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NYNEX

October 21, 1996

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Federal Communications Commission
Office of Secretary

Ex Parte

Mr. William F. Caton
Acting Secretary
1919 M Street, N.W. Room 222
Washington, D.C. 20554

Re: **CC Docket No. 95-116; Implementation Of Long-Term Number Portability**

Dear Mr. Caton:

The NYNEX Telephone Companies[1] (NYNEX) hereby submit for the record in the above-noted docket, an analysis of the cost savings Query on Release (QOR) will produce, and the logic for the timing of a transition from the Location Routing Number (LRN) approach with QOR to LRN without QOR.

Two versions of this submission are provided, a public version and a non-public version. Under Sections 0.457 and 0.459 of the Commission's Rules, the latter version should be withheld from public inspection since it contains information covered by the exemption in Section 0.457(d), i.e. "[t]rade secrets and commercial or financial information obtained from any person and privileged or confidential . . . ." The

[1] New England Telephone and Telegraph Company and New York Telephone Company.

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information to be protected consists of proprietary NYNEX cost data, relating to confidential negotiated agreements with outside vendors for network hardware and software. Public disclosure of such information would cause substantial competitive harm to NYNEX.

Pursuant to Section 1.1206(a)(1) of the Commission's Rules governing written ex parte presentations, two copies of this letter and the attached submission are provided.

Should you have any questions regarding this matter, please contact me.

Sincerely,

Alan D. Cort

Enclosures

Public Version

NYNEX Telephone Companies'
Estimate of the Cost Savings QoR Will Provide
(As of October 21, 1996)
and
Logic for the Timing of A
Transition from QoR to LRN

1.0 EXECUTIVE SUMMARY

NYNEX believes the use of Query on Release (QoR) will bring many benefits. The analysis below demonstrates these advantages and proves that QoR is a sound principle for use in the public switched network. QoR's use will reduce the queries and associated signaling traffic to number portability databases. Therefore, QoR will reduce the amount of equipment that needs to be added initially to the network. The reduction in the equipment needed will save money. More importantly though, it will create a less complex implementation helping NYNEX to meet the Commission's deployment schedule and ensure network reliability. Additionally, QoR adds equipment as demand grows, *i.e.*, as needed. LRN requires the network to be designed for peak capacity from day one with demand only dropping as numbers port. Thus, LRN results in stranded investment which the use of QoR will prevent. Finally, since QoR's use allows NYNEX to add capacity gradually, NYNEX can take advantage of new technologies that will be available in the early 1998 time frame. Then, rather than adding outdated equipment, NYNEX will be able to deploy the latest, up to date technology that will provide more capacity and greater functionality, again requiring less equipment to be installed.

This memorandum documents below NYNEX's current estimate of the cost savings the use of QoR as a triggering mechanism will provide to the company. This estimate is based on the best information NYNEX has available at this time but clearly the implementation of number portability has not progressed far enough for the costs to be definitive. The individual unit costs used here may change as discussions continue with vendors.

Additionally, the costs demonstrated below are only the cost differentials between a solution using the LRN (location routing number) triggering mechanism (which would query all interswitch calls where NYNEX is the N-1 carrier) and the combination of LRN addressing with QoR as a triggering mechanism (where only ported numbers are queried). Costs common to both solutions have not been included in this analysis. Finally, NYNEX's analysis demonstrates the cost of deploying LNP (local number portability) using a LRN trigger mechanism is approximately $54,000,000 more than using a QoR trigger mechanism. The cost differences can be summarized as follows:

	LRN COST	QoR COST	LRN - QoR
Switch Cost	$55,728,000	$45,737,000	$9,991,000
Signaling Cost	$33,794,000	$23,982,000	$9,812,000
Database Cost	$38,000,000	$3,800,000	$34,200,000
TOTAL	$127,522,000	$73,519,000	$54,003,000

NYNEX reminds the Commission, however, not to focus solely on the cost savings but the other, more important but less tangible, benefits that QoR's use will bring. Some of the detail of these other benefits are demonstrated in the cost analysis provided in this document.

2.0 INTRODUCTION

This memorandum identifies the cost differences between two different query methods that could be utilized in local number portability (LNP) network deployment. With one method, NYNEX will perform an LNP query for almost all originating intraLATA calls and a percentage of terminating access calls (*i.e.*, whenever NYNEX is the N-1 carrier and, as the terminating carrier, when the N-1 carrier is unwilling to perform the query). For the purposes of this memorandum, this method will be called LRN (Location Routing Number, the proper T1S1 standards term is Query-Response (QR)). The second method complements the LRN method, allowing NYNEX to perform LNP queries on ported numbers only. This method will be referred to as Query on Release (QoR). (NYNEX will use the LRN addressing scheme in either scenario. QoR does not attempt to replace that but only to complement the LRN addressing scheme with a more efficient query mechanism than the one LRN utilizes which queries every call.)

This document also discusses how NYNEX plans to transition from the use of the QoR triggering mechanism to the use of the LRN triggering mechanism including the rationale for its strategy.

The cost differences between LRN and QoR can be summarized into three categories - switch, signaling (STP and links), and database (SCP).

2.1 ASSUMPTIONS

The study compares the full deployment of both capabilities. That is, it assumes that either the LRN or QoR query capability is deployed in all end offices in NYNEX and the signaling and AIN networks are built to support the different query loads that both methods will generate. This evaluation assumes number portability is deployed per the FCC schedule, with the NYC and Boston areas converted in the 4Q97/1Q98 time frame, respectively, with NYNEX's portion of the other top 100 MSAs to follow. Switches not covered in the FCC schedule are converted in the 1999/2000 time frame. The time value of money has not been built into the calculations. Its use, however, would improve the cost savings demonstrated here. Thus the $54 Million which this memorandum documents is highly conservative.

In an N-1 architecture, the originating switch will be responsible for performing the query to the number portability database in many scenarios. Exceptions are as follows. Originating switches do not query operator handled calls. Operator calls will be handled via TOPS switches. InterLATA calls are not queried by NYNEX, nor are intraLATA toll calls carried by service providers other than NYNEX. It is assumed that most N-1 networks will perform the query. However a percentage of terminating access traffic has been added to the calculations for NYNEX's query load in the likely event that some service providers (*e.g.*, wireless providers until their deadline, small IXCs, etc.) will not deploy the query capability.

Finally, since less equipment will be required to be installed and maintained if QoR is used, NYNEX presumes that its labor costs would correspondingly be reduced. However, these cost differences have not been included here but are considered minimal.

3.0 COST - SWITCHES

All switches capable of LNP call processing require SS7, AIN trigger capability, new base (generic switch) software, and LNP feature software. (Once equipped with AIN software the switches are known as Service Switching Points or SSPs.) These costs are common to either solution and some of the base implementation (e.g., AIN (Advanced Intelligent Network), SS7 (Signaling System 7)) has been done but needs to be augmented for LNP. The level of this augmentation will vary depending upon whether LRN or QoR is used.

The main differences in switch cost are:

- QoR feature software
- Processor growth and upgrades
- SS7 link additions

3.1 QoR Feature Software

QoR is a feature that works in conjunction with the basic LRN software. If QoR is deployed in all of the switches in which NYNEX plans to deploy LNP, QoR would be an additional $20,000,000.

3.1.1 Requirements

Lucent Switches - 5ESSs require switch generic software 5E11 (NYNEX is currently at 5E9) and a BWM (Batch Warning Message) for the LRN feature. QoR is assumed to be another BWM. 4ESSs require switch generic software 4E22 (NYNEX is currently using either 4E18 or 19, depending on the switch).

Nortel - DMS100/200/TOPS require NA007 (NYNEX is currently at NA004). Both the LRN and QoR feature software will be added with the software upgrade.

This implies that NYNEX will have to migrate through two to four, depending on the switch type, generic switch upgrades per switch (regardless of whether LRN or QoR is used), a massive undertaking from a cost and resources perspective in the time frames needed to meet the deployment schedule.

3.2 Processor Growth and Upgrades

The base software upgrade in switches has a minimum processor and memory requirement. According to NYNEX's switch vendors no additional processor or memory requirements are necessary for either the LRN or QoR software. The difference in cost between LRN and QoR is with regard to the additional load placed on the processors. As processors in the switches reach maximum capacity they need to be upgraded with new processors.

Both LRN and QoR place additional real time processing load on switch processors. LRN puts a constant and, more importantly, immediate, significantly increased load on the processors. QoR

adds an additional, but substantially smaller, initial load than LRN that gradually increases as the quantity of ported numbers increases.

According to NYNEX's estimates an additional cost of $37,982,500 will be incurred for processor upgrades if LRN is used. For QoR, the cost would be $20,628,000.

3.2.1 Requirements

Lucent Switches - As load increases on the 5ESS switch module (SM) processors, the load should be shed to the CNI (Common Network Interface) Ring. The DLN (Digital Link Node) gives the switch the ability to share load with the CNI Ring. This is recommended at 85% processor occupancy (PO).
If a switch does not have a DLN, then the switch will require an upgrade from a CM1 (Communications Module) to a CM2. As PO approaches 85% in a switch equipped with a DLN, Lucent recommends upgrading to a 3B21D processor.

Nortel - The DMS100 has different versions of processors each with different processing capabilities. The versions are the Super Node 20 (SN20), SN30, SN40, SN50, SN60, and SN70. SN20 has the lowest processing capacity and SN70 has the highest. NYNEX has negotiated to physically upgrade all DMS100s to a SN60 processor but NYNEX will pay Nortel according to how much PO is used on the SN60. The cost may be equated to a single level increase (e.g., SN20 to SN 30, SN50 to SN60) or a multiple level increase (e.g., SN20 to SN50, SN30 to SN50). NYNEX has included its estimate of the additional costs based on average upgrades.

3.3 SS7 Link Additions

The links required from a switch to an STP have a finite capacity. Number portability adds more load to these links. Like switch processors, LRN adds a significant, constant, immediate load to SS7 links; while QoR also adds an immediate, but substantially smaller, load that gradually increases as the quantity of ported numbers increases.

In high volume areas such as New York City, Boston, and much of their suburbs, additional links will be required for LRN in every switch. With QoR, many of the switches will be able to carry the signaling load with the existing links for a considerable period of time.

LRN demand requires more than additional SS7 ports (where the SS7 links connect to the switch) on NYNEX switches at an estimated cost of $17,745,000. QoR demand requires approximately additional SS7 ports at an estimated cost of $5,109,000.

3.4 Switch Cost Summary

	LRN COST	QoR COST	LRN - QoR
QoR Feature Cost	$0	$20,000,000	($20,000,000)
Processor/Memory Upgrade	$37,983,000	$20,628,000	$17,355,000
SS7 Link Additions	$17,745,000	$5,109,000	$12,636,000
TOTAL	$55,728,000	$45,737,000	$9,991,000

4.0 COST - SIGNALING

Signaling costs include hardware and software costs of the SS7 network associated with STPs (Signal Transfer Points, the network elements that route SS7 messages) as well as STP links which include SSP-STP links (A (Access) links), STP-STP links (B/D (Bridge/Diagonal) links), and STP-SCP links (A links, SCPs or Service Control Points are discussed in more detail below). The SS7 network provides both call setup messaging (ISUP or Integrated Services Digital Network (ISDN) User Part) and query processing (TCAP or Transaction Capabilities Applications Part). In general ISUP messages are short and used more frequently and TCAP messages are larger and used less frequently. Today's networks are designed and built to support this traffic mix - short but frequent ISUP messages and larger but less frequent TCAP messages. Number Portability will change this mix, LRN much more drastically than QoR.

QoR adds both a small load of additional ISUP traffic and TCAP traffic both of which increase as the quantity of ported numbers increases. LRN has little impact on ISUP traffic but introduces a significantly larger load of TCAP traffic than QoR. (AIN TCAP messages, used here, are significantly larger than ISUP messages, as is detailed in Section 6.2, Transition - Signaling.) This increased load begins immediately at the introduction of number portability. QoR allows a gradual growth into the faster and more capable network (see discussion on SLSs and HSLs below) required to support number portability at high levels of ported numbers thus reducing complexity and assisting network reliability. LRN is an exponential leap (a step function in engineering terms) in complexity that requires an inefficient deployment of technology in the network as is discussed in greater detail below.

The main differences in signaling costs are:

- Additions of new STPs
- STP Link Additions
- Capacity Upgrades (8 Bit Signaling Link Selection and High Speed Link Upgrades)

4.1 Additions of new STPs

The traffic load number portability adds to the NYNEX signaling network will require the deployment of at least STP Pairs under the LRN approach. (STPs are always deployed in pairs for engineering and reliability concerns.) The STP pairs serving the urban/suburban areas currently have an average of over working ports. This is approximately % of the maximum port capacity of the STPs. Without LNP and with limited deployment of the High Speed Link (HSL) capability (discussed further below) NYNEX expects its equipment vendors to make available, NYNEX believed the existing STP pairs would provide sufficient capacity for growth beyond the year 2000.

The load LRN will place on the signaling network requires that STP pairs be deployed as soon as possible at an estimated cost of $17,640,000. Although HSLs will significantly alleviate NYNEX's concern for signaling capacity, they are not expected to be available during the initial deployment of LRN which, as mentioned above, will bring a large and immediate load to NYNEX's SS7 signaling network.

The load added by QoR requires the deployment of STP pairs at an estimated cost of $5,880,000. Because query load grows gradually with QoR (as numbers port), NYNEX expects

that the relief HSL will provide in 1998 will preclude the need to add new STPs in the foreseeable future.

4.2 STP Link Additions

STP link additions can be put into three categories; SSP-STP links (A links), STP-STP links (B/D links), and STP-SCP links (A links). This section estimates the costs due to the expected growth in usage of STP ports (where the STP links connect to the STP) on existing STPs. Thus, these costs were not captured in the addition of new STPs (detailed in Section 4.1 above). Much of the port growth for LRN is captured in the addition of new STPs, while QoR permits the use of ports on existing STPs.

In addition to the ports that LRN will utilize on the new STPs deployed in the network, LRN demand requires over additional ports on existing STPs at an estimated cost of $8,619,000. QoR, on the other hand, makes greater use of the embedded network, and thus helps limit the number of new STPs that need to be deployed. QoR, based on substantial porting and no new technology, would require approximately additional ports on existing STPs at an estimated cost of $12,570,000. Overall, LRN will require over total STP ports while QoR will need, approximately, only .

4.3 Capacity Upgrades

One of the signaling network's limiting items from a capacity perspective is the volume of messages that can be carried over the SS7 links. In the NYNEX network this capacity issue is highlighted in the B/D links between STP pairs. The quantity of links that can be added to a B/D link set (*i.e.*, the set is the group of links going from one STP to another) in order to increase its capacity is effectively limited to eight. The algorithm which chooses routes between STP pairs causes this limitation.

However, vendors are expected to deliver technological advancements for STPs that will relieve these capacity problems. One of these advancements is a feature called 8 Bit Signaling Link Selection (SLS). This will make the routing algorithm flexible enough that links can be added in increments of one. Then, if demand is greater than eight links, a ninth can be added.

Another advancement that will provide more capacity on a link set is High Speed Links (HSL). Current SS7 links are DS0s and therefore operate at a rate of 56 kbps. HSLs will carry a capacity of three to sixteen DS0 links, depending on the type of traffic being carried (*e.g.*, TCAP messages only, ISUP messages only, a mix of ISUP and TCAP messages, AIN TCAP messages versus 800 TCAP messages).

The comparison below provides estimates of the cost with regard to adding 8 Bit SLS and HSL capabilities to STPs.

With LRN, 8 Bit SLS is required in STP pairs at an estimated total cost of $243,000. HSLs will be required in STP pairs (including all of the new STP pairs to be added in the LRN scenario plus existing STP pairs) at an estimated cost of $7,292,000 for a total of $7,535,000.

With QoR, 8 Bit SLS is required in STP pairs at an estimated total cost of $324,000. HSLs would be required in STP pairs (the new STP pairs required in the QoR scenario plus existing STP pairs) at an estimated cost of $5,208,000 for a total of $5,532,000.

Since QoR will delay the need to increase capacity, NYNEX will be able to buy new equipment that will have HSL and SLS already installed. Otherwise, with LRN NYNEX must purchase outdated equipment and thus retrofit, at greater expense, more of the older vintage technology rather than installing new versions. Thus the introduction of number portability using QoR will allow NYNEX to take full advantage of state of the art technology.

4.4 Signaling Cost Summary

	LRN COST	QoR COST	LRN - QoR
Additions of new STPs	$17,640,000	$5,880,000	$11,760,000
STP Link Additions	$8,619,000	$12,570,000	($3,951,000)
Capacity Upgrades	$7,535,000	$5,532,000	$2,003,000
TOTAL	$33,794,000	$23,982,000	$9,812,000

5.0 COST - DATABASE

Database cost refers to the SCP hardware and software cost. The volume of queries that an SCP can handle, *i.e.*, the SCP's capacity, is the parameter that determines the number of SCPs required. This is a function of:

- the transactions (*i.e.*, an associated switch query and database response) per second (TPS) an SCP can process;
- the quantity of links that can be connected to an SCP (an SCP has a limitation on the number of ports it has available as well as the quantity that can be added between the STP and SCP); and
- the through-put capacity (*i.e.*, bandwidth) of the links that can be connected to the SCP.

The item limiting the capacity of SCPs and thus determining the number required is the quantity of links that can be connected to an SCP. The availability of HSLs will alleviate this problem. However, until then the current links connecting the STP and SCP operate at 56 kbps, limiting the number of queries that can be transmitted to the SCP (and corresponding replies received) over a single link. Thus, more links are added between the STP and SCP to augment the capacity of this route in an attempt to transmit as many queries as possible to the SCP until the SCP's TPS limit is reached. However, current SCPs can only accept a maximum physical limit of 16 links from any individual STP. The capacity this group of links represents does not allow enough queries to be transmitted for the SCP to reach its TPS limit. Thus, the volume of query traffic LRN will generate combined with the SCP A link set's capacity limitation requires NYNEX to deploy SCP pairs at an estimated cost of $38,000,000. With the low query volume QoR would be expected to generate, SCP pairs, at an estimated cost of $3,800,000 can support all of NYNEX's LNP queries.

5.1 Database Cost Summary

	LRN COST	QoR COST	LRN - QoR
Additions of new databases	$38,000,000	$3,800,000	$34,200,000

6.0 TRANSITION STRATEGY

Opponents have argued that QoR is meant to be a "transitional" technology and thus should not be used because it would not be used for long and thus the cost of implementing QoR would have been wasted. However, QoR is only "transitional" to the extent that the percentage of numbers porting continues to grow and reaches the point where, economically speaking, NYNEX can more efficiently query every call to a portable NXX (an NXX having at least one ported number in it) rather than only querying calls to the individual ported numbers in that NXX. If the percentage of ported numbers remains lower than that point, QoR will always be more efficient than LRN. Furthermore, the decision to transition from QoR to LRN is strictly one of engineering and economics. At some point, the process of querying every call to a portable NXX will be more efficient economically when the cost components of the network are analyzed than it would be to query only calls to the ported numbers within that NXX. In performing the analysis to determine at what point such a transition should occur, NYNEX has taken into account all three elements evaluated in this document. A few assumptions are made in regard to query load.

1. The N-1 architecture is adopted. This means that calls originated on other networks or in other LATAs will be queried prior to routing to or through NYNEX's network. These calls will therefore not generate a query on NYNEX's network. This includes calls ported customers originate since their calls will originate on other networks. However, NYNEX will have to query a percentage of terminating access traffic.
2. Originating service providers (such as NYNEX) will query the appropriate intraLATA calls when they are, in effect, the N-1 carrier. In reality NYNEX would not be required to query intraLATA toll calls that other service providers carry. However this is currently a very small percentage of intraLATA calls, much smaller than the quantity of terminating access traffic NYNEX will be required to query.
   - 2a. With QoR only intraLATA originations to ported numbers are queried.
   - 2b. With LRN all intraLATA originations are queried.
3. For purposes of this comparison, each customer generates the same quantity of intraLATA originations.
4. Since the process of transitioning from QoR to LRN can be accomplished via a change of translations in an end office switch (a labor cost related to the number of manpower hours required to make the changes) and no equipment is physically removed or added specifically to make the transition, the cost of transition is considered small and thus not included.

The assumptions made for this comparison are:

- As numbers port, the quantity of intraLATA originations decreases.
- In QoR, the percentage of ported numbers equals the percentage of intraLATA originations queried. In other words if 10% of NYNEX's numbers port then NYNEX must query 10% of intraLATA originations.
- In LRN, the percentage of ported customers equals the reduction in the percentage of intraLATA originations queried. In other words if 10% of NYNEX's numbers port then NYNEX must query 90% of (pre-porting) intraLATA originations.

6.1 Transition - Database

Assuming that HSLs are available in the time frame when the transition would begin then the limiting item for the SCP is TPS. Since TPS is the limiting item, no reason, from an SCP perspective, exists to transition from QoR to LRN. QoR is always more efficient. The chart below demonstrates this. (These numbers are for illustration only and do not imply the real quantities of originations expected.)

Percent Ported	IntraLATA Originations	QoR Query Volume	LRN Query Volume
0%	2000	0	2000
50%	1000	500	1000
75%	500	375	500
90%	200	180	200

The SCP however would be a factor in NOT transitioning from QoR to LRN. As long as the cost savings generated by other network elements is less than the cost of adding database capacity the SCP will drive the decision to remain with QoR.

6.2 Transition - Signaling

The transition point for the signaling network can be calculated through an equation that compares the additional ISUP + TCAP load that QoR adds at a particular percentage of ported numbers to the TCAP load that LRN adds.

QoR consists of the following SS7 messages:

- initial IAM on all calls (50 octets)
- a release (REL) message on ported numbers only (20 octets)
- a database query and response for ported numbers (120 octets)
- a final IAM for ported numbers (50 octets)

LRN consists of the following SS7 messages:

- a database query and response for all calls (120 octets)
- a final IAM on all calls (50 octets)

Assuming 100 calls and X = percentage of numbers ported, the crossover point is:

(initial IAM) + (db query) + (release message) + (final IAM) = (db query) + (final IAM)

$(50*100) + (120*X) + (50*X) + (20*X) = (120*100) + (50*100)$

$5000 + 120X + 50X + 20X = 12000 + 5000$

$190X = 12000$

$X = 63$

The point where QoR signaling traffic equals LRN signaling traffic is at 63% ported numbers.

6.3 Transition - Switch[1]

The decision to transition from QoR to LRN in switches, is a switch by switch decision regarding the cost to upgrade the switch processor as described in Section 4.2. As PO increases, the 5ESS will need, in order: a DLN, a CM2, and a 3B21D. Each of these is progressively higher in cost. In the DMS100, NYNEX pays for processor capacity based on the PO of a SN60 as discussed in Section 3.2.1.

LRN places a steady but high load on the switch processor. For example, it could immediately increase PO by 40% (as one of NYNEX's vendors has estimated in its discussions with NYNEX). In general, additional load will not be experienced as more numbers port.

QoR, on the other hand, will place a smaller, but still steady, load on the processor. However, this load would increase as more numbers port. For example, PO could increase 12% initially and another 12% with 30% ported numbers (for a total of 24% additional PO at 30% ported numbers). (One of NYNEX's vendors has also estimated this in its discussions with NYNEX.)

Therefore, the theoretical transition point would be when:
additional PO added by LRN = additional PO added by QoR @ XX% ported numbers

Information received from Nortel indicates the additional PO for LRN, with a need to query 50% of a switch's originating calls (*i.e.*, 50% of the switch's originating calls are made to portable NXXs that the carrier is responsible for querying as the N-1 network), equals the additional PO for QoR when 40% of numbers are ported. If NYNEX has to query more than 50% of the calls originating from a switch in a LRN scenario, which it expects, then the crossover point, would be higher for QoR.

6.4 Transition - Total (Conclusion)

As NYNEX demonstrated in sections one through five above, when comparing a full network deployment of QoR versus a full network deployment of LRN, QoR will be more economical. Thus, assuming an implementation of QoR has occurred, the decision to convert from the QoR triggering mechanism to the LRN triggering mechanism can be made efficiently and effectively on

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1 AT&T has asserted that the crossover point for when it becomes more appropriate to use LRN rather than QoR in the 5ESS is at 12% of ported numbers. (AT&T ex parte of May 30, 1996 at page 4, quoted in the FCC's Number Portability Order in paragraph 54 and cited again by AT&T in its Opposition to Petitions For Reconsideration and Clarification at note 55.) However, when NYNEX analyzed how AT&T developed this number, it became clear that AT&T included inappropriate quantities that resulted in the break even percentage being cut in half. The relative switch usage of a Lucent 5ESS from the May 20, 1996 letter Lucent provided the California Local Number Portability Task Force should clearly be 1.7, not the 2.1 that AT&T used. Apparently, AT&T added the effects of QoR on other switches into the real time impact numbers for one particular switch. If calculated using the appropriate numbers, then the break even point is over 23%, a nearly 100% increase. The Commission should not accept AT&T's inaccurate representations to the Commission on the value of QoR.

Additionally, AT&T's advocacy of a low crossover point does not mean that a cost, from the switch perspective, would or should be incurred. Finally, and most importantly, AT&T has failed to look at all of the network components in establishing a transition point, but has conveniently picked the network element that would render the lowest recommendation for a crossover point.

a switch by switch basis. Once the switch, signaling, and AIN network is built to support QoR's use, the decision on upgrading the switch's processor can be made in the context of how it affects the signaling and AIN network, *i.e.*, the processor upgrade cost can be compared with the cost to add signaling and database capacity. SS7 links, new STPs and new SCPs might be added as switches transition from the use of QoR as a triggering mechanism to the use of the LRN triggering mechanism. Eventually, every call might receive treatment utilizing the LRN query mechanism and each service provider's network would be efficiently built with up to date technology. In practice, the transition point for a switch would be when upgrading a processor costs more than the cost of deploying additional signaling and AIN capacity due to the additional queries. NYNEX expects that, in practice, this point may occur when 50% of numbers have ported.

7.0 CONCLUSION

The above analysis indicates that QoR will provide many benefits and advance the public interest. Opponents who have attacked QoR fail to detract from QoR's merits, and improperly seek to prevent facilities based service providers from designing their networks in the most efficient manner possible and thus deny them the many benefits that can accrue from QoR's use. The Number Portability Order clearly gave service providers the right to engineer their networks in the most efficient manner possible and the Commission should support its Order and reject the invalid contentions of other parties looking to deny these benefits that will flow to all service providers and hence to end users.