resources to all service providers;<sup>2</sup> (2) minimizing impacts upon consumers and overall societal costs associated with number resource policy;<sup>3</sup> (3) maintaining maximum competitive neutrality in number resource policy and administration;<sup>4</sup> and (4) preventing, for as long as possible, the exhaust of existing number resources within the North American Numbering Plan.<sup>5</sup> The Commission should consider a broad range of options for addressing the current numbering crisis and should allow the states to adopt number conservation measures that have been foreclosed under prior Commission decisions.

Ad Hoc members have already experienced first-hand the expense and disruption to their businesses caused by the rapid proliferation of area codes in recent years. For this reason, the Ad Hoc Committee became an early and ardent advocate of numbering reform, with its white paper, "Where Have All the Numbers Gone?", which was issued and submitted to the Commission in March, 1998.<sup>6</sup> However, as the Commission has recognized, the costs and disruptions

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*California Public Utility Commission and the People of the State of California Petition for Waiver to Implement a Technology-Specific or Service-Specific Area Code*, NSD File No. L-99-36, Notice of Proposed Rulemaking, FCC 99-122 (rel. Jun. 2, 1999) ("Notice").

<sup>2</sup> Notice, at para. 6.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Where Have All the Numbers Gone?*, prepared for the Ad Hoc Telecommunications Users Committee and the International Communications Association by Economics and Technology, Inc., Boston, MA, March 1998.

that have been experienced to date are only the tip of the iceberg. Continued failure to manage numbering resources well will lead to the inevitable and unthinkable exhaustion of the nation's telephone number resources – the North American Numbering Plan ("NANP").<sup>7</sup> Moreover, further delay will only exacerbate the current crisis, since the availability of options and the potential effectiveness of the currently available solutions, is diminished over time, as numbering resources continue to be used inefficiently.

Telecommunications carriers and their industry organizations have not effectively dealt with the disruptive and economically wasteful trend of NPA proliferation and, ultimately, NANP exhaust. The consensus-based decision-making process employed by the industry organizations to deal with numbering issues is a ponderous process that favors a "least-common-denominator" solution. Incumbent carriers and new entrants spar over numbering issues with each seeking to serve their respective competitive and economic interest. Lost in the process, however, are the interests of the customers who contend with the inconvenience and expense of area code proliferation, changes in dialing

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<sup>7</sup> The NANP provides a uniform 10-digit format, with a three-digit area code, a three-digit central office code, and a four digit number to identify individual subscriber lines within the central office code. Most other numbering plans worldwide have no uniformity or consistency in the number of digits used for area codes or telephone numbers or in their respective numbering formats. The NANP, in its original design, permitted area codes to be easily distinguished from central office codes in that the second digit of an area code was always '0' or '1' (the 'N0/1X' format), whereas the second digit of the central office code was never '0' or '1' (the 'NNX' format). Thus, under the original design, the prefix digit '1' could be used to differentiate between "local" and "toll" calls. Beginning in the late 1980s, "interchangeable" central office codes (*i.e.*, codes of the "NXX" format that could have a '0' or a '1' as the second digit) were assigned in some numbering plan areas (NPAs) and, as of January 1, 1995, all area codes and central office codes were permitted to adopt this interchangeable 'NXX' format. Consequently, today the function of the '1' prefix digit is solely to identify the following three digits as an area code rather than a central office code.

requirements, and other attendant disruptions. It is time for the Commission and state PUCs operating under authority delegated to them by the Commission, and pursuant to Commission policies, to take more direct control of number policy and the rules under which that policy is implemented. Absent such intervention the unthinkable NANP exhaust will happen far too soon.

**A. Area Code Proliferation Creates Huge Societal Costs**

As Ad Hoc first described to the Commission over a year ago, in its white paper, *Where Have All the Numbers Gone?*, area code proliferation, whether implemented by means of a geographic split or by an all-service overlay, causes serious and costly problems, particularly for business customers.<sup>8</sup> A forced change in a business telephone number imposes costs to reprint business stationery, as well as signage and advertising materials. In addition, there are significant administrative costs associated with reprogramming PBXs, revising internal directories, and updating employee and customer databases. No less significantly, affected firms must aggressively communicate their new telephone number to current and prospective customers or risk losing business when those customers are unsuccessful in retrieving the changed telephone number. Businesses, like residents, also derive benefits from the historic association of their telephone number with a particular community, an affiliation that is broken when the number is changed. The costs of telephone number changes are felt particularly acutely by non-profit institutions and government agencies, which

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must spend limited resources on updating databases and incur the expense associated with increasingly inaccurate records. Similar to other businesses, the effectiveness of non-profits and government agencies is harmed when the information necessary to stay in contact with those who depend on their services is impaired by the constant flux in telephone numbers.

Widespread area code and related dialing changes have also had significant financial and social consequences for individuals. Once the initial “permissive dialing period” has expired, the user’s old telephone number is subject to reassignment to a new customer. The impact of such number changes is compounded as the frequency with which the introduction of new area codes increases. In some parts of the country, communities have been confronted with as many as three different numbers within periods of time as short as nine years.<sup>9</sup> In a society where numbers have become almost as important as names, frequent forced number changes are extraordinarily disruptive and those adverse consequences and impacts must not be lightly dismissed. Consumers have also been forced to accept and to learn complex new dialing patterns to complete local calls within their communities. This creates potential public safety concerns, particularly for small children and the elderly, who may encounter

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<sup>8</sup> See *supra* note 6, at 20-24.

<sup>9</sup> In Boston, for example, the 508 area code was split off from the original 617 code in 1988, and the 617/781 and 508/978 splits took place in 1997. Other examples include Los Angeles, where 310 was split from the original 213 area code and then 310 split again with the introduction of the 562 area code in 1996, and Chicago, where 312 was split, first creating the 708 NPA in 1988, followed by the post-1995 introductions of 630, 847, and 773.

difficulties in remembering their telephone numbers and in using the new mandatory dialing protocols.

While these broad direct and indirect costs to individuals, businesses and the non-profit and governmental sectors are very high, they pale in comparison to the societal costs that could be anticipated from a need to expand the current 10-digit NANP. In addition to all of the costs reviewed above, the need to add digits could create a host of technical and administrative problems that must be solved and implemented throughout the public telephone network and in private equipment and systems. An expansion of the numbering plan would also necessitate the revision of core parameters in generic and proprietary databases nationwide (and beyond). It is not unreasonable to project such a change would rival the social and economic disruptions costs associated with addressing "Y2K" computer issues.

#### **B. NANP Exhaust Is Unthinkable And Must Be Avoided**

The Notice considers the possibility of expanding the NANP as a long-term solution to number exhaust and asks parties to consider the range of possible costs to society for such a major overhaul of the numbering plan.<sup>10</sup> The Ad Hoc Committee strongly urges the Commission to abandon any serious consideration of adding digits to the NANP, because (1) effective conservation measures can successfully overcome the trend toward number exhaust and (2) because the societal impact of NANP expansion is so high that virtually any

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<sup>10</sup> Notice at paras. 31-34.

measure necessary to restore vitality to the current NANP will be a lower-cost solution. Moreover, without effective conservation measures, it is not clear that the current numbering plan can be preserved long enough to complete the planning, development, and implementation of a broadly revised NANP.

The 10-digit North American Numbering Plan provides a theoretical capacity of approximately 6.4-billion unique telephone numbers.<sup>11</sup> As of February 1999, there were 328 million numbers in use, according to the Lockheed Martin Number Utilization Study.<sup>12</sup> Given that under the present NANP structure, 95% of the theoretical capacity of the NANP is still available for assignment, the problem is clearly not simply a number shortage. In fact, the proliferation of codes despite the low overall utilization of numbers results from the fact that the NANP is highly fragmented. Individual NXX codes are currently confined to a single rate center and to a single carrier within that rate center. NPAs are generally confined to a single state, province (in Canada), or country (in the Caribbean<sup>13</sup>). While some of this fragmentation is inherent in any

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<sup>11</sup> There are 792 possible area codes and service access codes (this assumes that 'N11' codes are not used for this purpose). A geographic area code has a theoretical capacity of 792 central office codes, although the quantity is usually slightly less due to the deliberate exclusion of certain digit sequences, such as those used for adjacent area codes, from assignment within an NPA. Service access codes (SACs) have a theoretical capacity of 1,000 central office codes, since codes of the 0XX and 1XX format may be assigned in a SAC. Each central office code has a capacity of 10,000 individual numbers.

<sup>12</sup> *Number Utilization Forecasts and Trends*, submitted by NANPA Lockheed Martin CIS, (Feb. 18, 1999), at 8. ("Number Utilization Study") Lockheed identifies 202 million ILEC numbers in use, 8-million CLEC numbers in use, 70-million CMRS numbers in use, and 49-million paging numbers in use.

<sup>13</sup> This is actually a recent development. Prior to 1995, all 16 Caribbean countries, together with Puerto Rico and the US Virgin Islands, shared the '809' area code. When interchangeable codes became available after 1995, separate area codes were assigned to each country creating

geographically-based numbering plan, much of it can be eliminated through effective number resource management. Many of these solutions have been identified, explored, and even implemented to some degree. Number pooling in any of its various forms can enable several carriers to share the same NXX code within the same rate center. Rate center consolidation can allow the same NXX codes to be used over a wider geographic area. Specialized non-geographic overlays and SACs can allow the same 3-digit area code to cover a wider geographic area, or (for example, in the case of 800/888/877) the entire NANP region. These measures, if pursued without further delay and with the concerted assistance of state Public Utilities Commissions (“PUCs”), can succeed in reversing the alarming trend toward number exhaust and restore the NANP.

While each of the number conservation and management measures that could be implemented creates certain costs and other impacts, none can begin to compare with the potential cost of expanding the NANP, which have been estimated as between \$50 and \$150 billion.<sup>14</sup> As the Commission notes, “These estimated costs [of NANP expansion] are substantial, and would, we believe, significantly outweigh the cost of implementing all or most of the numbering resource optimization solutions proposed in this Notice.”<sup>15</sup> Although the exact

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a total of 18 NPAs where there previously had been only one. Many of the new NPAs have extremely few NXX codes; Anguilla and Turks & Caicos, with the fewest, currently each have only two working NXX codes within their NPAs (262 and 649, respectively). It would appear that whoever made the decision to further fragment the NANP in this manner did not contemplate the fact that this action would serve only to accelerate the exhaust of NANP NPA codes.

<sup>14</sup> Notice at para. 34, citing NANC Meeting Minutes, Feb. 17-18, 1999.

<sup>15</sup> Notice at para. 34.

number may be hard to determine, any reasonable estimate, extrapolated from experience with far more modest numbering changes, should lead the Commission to conclude that the costs and disruptions associated with NPA exhaust and NANP expansion are so massive that virtually any measure that avoids this result would be a net benefit for society.

Implementation of a NANP expansion would require many years to accomplish and would necessarily have to be done in stages. For discussion purposes, the Commission has suggested a possible range of between two and ten years<sup>16</sup> for NANP expansion. The enormous time and resources required can be roughly understood by considering the timeframes typically required for the much more confined undertakings of introducing a new area code. For example, the ILECs typically require between 6 and 18 months for switch and routing table reprogramming in order to introduce a new area code either via a geographic split or an all-services overlay.<sup>17</sup> This is an extremely labor-intensive, manual process that only a limited number of individuals are qualified to perform even though the creation of a new area code does not typically require or involve any modifications or upgrades to the switch software itself, only to routing tables. By contrast, a new NANP format would undoubtedly require carriers to purchase, install and test operating system upgrades prior to the manual entry of new

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<sup>16</sup> Notice at para. 33.

<sup>17</sup> *Citizens Utility Board Petition To Implement A Form Of Telephone Number Conservation Known As Number Pooling Within The 312, 773, 847, 630 and 708 Area Codes.*; *Illinois Bell Telephone Company Petition for Approval of an NPA Relief Plan for the 847 NPA*, 97-0192; 97-0211 (Consol.), Order, 1998 Ill. PUC LEXIS 368, at pp. 28-29; NANC Report, at Sections 12.1

routing information. Work force additions would undoubtedly be required, which would itself involve time for recruitment and training, and with the increased use of less experienced personnel the potential for error will be increased.

If it takes as long as two years to accommodate a single new area code, then it is highly conceivable that overhauling the entire NANP could take ten (or more) years, once a fully specified plan were adopted in final form. These estimates suggest that no comprehensive plan for expanding the NANP could be implemented before NPA exhaust.

Moreover, the Commission should recognize that all of the expenditures and commitment of human resources that would be associated with NANP expansion will contribute nothing whatsoever to national productivity. It would simply constitute an enormous, nonproductive hit to the economy. It would be a dead-weight loss that could be avoided through prompt and aggressive Commission action.

Many of the tentative conclusions in the NPRM show that the Commission is on the right path. Now, the Commission must promptly adopt a firm national policy that eliminates artificial roadblocks to pursuing the widest range of effective number resource management solutions in a expedient and systematic fashion.

**C. State PUCs Should Immediately Be Given Discretion To Pursue A Broader Range Of Number Optimization Measures.**

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and 14.1..

The state commissions have been on the front lines of the area code crisis, yet their ability to respond quickly and effectively has been constrained by institutional and regulatory conditions largely outside their control. The states are often unaware of the prospective need for a new area code until NANPA declares a jeopardy condition for projected exhaust of the code, by which time creating a new area code (using either a geographic split of an all-services overlay) becomes the only available solution. By maintaining a ban on the use of service- or technology-specific overlays<sup>18</sup> and limiting number pooling and related conservation measures,<sup>19</sup> the FCC has foreclosed the states from considering some of the most effective number conservation alternatives. Finally, the institutional processes for number administration, which rely on service provider “consensus” provides virtually no opportunity for any consumer interests to be heard, and the industry often portrays “code holders” as the only stakeholders whose positions are entitled to be given weight in the PUCs’ deliberations over numbering issues. The result is that industry convenience is most always put ahead of consumers’ interests.

This situation can be turned around by the Commission through affirmative reform in the context of the present rulemaking. Many states PUCs

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<sup>18</sup> *In The Matter of Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech – Illinois*, IAD File No. 94-102, Declaratory Ruling and Order, 10 FCC Rcd 4596 (1995).

<sup>19</sup> *In the Matter of Petition for Declaratory Ruling and Request for Expedited Action on the July 15, 1997 Order of the Pennsylvania Public Utility Commission Regarding Area Codes 412, 610, 215, and 717*, NSD File No. L-97-42; *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Memorandum Opinion and Order and Order on Reconsideration, 13 FCC Rcd 19009 (1998).

(e.g., California, Connecticut, Florida, Maine, Massachusetts, New York, and Pennsylvania) have petitioned to the FCC seeking modifications in FCC-imposed limitations on state actions in the areas of specialized overlays, dialing protocols, and number pooling.<sup>20</sup> The states have sought this flexibility to respond to the ever-intensifying consumer concerns about the negative impacts of area code proliferation.

Ad Hoc encourages the Commission to now give the states more authority to pursue more flexible number pooling solutions as well as service- and technology-specific overlays.

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<sup>20</sup> Common Carrier Bureau Seeks Comment on a Petition of the California Public Utilities Commission and the People of the State of California for Delegation of Additional Authority Pertaining to Area Code Relief and to NXX Code Conservation Measures, NSD File No. L-98-136, Public Notice, DA 99-928 (rel. May 14, 1999); Common Carrier Bureau Seeks Comment on a Petition of the California Public Utilities Commission and the People of the State of California for a Waiver to Implement a Technology-Specific or Service-Specific Area Code, NSD File No. L-99-36, Public Notice, DA 99-929 (rel. May 14, 1999); Connecticut Department of Public Utility Control Files Petition for Rulemaking, Public Comment Invited, RM No. 9258, Public Notice, 13 FCC Rcd. 7416 (rel. 1998) (Connecticut Petition); Common Carrier Bureau Seeks Comment on the Florida Public Service Commission's Petition for Authority to Implement Number Conservation Measures, NSD File No. L-99-33, Public Notice, DA 99-725 (rel. April 15, 1999); Common Carrier Bureau Seeks Comment on the Maine Public Utilities Commission's Petition for Additional Authority to Implement Number Conservation Measures, NSD File No. L-99-27, Public Notice, DA 99-638 (rel. April 1, 1999); Common Carrier Bureau Seeks Comment on Massachusetts Department of Telecommunications and Energy Petition for Waiver to Implement a Technology-Specific Overlay in the 508, 617, 781, and 978 Area Codes, NSD File No. L-99-17, Public Notice, DA 99-460, (rel. March 4, 1999); Common Carrier Bureau Seeks Comment on Massachusetts Department of Telecommunications and Energy Request for Additional Authority to Implement Various Area Code Conservation Methods in the 508, 617, 781, and 978 Area Codes, NSD File No. L-99-19, Public Notice, DA 99-461 (rel. March 5, 1999); Common Carrier Bureau Seeks Comment on New York Department of Public Service Petition for Additional Authority to Implement Number Conservation Methods, NSD File No. L-99-21, Public Notice, 14 FCC Rcd. 3601 (rel. March 5, 1999); Pennsylvania Public Utility Commission Petition for Expedited Waiver of 47 C.F.R. § 52.19 for Area Code 412 Relief, CC Docket No. 96-98, Order, 12 FCC Rcd 3783 (1997).

#### **D. Preferred Number Conservation Solutions**

Of the number conservation measures identified in the Notice, two categories have the greatest promise of providing a “new lease on life” to the NANP. These are number pooling solutions and service- and technology-specific overlays.

##### *1. Number pooling.*

LRN-based Local Number Portability (LNP) has been implemented in most major market areas with the result that the technology needed to support number pooling in any of its various forms is now in place. Some states, notably Illinois and New York, have already proceeded with 1000-block pooling.<sup>21</sup> At this point, the Commission should permit states, at a minimum, to order 1000-block pooling and to establish thresholds regarding “contaminated” number blocks. The LRN LNP technology already deployed is also fully capable of supporting Unassigned Number Porting (“UNP”). The adoption of UNP could make large quantities of individual numbers available to CLECs, without the need for them to employ full 10,000-number NXX codes in each rate center. Moreover, the Commission should not be dissuaded from making this option available because of ILEC objections to alleged administrative burdens of participating in UNP. When ILECs are permitted not to participate in UNP on the grounds of administrative cost, they are essentially shifting those costs directly to consumers, who are left to pay the price of area code proliferation and,

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<sup>21</sup> Notice at para. 28, note 42.

ultimately, of NANP exhaust. If ILECs were made to internalize the costs that they create for businesses and residential customers by not participating in more flexible number pooling solutions that take advantage of consumer-funded number pooling technology, the administrative burden of which they complain might seem far less serious. Certainly, states should be encouraged, not inhibited, from considering and implementing UNP on an interim basis, should the FCC require additional time to adopt final number resources policies.

2. *Specialized overlays.*

In the past, the Commission has prohibited the states from using service- or technology-specific overlays as number relief solutions. The basis for the prohibition has been that such measures may competitively disadvantage one service vis-à-vis others. At the same time, several categories of service providers have either been exempted or received substantial deferrals from the requirement to participate in local number portability,<sup>22</sup> specifically on the basis of technical impediments to their participation.<sup>23</sup> At the very least, the Commission should permit states willing to pursue a number pooling solution to require that any service provider that does not participate in LNP either because of an FCC-

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<sup>22</sup> *In the Matter of Telephone Number Portability*, CC Docket No. 95-116, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352 (1996) ("First Report and Order"), at para. 156 (exempts paging providers). In the Matter of Cellular Telecommunications Industry Association's Petition for Forbearance from Commercial Mobile Radio Services Number Portability Obligations and Telephone Number Portability, WT Docket No. 98-229 and CC Docket No. 95-116, Memorandum Opinion and Order, 14 FCC Rcd 3092 (1999), at para. 1 (grants a deferral of LNP requirements until at least November 24, 2002 for CMRS providers).

<sup>23</sup> First Report and Order, at ¶¶ 144-148. Some have argued that these claimed technical impediments could be overcome by the infusion of capital by these carriers.

granted exemption or deferral be transferred out of the geographic NPA and into an overlay NPA that has been specifically established for *non-LNP-capable* services. The Commission should also allow the states to require that existing customer numbers be transferred to the new NPA, much as has been required for conventional wireline telephone subscribers in the case of geographic splits.

The wireless industry's recent push to obtain "calling party pays" ("CPP") provides another reason for use of a unique service-specific area code. Presently, large users control toll and other forms of premium-priced calls placed by employees by programming their PBXs to block the calls or to require a "charge code" that allows internal tracking of the department or individual responsible for placing the call. Without such a mechanism, large users have no protection against incurring unauthorized charges for such calls. A more insidious version of this problem could arise under CPP, because, without any distinctive numbering characteristics to the CPP number, the employee might not even be aware that the number he or she is calling would be billed back to the employer, most likely at a premium charge. The Ad Hoc Committee strongly supports the assignment of one or more Service Access Codes ("SACs") as the most efficient means to addressing this problem.<sup>24</sup>

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<sup>24</sup> Ad Hoc intends to address this issue more fully in comments to the Commission in *Calling Party Pays Service Offering in the Commercial Mobile Radio Services*, WT Docket No. 97-207, which are due on August 18, 1999.

3. *Rate Center Consolidation Is Advisable; SS7-Based Rating Is Not.*

As the Commission has recognized and as some states have already begun to explore,<sup>25</sup> rate center consolidation is one measure that could contribute to number conservation. The Ad Hoc Committee supports rate consolidation as one of several number conservation measures.

Rate center consolidation can reduce the future demand for NXX codes, prolonging the life of a given area code, but this measure is only effective in conjunction with other number conservation measures and only if the rate center consolidation occurs early in the life of the particular area code. Thus, while states should be encouraged to consider rate center among the measures for number conservation, this approach should not be mandated nor should it be given higher priority than number pooling and other more effective measures.

As a possible alternative to rate center consolidation as a means for conserving the use of NXX codes, the Notice seeks comment on “whether there are ways to separate the call rating functions, from the call routing functions, which would result in a reduced demand for NXX codes.”<sup>26</sup> The Commission specifically refers to the suggestion of the Colorado Telephone Numbering Task Force, which, it states, “recommends eliminating the link between call rating and NXX codes by investigating the possibility of using the Signaling System 7 (“SS7”) network, rather than the current reliance on associating NPA-NXXs with

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<sup>25</sup> Massachusetts D.T.E. 98-38, Investigation to Determine the Need for New Area Codes and Whether Measures can be Implemented to Conserve Exchange Codes within Eastern Massachusetts.

<sup>26</sup> Notice at para. 119.

the specific vertical and horizontal (V&H) coordinates of a rate area to transmit the information required for the rating and routing of every call.”<sup>27</sup> Such de-linking of call rating and routing, *even if feasible as a technical matter*, would represent a fundamental and far-reaching revision in one of the two bedrock functions of the numbering plan. Customers understand that the treatment (local v. toll) and price of a given call is determined by the NPA-NXX of the called number. It is likely that every white pages telephone directory published in the United States contains consumer information defining the “local calling area” specifically on the basis of NPA-NXX codes. PBXs and other business/institutional/government telephone systems screen calls on the basis of the NPA-NXX both usage accounting, call restriction, and customized routing purposes.

Under SS7-based call rating solution, the called party’s central office switch would be required to return to the calling party’s central office switch the identification of the specific rate center to which the called number has been assigned. The calling party’s switching would have the process this information for billing and, perhaps, for customer notification purposes (*i.e.*, to inform the calling party that the call will involve a long distance toll charge), in the latter case signaling the calling party in “real time” that the call he/she has just placed will involve a toll charge. Some means will need to be found to provide this same time of rating information to PBX systems. Currently few, if any, PBX systems

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<sup>27</sup> *Id.*, footnote omitted.

possess the capability to process and react to SS7 signaling and information messages; billions of dollars would likely be required to upgrade and/or replace this non-SS7-capable installed base.

Inasmuch as any cost differences as between calls rated as "local" and those rated as "toll" have all but disappeared, and inasmuch as distance is no longer a consequential cost driver for any "toll" calls, it seems utterly pointless to impose massive costs and confusion for the dubious purposes of preserving an anachronistic pricing structure that makes artificial and arbitrary distinctions between "local" and "toll" and/or that sets the price of a given call on the basis of the distance between the calling and called parties' respective rate centers. Rate center consolidation and the resulting expansion of local calling areas, will both serve to conserve number resources as well as to eliminate obsolete pricing methods. No valid purpose will be served in either respect by eliminating the call rating function of the NANP by overlaying costly SS7 technology in an area where this additional complexity, even if technically feasible, cannot be economically justified.<sup>28</sup>

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<sup>28</sup> While the Committee has not specifically analyzed the technical feasibility of call rating via SS7, it has serious doubts as to its practicality and technical feasibility. Operating system software upgrades, and possibly complete switch replacements, might well be required in the majority of central office switches; massive customer education and training will be required; LECs will be forced to expend additional resources addressing and resolving billing disputes; and business/institutional/government users will be required to acquire the SS7 capability in their unwanted and potentially excessive charges for individual calls. The Commission should also be mindful of the potential for fraud and abuse, where the called party's central office switch would be empowered to "rate" calls addressed to it and where the carrier serving that switch has no direct relationship with the calling party.

4. *Administrative measures.*

Ad Hoc agrees with the Commission's observation that "[u]nder the current system for allocation of numbering resources,... it is difficult for the industry to police itself effectively, given that each carrier has an incentive to obtain as many numbers as possible, especially in places where area codes are rapidly reaching exhaust."<sup>29</sup> Ad Hoc supports the Commission's proposal to introduce greater discipline and accountability into the current process for allocating and administering numbering resources,<sup>30</sup> through the implementation of rules that clearly define basic terms (such as the categories of number usage), set utilization standards, establish reporting requirements, and provide for more systematic auditing of number use. A resort to Commission intervention in this area may strike some as unwarranted, after years of near-complete industry autonomy. However, the voluntary guidelines and self-administration have failed. With respect to concerns that the Commission expresses about number hoarding and "reserved" numbers, Ad Hoc agrees that reform is necessary. However, the Commission should not take any action that would interfere with users' ability to preserve uncontaminated, consecutive numbers for direct inward dialing to large PBX systems or that prevent the user from having its carrier set aside a reasonable reserve of numbers at a customer's request for the customer's anticipated future needs. Customers should not be restricted to an arbitrary and absolute limit of reserved numbers; if there is a limit specified, it would be

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<sup>29</sup> Notice at para. 35.

preferable to define it as a percentage of the customer's existing, working lines, rather than a fixed amount that would apply to every customer regardless of size.

**E. Measures Which Should Be Deferred And/Or Adopted Only If Primary Measures Prove Inadequate.**

*1. Charging for numbering resources as a means of encouraging number conservation*

At paragraphs 225-240 of the NPRM, the Commission solicits comment on the possibility of charging carriers for numbers as a method of discouraging them from requesting more numbers than they actually need. The Commission suggests that this method "could ensure that remaining numbering resources are allocated to those carriers and end users that need and value them the most."<sup>31</sup>

In theory, providing economic signals as a means of encouraging more efficient allocation of limited resources makes some sense. However, the application is flawed in this case for several reasons. First, as the Commission appears to recognize, the added cost and administrative burden will fall disproportionately on new entrants who are in the process of expanding and do not possess the vast number reserves that are presently held by incumbents. This disadvantage could be magnified if number resources were subject to an "auction" approach. Such an approach would permit numbering resources to capture economic rents for the wealthiest participants, a condition that would again reinforce competitive advantages in incumbent providers. Second, there

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<sup>30</sup> Notice at ¶ 37.

<sup>31</sup> Notice, at ¶ 227.

will not be an efficient economic signal under the current system of number assignment and utilization, because carriers are required to obtain far more numbers (an entire NXX per ILEC rate center) than they actually require. It is not reasonable to penalize providers for taking more numbers than they need or want, when numbers are only available in blocks of 10,000. Ad Hoc believes that any proposal to charge for telephone number resources is premature and that a great deal more consideration and analysis should occur before any plan to charge for numbering resources is adopted.

2. *Mandatory 10-digit dialing*

In its NPRM, the Commission solicits comment on mandatory ten-digit dialing (which the Commission describes as the dialing of ten digits for all calls, regardless of whether they are inter-NPA or intra-NPA and rated as local or toll<sup>32</sup>) as a number resource optimization measure.

The Ad Hoc Committee urges the Commission to dismiss further consideration of mandatory ten-digit dialing as a national number conservation measure. As a threshold matter, there is every reason to utilize the existing capabilities of LNP to enhance number conservation measures that can make use of those capabilities. At this point, there is widespread deployment of the LNP capability in all major telecommunications market areas<sup>33</sup>, and that

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<sup>32</sup> Notice, at ¶ 123.

<sup>33</sup> First Report and Order, at para. 2. The Commission required full LNP implementation, pursuant to Section 251(b)(2) of the Telecommunications Act of 1996 in the 100 largest market area (MSAs) by February 1, 1999. In the Matter of Telephone Number Portability, CC Docket No. 95-116, Third Report and Order, 13 FCC Rcd. 11701 (1998), at para. 142. However, wireless

capability can be employed to provide a range of superior number optimization measures. Customers are paying for that capability – under LNP tariffs filed with the Commission earlier this year, ILEC customers will be paying in excess of \$738 million annually to reimburse ILECs for LNP implementation costs<sup>34</sup> – but have yet to reap any significant benefit from this enormous investment.<sup>35</sup> Using LNP for achieving number resource optimization can contribute a significant benefit to consumers and should be fully utilized before relying on highly inconvenient non-LNP reliant measures, such as mandatory 10-digit local dialing.

Ten digit dialing of calls within the same area code has many significant drawbacks, and has been universally unpopular with residential and business consumers. For all customers, it is inconvenient and confusing, and causes a significant increase in both dialing errors and unwanted long distance charges.

On the other side of the coin, there are minimal benefits of nationwide 10-digit dialing as a number resource optimization measure. Neither of the two specific potential benefits identified by the Commission (eliminating the need for “protected codes” and using the digits '0' and '1' in central office codes) holds the potential to make a significant difference. The actual quantity of protected NXXs

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services are either exempt altogether (paging) or have been allowed to defer LNP implementation until November 2002.

<sup>34</sup> LNP cost recovery is scheduled to occur for five years. Thus, the approximate total cost of implementing LNP is \$3.7 billion. *Investigation Produces Lower Number Portability Charges for Customers of Ameritech, GTE, Pacific Band Southwestern Bell*, CC Docket No. 99-35, New Release, Report No. CC 99-24, July 1, 1999. Bell Atlantic Transmittal No. 1111, filed March 2, 1999; chart 2b. BellSouth Transmittal No. 502, filed April 30, 1999; Appendix A, Workpaper 1.

<sup>35</sup> As of June 1999, only 2.2 million ILEC telephone numbers were actually being “ported” to CLECs, implying an annual cost per ported number of \$329. See *supra* note 35. *Active Subscriptions Versions Report*, Lockheed Martin IMS, Number Portability Administration Center

is typically very small (say, five or six codes).<sup>36</sup> This represents a small fraction (likely less than 1%) of the available codes. Given the highly disruptive effect of ten-digit dialing and the availability of vastly more effective measures, this “benefit” is certainly not worth pursuing.

The net benefit of using '0' and '1' as the initial digit in the central office code (creating 'XXX' codes) is also too low to be a worthwhile option. Given that the current low CLEC utilization rates (in the 5% range), the Commission could achieve far more benefit with far less disruption using number pooling and other LNP-based measures (particularly INP and UNP).

Thus, Ad Hoc recommends that the Commission establish principles which require states to fully exhaust the potential for LNP-based solutions before considering the highly disruptive approaches that depend on implementation of mandatory ten-digit dialing.

## CONCLUSION

Telecommunications carriers have administered the North American Number Plan in a manner that bluntly put is grossly wasteful and that imposes huge costs on society. Although only 328 million of the approximately 6.4 billion numbers in the North American Numbering Plan are in use, the country is facing the prospect of exhaust of the North American Numbering Plan. There is no

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(NPAC), available at [www.npac.com/docs/sv\\_cnt.txt](http://www.npac.com/docs/sv_cnt.txt).

<sup>36</sup> NXX codes correspond to adjacent NPAs are not assigned to avoid dialing errors. For example, '202' (the NPA for Washington, DC) would not be used in the '301' and '703' NPAs in suburban Maryland and Northern Virginia.

shortage of numbers. Instead, because of the carriers' respective parochial interests, they have badly mismanaged the country's number resources.

The Commission must assume an active role in curing this problem. It would not be surprising if some carriers argue that Commission intervention would be inconsistent with deregulatory efforts. Just as the Commission has an important role in managing the radio spectrum, it has an important role in managing the country's number resources when the industry proves itself unwilling to manage the North American Numbering Plan in a manner that is consistent with the public interest.

Accordingly, Ad Hoc urges the Commission to adopt number resource conservation policies that are consistent with these comments.

Respectfully submitted,



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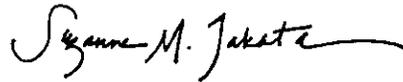
Counsel for  
The Ad Hoc Telecommunications  
Users Committee

July 30, 1999



## Certificate of Service

I, Suzanne M. Takata, hereby certify that true and correct copies of the preceding Comments of the Ad Hoc Telecommunications Users Committee in CC Docket No. 99-200, Numbering Resource Optimization, were served this the 30<sup>th</sup> day of July, 1999 upon the following parties via hand delivery.



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Suzanne M. Takata

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FCC File Confirmation # is: 1999730567085

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## **ATTACHMENT 3**

**Diskette containing the Comments of  
the Ad Hoc Telecommunications Users  
Committee in WordPerfect 5.1**