Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	

NOTICE OF PROPOSED RULEMAKING

Adopted: May 27, 1999 Released: June 2, 1999

Comment Date: July 30, 1999
Reply Comment Date: August 30, 1999

REPLY COMMENTS OF INENA

INENA (Illinois chapter of National Emergency Number Association) hereby submits Reply Comments on the above-captioned Notice of Proposed Rulemaking reference Number Resource Optimization, CC Docket No. 99-200.

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I. SUMMARY

1. We are not quite sure which old tale best describes ourselves. Are we more like the little Dutch child with the finger in the dike, or are we more like the small child saying “Look, mommy, the emperor has no clothes” as the parade goes by?

2. While there are some extremely good standouts, we were shocked to find no mention of 9-1-1 impacts in so many filed comments, amounting to thousands of pages.

3. Rate center consolidation, number pooling and its various flavors, the different area code methods—all impact 9-1-1. Where degrading the level of 9-1-1 service for customers is most possible, the effect will be mostly to customers of the new or competitive local service providers, be they wireline, wireless, or hybrid Internet based.

4. The concerns are what is the extent of the negative impacts, can anything be done to correct the negative impacts, what will the solutions cost, and how are they paid for.

5. We have no intention of offering any suggestions as to the value of the various number resource optimization methods being mentioned, however, we wish to expand on our initial filed comments concerning what should be done, particularly if rate center consolidation and number pooling increase in implementation across the country.

6. To minimize negative impacts to 9-1-1 users (those people who daily call for help, particularly in life-threatening and property-endangering situations) we offer two major changes that must be implemented.

7. The first is to improve the 9-1-1 network, so that it does not utilize technology replaced several years ago in the regular telephone network. The use of SS7 technology would virtually eliminate the garbling of caller phone numbers when a 9-1-1 call is placed. This solves the default routing problem that plagues 9-1-1 administrators across the country, regarding ANI (automatic number identification) failures.

8. The second is to improve the 9-1-1 databases’ processing flows, so that they are not dependent on computer batch processing of records, very often done only once per day. We doubt whether there are many major companies today utilizing batch processing for business-critical information that is accessed and needed several times during each business day.

9. Not only would timely updating of 911 databases, significantly decrease the need for default routing of a call when the customer's address routing record has not been entered, it would significantly improve the accuracy of customer records, especially for the competitive local service providers porting customers from other carriers.

II. INTRODUCTION

10. The Illinois chapter of the National Emergency Number Association has taken an active participatory role in the Midwest Region number portability and pooling committee structure since November 1996. That participation has included attendance at Midwest LNP (local number portability) steering and operations committee meetings, along with the special LNP test team committee and a 9-1-1 subcommittee temporarily established in January 1997.

11. INENA members involved in these and other telecommunications industry working groups have included those involved in the day to day supervision and operations of 9-1-1 PSAPs (public safety answering points) and others involved in the local governmental oversight and maintenance of 9-1-1 MSAG (master street address guide) and 9-1-1 ALI (automatic location identification) databases, which are key components to the successful operation of E9-1-1 (enhanced 9-1-1, which includes routing 9-1-1 calls based on the address information of the caller and displaying that information to assist the 9-1-1 calltaker.

12. INENA, the founding chapter of NENA, includes among its voluntary membership, a wide range of people involved in 9-1-1; from those who serve on ETSBs (emergency telephone system boards, which govern almost all Illinois municipal and county 9-1-1 systems under the state's 9-1-1 law) to those involved in direct management, supervision, operation, and support services of very large to small 9-1-1 systems.

III. SOFT DIAL TONE

13. In our original comments, we stated our belief that if soft dial tone was used by a local service provider, the two 9-1-1 databases (for address routing and address record display to the call taker) should include the appropriate entries.

14. In filed comments, GTE stated that such numbers are used to allow customers to establish service with a carrier and allow "access to public safety agencies (i.e. 9-1-1)" and that their assignment should remain available at the discretion of each carrier. AT&T had similar comments, comparing their use to uninitialized wireless handsets being permitted to dial 9-1-1.

15. We are not opposed to their use as long as the 9-1-1 database entries are made, and any costs for that are borne by the carrier providing the service. Since it is provided so that a perspective customer can easily order phone service, it would seem logical that local 9-1-1 systems not have to pay for the needed 9-1-1 database entries.

IV. NUMBER POOLING

A. Routing.

16. In our original comments, we stated that number pooling, as with LNP, can create problems with default routing. We reiterate that and point out that these problems can be very difficult to solve.

17. Several months after LNP implementation in the Chicago metro area, MSA 1, and after extensive number pooling in the 847 area code (one of six in that area), these problems remain.

18. In comments filed with the FCC, AT&T stated "there is no cause for concern about potential adverse effects of number pooling on the provision of E911 services." MCI filed similar comments, stating "The public safety impacts for number pooling are no different than from LNP."

19. The Illinois filing, which combined the ICC (Illinois Commerce Commission), CUB (Citizens Utility Board) and others, stated that number pooling planning should involve public safety. Cox Communications stated that "the commission (FCC) should require that the impacts on E9-1-1 be established and addressed through field trials of pooling during the implementation period."

20. In Illinois, we have established that a default routing problem exists, however, it has still not been addressed and solved.

21. In LNP and current number pooling, the rate center is used as the NXX border. If that rate center involves more than one incumbent local service provider switch (central office), default routing can be a problem.

22. The incumbent carrier has special 9-1-1 trunks connecting each central/end office to the 9-1-1 selective router. Those trunks (or the NXXs allowable on them) can be identified and used to determine default routing in the event of a garbled phone number or a missing routing address record.

23. When a rate center involves more than incumbent central/end office, it must be remembered that the competitive local service provider is assigned NXXs by rate center, can port from another carrier by the rate center, and is assigned pooling thousand blocks by rate center.

24. The smallest common denominator for default routing purposes for a competitive local service provider is the rate center. In some rate centers, the default routing of the incumbent (which could go by end office) was to more than one 9-1-1 PSAP (public safety answering point). One PSAP could receive default routed calls from one central office, which had most, or all of its phone lines and customers within that PSAPs jurisdiction. Another PSAP could receive calls from another incumbent central office (still within the same rate center) because those customers were within its borders.

25. With LNP (and even more so, with number pooling, since greater numbers are involved), the competitive local service provider can only default its customers to one of the above mentioned PSAPs. And, to do so for garbled phone number calls, it must establish special 9-1-1 trunks for each rate center. Months into LNP and number pooling, only one competitive provider, out of about 15 in business today, has established special rate center trunks. If the rest also do so, they will overload the current Chicago metro area 9-1-1 selective router system.

26. Even with the special rate center 9-1-1 routing trunks, no competitive local service provider can match the incumbent local service provider, if there are multiple incumbent central offices within the rate center. The customers of the competitive local service provider do not have the same level of 9-1-1 service as the incumbent's, in a default routing circumstance.

27. The band-aid solution involves getting one 9-1-1 PSAP to agree to take default routed 9-1-1 calls that in the past went to another PSAP, and then transferring them back (after figuring out the address of the caller, who is in a jurisdiction not usually handled by the 9-1-1 call taker answering the phone).

28. The long range solution is to eliminate garbled phone number 9-1-1 calls (SS7 technology) and missing 9-1-1 address routing and address records in the database (triggered or timely updates at the time of dial tone rather than batch processing, which with two carriers involved, can easily take two days).

B. IVR

29. In our original comments, we discussed the Lockheed Martin CIS IVR, needed by emergency services and public safety today, particularly in an area with LNP, number pooling, and several competitive local service providers.

30. We were pleased to see that TX-ACSEC (Texas Advisory Commission on State Emergency Communications) stated in its comments that if the FCC is moving forward with LNP based number pooling, it "should also move forward with facilitating the enhanced IVR solution to address the telephone company identification problems created by LNP."

V. RATE CENTER CONSOLIDATION

31. In our original comments, we stated that rate center consolidation could potentially have the most negative impact on enhanced 9-1-1 of all of the various number resource optimization methods being considered.

32. SBC was the only RBOC to comment concerning 9-1-1 and rate center consolidation, stating that "technical and operational complexities with 9-1-1 call routing must be thoroughly studied as part of any rate center consolidation plan. GTE stated that it has completed rate center consolidation in a number of states "without having a major impact on the 9-1-1 systems in these states."

33. AT&T cautioned that "the state commissions should be encouraged to involve local 9-1-1 authorities in any rate center consolidation effort." The PCIA favored rate center consolidation "consistent with public safety requirements." Level 3 Communications stated "most significantly, E911 routing could be affected adversely if rate center consolidation is implemented in a haphazard manner…"

34. While the Adhoc Telecommunications Users Committee mentioned public safety concerns "particularly for small children and the elderly" regarding area code splits, its comments favoring rate center consolidation included no public safety mention.

35. WinStar Communications in its comments regarding rate center consolidation presented an excellent explanation of the default routing problem and stated "one solution might be a transition to S911 technology. This technology is based on Signaling System 7 rather than the older MF or Multi-Frequency technology…"

36. State utility commissions commenting that rate center consolidation plans should consider 9-1-1 impacts included California, Colorado, Minnesota, New York, Texas, and Virginia.

37. We were most interested in the comments filed by states we have known to implement large rate center consolidations.

38. TX-ACSEC stated some of the issues to be considered include "whether there is a Public Safety Answering Point (PSAP) that is willing to take default routed calls in the new larger consolidated rate center, and whether PSAPs,

telecommunications carriers, and state public utility commissions are willing to accept the degradation of service caused by class-marking if no PSAP is willing or able to accept being the default PSAP for a very large consolidated rate center." TX-ACSEC also stated that rate center consolidation was relatively simple in San Antonio and Fort Worth area, but "somewhat problematic" in the Dallas metro area.

39. The Colorado Public Utilities Commission comments stated it recently opened a docket "to examine the 911 network and the upgrades necessary to maintain integrity upon the implementation of various numbering resource optimization measures."

40. The Minnesota Department of Public Service comments include an explanation of how default routing has been accomplished in a multiple county rate center consolidation with the statement "this methodology also requires the carrier to identify the PSAP serving each of its customers to route any 911 call from a customer to a proper trunk group."

41. We were pleased to read that some local service providers did advise in their comments that there could be 9-1-1 impacts with rate center consolidation. Some state utility commissions also expressed concerns and so we are sure that in their states, 9-1-1 impacts will be considered before rate center consolidations.

42. The TX-ACSEC comments mentioned "the degradation of service caused by class-marking" as a 9-1-1 issue with rate center consolidation. In the Minnesota Department of Public Service comments concerning multiple county rate center consolidation, it mentioned the methodology used to route a carrier's customers to the proper trunk group, and that methodology (class marking) is the one referred to in the TX-ACSEC comments.

43. If a competitive local service provider installs a switch that serves a large area, not only including several rate centers but potentially several counties, it can indeed install special 9-1-1 trunks to PSAPs based on a county level or even a rate center level of default routing. However, how does the carrier's phone system know which trunk to place the 9-1-1 call on?

44. One solution appears to be to enter data in a certain field in the customer service record (class marking) that is a routing indicator for the competitive local service provider. It appears to us that the data is entered when the customer is signing up for service (talking with a telemarketer?). The codes are not entered by, edited by, audited by, or created by a system's 9-1-1 database provider. Rather than the system database we in 9-1-1 have been told for years is needed to effectively provide the proper routing service for 9-1-1 callers and that we pay for, this new one is created by each new local service provider in an area and is separate.

45. We believe that such a procedure can severely degrade the entire 9-1-1 database system, and appears to be another band-aid solution, albeit not a very good one, simply to accomplish rate center consolidation and keep 9-1-1 calls going somewhere.

46. We are most encouraged by the comments of the Colorado Public Utilities Commission which has opened a special docket in that state to determine what is needed to maintain the integrity of the 9-1-1 network in the future with the various number resource optimization methods.

47. As we mentioned in our summary, we support a 9-1-1 network that virtually eliminates the default routing problem we face with garbled phone numbers.

48. In addition though, we encourage the FCC and those concerned states, to closely examine the current status of the 9-1-1 routing and address databases. The address "no record found" 9-1-1 call is the most common, compared to the garbled phone number one, by far, requiring default routing.

49. These are often from 9-1-1 callers who have started their phone service in the prior one to three days, or have moved and kept their phone numbers during the last one to three days.

50. The current method of batch processing additions and changes to 9-1-1 routing and address databases, often once per day, creates this volume.

51. This batch method also means that when a customer moves and ports in a multiple county rate center, for at least several hours, that customer's routing and address records can be wrong. The 9-1-1 call can route to a PSAP in another county, several miles from the caller's location. Even if that customer's original records are deleted from the 9-1-1 database because the customer is moving, the delete doesn't occur until the batch processing time of day (if done daily, that could mean almost 24 hours later).

VI. WIRELESS LNP, POOLING AND RCC

52. In our original comments, we expressed concerns about wireless carriers and number pooling, because it appeared to further require that they be LNP capable.

53. In comments filed by many wireline carriers to this docket, we noticed that they in general, favored wireless carriers participating in number pooling. There appeared to be even one suggestion that their LNP FCC deadline be shortened so that they could take part in number pooling quicker.

54. In comments filed by wireless carriers, they seemed in general to be opposed to taking part in number pooling, while strongly favoring rate center consolidation and also expansion of their own version, extended local calling areas.

55. AT&T stated that wireless LNP is extremely difficult because of the separation of the MDN (mobile directory number) from the MIN (mobile identification number. (Our comment—with wireless LNP, the MIN will be located in the wireless phone, and the MDN, which is the customer's phone number, will be in a wireless carrier customer database.)

56. The PCIA comments supported rate center consolidation "consistent with public safety requirements." Nextel included a footnote about the wireless 9-1-1 implementation problems because of state variances concerning cost recovery and technical requirements, however, it did not mention 9-1-1 in its comments supporting rate center consolidation and expansion of wireless calling areas (NXX assignment areas).

57. Mobility Canada, a Canadian wireless carrier, did not address rate center consolidation, however, it expressed concern about wireless carriers becoming LNP capable to implement pooling and its placing at risk "potentially, calls to 9-1-1 emergency services."

58. Paging Network's comments stated that rate center consolidation could be done "without undue burden." Of interest also to us, were its comments concerning surveys showing that people are replacing their wireline phones for home use with wireless phones. That opinion is also reflected in a survey for the CTIA by Peter D. Hart Research Associates, Inc, which states that 16 per cent of wireless users have "a lot of interest" and 22 per cent have "some interest" in "having their wireless phone replace their home phone."

59. We are concerned that the FCC might take steps to encourage wireless carriers to become LNP capable ahead of the mandated date, in order to take part in number pooling.

60. In the original wireless 9-1-1 FCC order, the need for mobile callers to be identified by location prompted the Phase 1 (cell site/face and caller phone number) and Phase 2 (same information plus location within 125 meters) requirements.

61. In LNP, the caller's phone number (MDN) will no longer be in the wireless phone and it is our understanding that that is where it is being obtained from those products providing Phase 1 compliance today. We have no indication that they are changing their products to receive the MIN from the caller's phone, and then look up the MDN in the appropriate carrier's customer

database to provide a 9-1-1 PSAP with the appropriate information. We are not even sure it can be done while still allowing uninitialized handset 9-1-1 calls.

62. In the original LNP FCC order, it was stated that for the purposes of that order only, wireless carriers would be considered local service providers. It appeared to us to state that 9-1-1 service could not be lost/degraded if a customer ported from one carrier to another. This could be wireline to wireline, wireless to wireless, wireline to wireless, or wireless to wireline.

63. If a customer would port from wireline to wireless under proposed methods developed so far, a 9-1-1 PSAP would receive the phone number and cell site, if it had implemented Phase 1 from the other FCC order.

64. It would not receive the caller's address information, even if that caller was placing the emergency request call from home, after being convinced to give up wireline service and port to a wireless carrier. We continue to believe this is in violation of the intent of the LNP FCC order, however, it appears up to the FCC to decide. We believe that the FCC wireless 9-1-1 order was intended to improve 9-1-1 service for mobile callers while, the FCC LNP order included the intent to provide equal 9-1-1 service to a customer who was porting their business/residential phone service. The two orders appear unrelated.

65. If wireless number pooling means advancing the date of wireless LNP, we would be opposed at this time, because this would advance the date the wireless carriers can offer customers the porting option.

66. Also, we found no comments filed concerning any impacts on 9-1-1 of expanding the extended local calling areas of wireless carriers. With their increasing advent into the residential market, potentially as shown above as a replacement for a wireline phone, we feel that this should be further researched by 9-1-1 database and network experts to see if it has any negative impacts.

VII. AREA CODES

67. In our original comments, we expressed concerns about the financial implications to 9-1-1 systems of area code overlays, if additional 9-1-1 routing trunks are needed.

68. In reading other filed comments concerning area code overlays, be they general or service-specific, and splits, we noticed no mention of any 9-1-1 impacts.

69. We do point out that dependent on the selective routing system in place, the addition of wireline overlays and splits, may impact 9-1-1, because some systems can handle only four area codes. We also mention that additional trunks may be needed to accommodate default routing for the customers in the new area code and their respective rate centers.

70. Also, area code splits do require considerable changing of software involving PSAPs regarding call routing and transferring phone numbers that have changed area codes.

71. Service-specific area code overlays, for paging and wireless phone numbers, appear to have little if any impact on 9-1-1, since no additional special trunks would be needed and there is no phone number re-homing required.

VIII. CONCLUSION

72. In conclusion, we wish to thank the FCC for seeking 9-1-1 impact information regarding the various number resource optimization methods. While we were disappointed at the lack of response from some of the carriers and state utility commissions, we found some quality remarks from others.

73. We wish to thank the FCC for providing the electronic means of filing comments concerning the various dockets and information requests. For volunteer organizations such as we are, this is a major simplification in permitting us to express our views with the FCC.

Submitted on behalf of INENA, Illinois chapter of the National Emergency Number Association, on August 30, 1999.

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