

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Establishment of a statewide)
emergency area code relief plan)

DOCKET NO. 990373-TP

DIRECT TESTIMONY

OF

JOHN C. ROLLINS

ON BEHALF OF

GTE FLORIDA INCORPORATED

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FPSC-RECORDS/REPORTING

1 I have held various positions during my 23 years of service with GTE.
2 My experience includes positions in Plant Training, Engineering,
3 Capital Recovery, Regulatory, and Network Planning. Over the past
4 few years, I have participated in several national industry numbering
5 forums dealing with number exhaust, and number conservation
6 methods (major actions in North Carolina, Pennsylvania, Texas,
7 Missouri, Minnesota, and California with assistance provided in
8 Florida, Washington and Oregon). I have also represented GTE on
9 Local Number Portability (LNP) requirement's teams in the Southwest,
10 Western, West Coast, and Southeast Regions. I am the vice chair of
11 the United States Telephone Association's Network Planning
12 Subcommittee, past Co-Chair of the Southwest Region LNP
13 Requirements Subcommittee, and the past Chairman of the Bellcore
14 Advanced Voice Services User Group. I am also GTE's
15 representative to the North American Numbering Council (NANC)
16 Central Office Code Transition Team. This team has developed
17 guidelines for the transition of the code administration from GTE and
18 the regional bell operating companies (RBOCs) to Lockheed/Martin.
19 I currently represent GTE on the ATIS T1S1.6 Standards Committee.
20 This committee is responsible for developing generic requirements for
21 Local Number Portability and Thousand Block Number Pooling.

22
23 **Q. HAVE YOU EVER TESTIFIED BEFORE ANY PUBLIC UTILITIES**
24 **COMMISSIONS?**

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1 A. Yes, I have appeared as an expert witness for GTE telephone
2 companies before state utility commissions in Texas, New Mexico,
3 Oklahoma, Arkansas, North Carolina, Missouri and Pennsylvania.
4 My most recent involvement has been in the area of local number
5 portability, and number conservation.

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7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I will address the issue identified for resolution in this docket: Should
9 code holders be required to distribute telephone number
10 consecutively, beginning with the lowest assignable telephone
11 number. In doing so, I will review the methods used today for number
12 assignment, briefly describe why vacant thousands blocks of numbers
13 need to be preserved, and recommend a guideline for NXX code
14 holders to use (referred to in the industry as "sequential number
15 assignment") to increase the availability of vacant thousands blocks.

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17 **Q. WHAT DO YOU BELIEVE IS THE COMMISSION'S OBJECTIVE IN
18 THIS PROCEEDING?**

19 A. I believe the Commission's purpose in undertaking this proceeding
20 is to ensure that the necessary measures are in place to allow
21 number pooling later, when it becomes feasible. While the
22 Commission, in its April 2, 1999, Order, framed this issue in terms of
23 sequential numbering, I don't believe the Commission is averse to
24 considering other measures that will attain its objective of preserving
25 numbers in a way that will facilitate number pooling.

1 **Q. DO YOU BELIEVE THIS COMMISSION HAS BROAD AUTHORITY**
2 **TO ORDER NUMBER CONSERVATION MEASURES?**

3 A. No. I understand that the FCC has jurisdiction over number
4 conservation measures, and that it has delegated only very limited
5 authority to the states in this regard. I am not a lawyer, and the
6 jurisdictional issues associated with this proceeding will be discussed
7 more fully in GTE's posthearing statement. I understand from GTE's
8 lawyers that these issues are very serious and that the Commission's
9 actions in this docket are narrowly constrained.

10

11 **Q. HOW ARE NUMBERS ASSIGNED AND UTILIZED IN THE**
12 **NETWORK TODAY?**

13 A. Today, each company operating within a geographic area described
14 by the rate center boundary is required to obtain a block of 10,000
15 numbers to insure they are able to serve new and existing customers.
16 This block is defined by the area code (Numbering Plan Area (NPA))
17 and the Central Office Code. The Central Office Code is often
18 identified as an NXX (N representing any number from 2-7 and X
19 representing any number from 0-9). Each carrier is assigned an
20 NPA/NXX giving them ten thousand numbers for assignment. That
21 is, the area code + the central office code + station numbers 0000
22 through 9999.

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24 **Q. WHY ARE NUMBERS ISSUED IN BLOCKS OF 10,000 TODAY?**
25 **CAN NUMBER BLOCKS BE ASSIGNED IN SMALLER**

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INCREMENTS?

A. Routing and rating of calls for all carriers today is based on the area code and central office code (NPA/NXX) or the first six digits of the ten digit telephone number. While the entire network could be modified to route and rate calls in blocks of 1,000 (e.g. seven digit routing - NPA/NXX-X) it would require ten times the number of entries in routing tables and operations system databases. GTE is not aware of any telecommunications service provider that advocates seven-digit network routing due to its cost and complexity.

There appears to be a perception that there is an abundance of usable numbers and the reason there is a number resource problem is that local exchange carriers have been assigning numbers in a haphazard and inefficient manner. This is not accurate. NXX codes that have low fill factors primarily occur in rural areas. The more significant impact on number availability is consumer demand for second line, dial-up internet access, fax, wireless services and the increase in the number of service providers customers now have to choose from for a given area. In order to facilitate the 6-digit processing of calls, each service provider requires an NXX in each existing rate center they choose to serve. The industry has attempted to make the most efficient use of the numbering resource while at the same time keeping the cost of service affordable.

1 **Q. IF CALLS CAN NOT BE EFFICIENTLY ROUTED ON A SEVEN**
2 **DIGIT BASIS, HOW IS THOUSAND BLOCK NUMBER POOLING**
3 **POSSIBLE?**

4 A. Thousand Block Number pooling now being reviewed by the FCC and
5 the industry utilizes recently deployed Local Number Portability as a
6 starting point. This approach maintains the six digit routing by using
7 LNP to allow numbers to be shared between providers. Number
8 pooling will allow NXXs to be shared by different service providers by
9 assigning numbers in blocks of less than 10,000 to individual carriers.

10

11 **Q. WHAT IS THE LINK BETWEEN THOUSAND-BLOCK NUMBER**
12 **POOLING AND SEQUENTIAL NUMBER ASSIGNMENT?**

13 A. Under appropriate circumstances where thousand block number
14 pooling is implemented, it is beneficial to have thousand blocks
15 without assigned numbers or with a small percentage of assigned
16 numbers, available to be shared between service providers. If
17 numbers have been randomly assigned across a block of 10,000
18 numbers the operational difficulties increase, as does the possibility
19 of adverse impact to customers who have working numbers in the
20 thousand block before it's transferred to another carrier. The
21 operational issues deal with modifications to systems to insure that
22 working numbers are ported back into the switch giving up blocks.
23 This must be done prior to making the block available to the new
24 carrier. Companies must insure that numbers being aged or in
25 transition (some stage of porting in or out) are accounted for prior to

1 release of the block. If this is not done correctly or if the new service
2 provider utilizing the block of numbers does not correctly identify the
3 working numbers as not available for porting, two different customers
4 may be assigned the same ten digit number.

5

6 **Q. PLEASE DEFINE THE TERM "SEQUENTIAL NUMBER**
7 **ASSIGNMENT" AS IT IS USED THROUGHOUT THE INDUSTRY.**

8 A. The term "sequential number assignment" is really a misnomer. It
9 does not mean that the first customer to request a number would be
10 assigned, for example, 813-483-0001 and the second customer would
11 be assigned 813-483-0002. If implemented in this manner, it would
12 inconvenience customers and provide no measurable benefit from a
13 code conservation perspective. In addition, this approach would
14 make it difficult for companies to accommodate business customers
15 requiring a block of numbers for future growth. The term "sequential
16 number assignment" has been used throughout the industry to
17 encourage assignment of numbers from open thousands blocks prior
18 to opening new blocks. It is intended to insure that the maximum
19 possible number of uncontaminated (blocks with no assigned
20 customers) or slightly contaminated (blocks with less than 10%
21 assigned numbers) 1000 number blocks are available if 1000 block
22 pooling is utilized in a particular NPA. Guidelines on number
23 assignment should encourage companies to assign numbers out of
24 open 1000s blocks before going to a new thousands block while at
25 the same time satisfying customer technical and business

1 requirements. Although the current development of industry standard
2 on thousand block number pooling allow for thousand blocks
3 containing a limited number of working customer lines to be submitted
4 to the pool (less than 10%), the porting of completely vacant blocks
5 is more desirable from an operations perspective and should be
6 encouraged. For example, pooling vacant thousands blocks will
7 reduce the chance of customer service disruption brought about if
8 two service providers attempt to assign the same number to two
9 different customers.

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11 **Q. WHAT OTHER ISSUES SHOULD BE CONSIDERED REGARDING**
12 **SEQUENTIAL NUMBER ASSIGNMENT OF TELEPHONE**
13 **NUMBERS?**

14 **A.** Some digits are restricted from use by certain customer equipment
15 and services. For example, many Private Branch Exchanges (PBX)
16 and CentraNet (Centrex) services can not use numbers from the 0,
17 1, 8, or 9 thousands block due to the use of these numbers in
18 accessing the operator, long distance dialing, and access to outside
19 networks. Where these digit restrictions are not an issue, GTE
20 attempts to assign customers number in the 0, 1, 8, or 9 thousands
21 blocks and reserve the 2-7 thousands blocks for customers that
22 require them.

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24 **Q. SHOULD THE SITUATION DESCRIBED ABOVE BE TAKEN INTO**
25 **CONSIDERATION WHEN DRAFTING AN INDUSTRY**

1 **REQUIREMENT?**

2 A. Yes. It would be inefficient to mandate that only one thousands block
3 of numbers could be open in an NXX at a time. Such a requirement
4 would result in residential numbers being assigned to numbers that
5 would better serve certain business customers and result in a large
6 amount of vacant unusable numbers over time. Therefore, whatever
7 guideline the commission adopts should insure companies have the
8 flexibility to assign numbers that recognize the business and technical
9 needs of customers.

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11 **Q. WHAT HAS GTE DONE TO INSURE THE EFFICIENT**
12 **ASSIGNMENT OF NUMBERS WITHIN ITS NETWORK?**

13 A. GTE restricts the assignment of numbers to open thousands blocks
14 in the switch and only opens a new block based on customer need or
15 technical requirement. In situations where there are specific technical
16 requirements associated with number utilization on the part of a
17 customer, GTE attempts to assign numbers in a manner that
18 maximizes the number of vacant thousands groups.

19

20 **Q. DOES GTE HAVE SUGGESTED WORDING FOR THE**
21 **COMMISSION TO CONSIDER IF IT CHOOSES TO RECOMMEND**
22 **SEQUENTIAL NUMBER ASSIGNMENT?**

23 A. Yes. First the Commission should be aware that sequential number
24 assignment will not have an immediate effect in promoting number
25 conservation and making numbers available to service providers. In

1 situations where thousand block pooling is implemented, however, it
2 will help to ensure the availability of 1000s blocks that are suitable for
3 pooling . This should serve to reduce the number of additional NXX
4 codes required subsequent to the implementation of number pooling,
5 thereby conserving numbers. Second, GTE offers the following two
6 paragraphs that have been provided to state commissions in a
7 number of states by state numbering committees to describe
8 guidelines for the industry concerning sequential number assignment.
9 GTE believes they capture the intent of this hearing and will have the
10 desired result without causing unintended consequences.

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12 All NXX code holders should attempt to provide
13 services in a manner which does not encourage the
14 inefficient use or depletion of telephone numbers in any
15 Florida NPA. In order to help accomplish this goal, all
16 persons, including providers of telecommunications
17 services who have accepted assignment of and make
18 use of central office codes (NXX) in Florida, should
19 preserve as many poolable blocks (uncontaminated
20 blocks of 1,000 numbers and blocks of 1,000 numbers
21 with less than 10% of its numbers assigned) of
22 thousand numbers in their central office codes as
23 possible. This should enhance the effectiveness of
24 thousand-block pooling, as a number conservation tool,
25 once it becomes practical and it's determined to be

1 beneficial to implement number pooling in Florida
2 exchanges.

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4 All NXX code holders are encouraged to assign
5 numbers from thousand number blocks already in use
6 rather than from unused thousand number blocks. In
7 addition, every effort should be made to assign
8 numbers out of the 0, 1, 8, and 9 thousands blocks to
9 business and residential customers able to use them.
10 This recommendation is not meant to prohibit service
11 providers from meeting customer number assignment
12 needs which cannot be accommodated by utilizing
13 either numbers in 1,000 blocks already in use or
14 numbers in the 0, 1, 8, or 9 thousand blocks.

15

16 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

17 A. I have reviewed the number assignment process and discussed
18 number pooling and its link to "sequential number assignment," as
19 that term is properly understood. In keeping with the Commission's
20 objective of preserving vacant thousands blocks in anticipation of
21 number pooling, I have suggested wording for the Commission order
22 that will result from this proceeding.

23

24 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

25 A. Yes.