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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

EX PARTE

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Mr. Caton:

Re: CC Docket No. 95-116, Number Portability

Yesterday, Jerry Abercrombie and Nancy Woolf of Pacific Bell and I met with John Nakahata of Chairman Hundt's office, Dan Gonzalez of Commissioner Chong's office and Karen Brinkmann, Jeannie Su, Jeffrey Steinberg and David Wye of the Commission to discuss the attached materials related to the above docket.

We are submitting two copies of this notice in accordance with Section 1.1206(a)(1) of the Commission's Rules.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

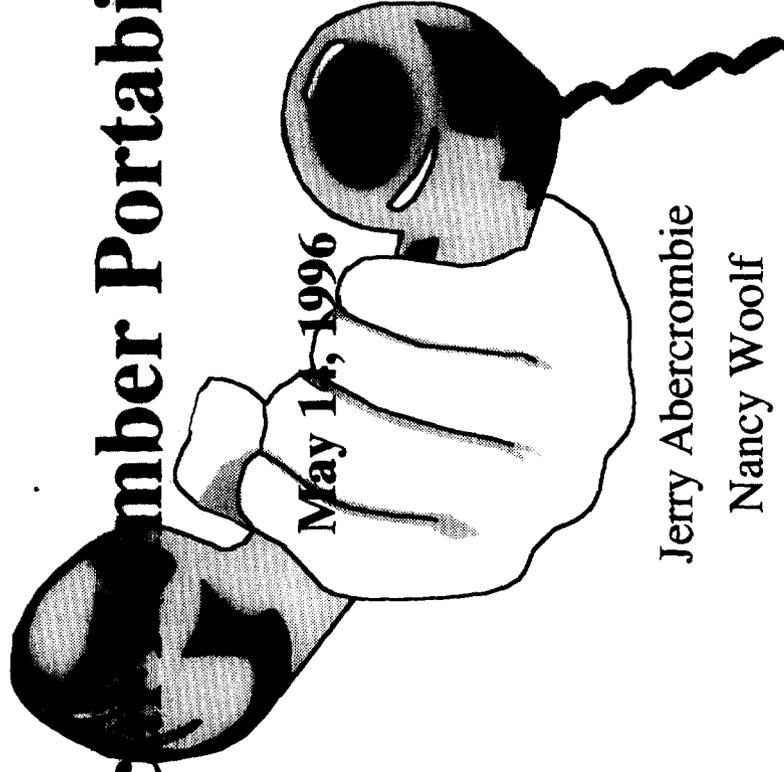
Sincerely,



cc: John Nakahata
Dan Gonzalez
Karen Brinkmann
Jeannie Su
Jeffrey Steinberg
David Wye

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Local Number Portability



Jerry Abercrombie
Nancy Woolf

Summary

The Commission should order “*Carrier Choice*” for Number Portability and not constrain carriers to only AT&T’s unproven and technically inefficient LRN

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Pacific’s Position

- The Commission should adopt routing, service and performance **standards**, instead of specifying technologies and architectures
- AT&T’s LRN is not a “*done deal*”
- Query on Release (QoR) is the “*next generation*” enhancement to mitigate the frailties and inefficiencies of LRN’s hurried design flaws
- Competitors’ concerns about QoR are unfounded
- The FCC Reply Comments refute statements by MCI, and others, that only AT&T’s LRN has wide acceptance
- Incumbent LECs should not bear a disproportionate share of the costs of LNP

Rebuttal To AT&T and MCI

- AT&T misleadingly overstates the readiness of LRN
- AT&T is misguided in its understanding of QoR/LRN interoperability
 - it wants LRN to be the “*monopoly*”!
- Query On Release is not an interim measure
- AT&T and MCI ignore the facts about QoR
- QoR meets the requirements of the Telecommunications Act
- QoR is significantly more efficient than LRN
- QoR and LRN can co-exist and interoperate **within** a network if necessary

- Do not mandate AT&T's *unproven* Location Routing Number (LRN) database technology
 - Extremely inefficient
 - » Requires massive volumes of queries
 - Extremely inflexible
 - » dictates architecture
 - Extremely expensive
 - » Pacific's cost is expected to be \$1 Billion over 3 years.
- **The Commission should adopt routing, service and performance standards, instead of specifying technologies and architectures**
 - Widespread acceptance of using location routing number ("*lrn*") as *common routing information*
 - » This is not the same as AT&T's LRN

AT&T's LRN is not a "done deal"

- AT&T's LRN has not been accepted as a consensus long-term solution
 - Not adopted in California
 - Not the best alternative for all carriers
- AT&T's LRN is only one of several long-term number portability proposals
- Widespread acceptance of using location routing number ("*lrn*") as *common routing information*
 - This is not the same as AT&T's LRN
 - » "LRN" (large case) denotes AT&T's full database solution
 - » "lrn" (small case) has been used to indicate the common routing information
- Alternate proposal, Query on Release, is currently being evaluated by nine national LECs in the U.S. and Canada
 - QoR uses "lrn" as common routing information
 - QoR is an improvement on LRN

Query on Release (QoR) is the “*next generation*” enhancement for LNP so as to mitigate the frailties and inefficiencies of LRN’s hurried design flaws

- The technology for number portability is still evolving
 - Local Area Number Portability (LANP), first introduced and trialed by ELI/US Intelco, failed to materialize
 - MCI’s Carrier Portability Code (CPC), initially heralded as the “long-term” solution, has been rejected in California, and degraded by MCI as only an interim, throw-away solution
 - AT&T’s LRN proposal, while gaining some acceptance among new entrants, is still unproven and has not been found to be “*flight ready*”
 - » blueprints are still in pencil
 - » requirements/specifications are not yet complete
- “Carrier Choice” will permit carriers to choose the best technological solution that is compatible with their networks, while allowing for continued innovation
- QoR and LRN can begin to be deployed within about the same timeframes to meet the goals of the Commission

Competitors' concerns are unfounded

- **Competitively Neutral** - Long-term number portability methods that impose massive financial burdens on particular classes of carriers are not competitively neutral.
- **Decreased Complexity** - Number portability solutions that decrease the volume of queries should be actively embraced.
- **Decreased Cost** - It is estimated that AT&T's LRN technology could cost Pacific approximately \$1 Billion over a three year period to implement.
- **Concurrent Availability** - Major switch vendors plan to have Query on Release available concurrent with other triggering options.
- **Imperceptible Post Dial Delay** - The Commission should require that any LNP method comply with standards regarding post-dial delay and any other relevant criteria.
- **QoR meets the requirements of the Telecommunications Act**

The Reply Comments refute statements by MCI, and others, that only AT&T's LRN has wide acceptance

GTE

“...the Commission should state that the location routing number (as opposed to AT&T's LRN, which is a triggering mechanism) should be the common routing information employed by all trigger mechanisms, and should allow each carrier to choose the mechanism best suited to its own network.”

US West

*“While resolution of the routing/addressing plan is timely, it would be premature to decide the details of LRN implementation...**there are several triggering mechanisms which are compatible with an LRN addressing plan and it appears, interoperable with each other.**”*

Bell South

*“...the issue of where and how queries are to be launched exists independently of the selection of a particular call model and needs further evaluation. Neither the Commission nor the industry need to select any single triggering mechanism to effectuate LTNP; **carriers should be able to specify the triggering mechanism most appropriate for use on their own networks.**”*

**The Reply Comments refute statements by MCI, and others,
that only AT&T's LRN has wide acceptance (Cont.)**



NYNEX

*“LRN is an **addressing scheme** which, when integrated into an overall number portability platform, holds the best promise of any addressing scheme evaluated so far...”*

Bell Atlantic

*“LRN is merely a **call handling protocol**...It is not a service with defined technical and operational specifications.”*

SBC

*“Importantly, **LRN is not the only long-term solution being considered** by the industry; other technical alternatives also hold promise...”*

Ameritech

“...QoR is a viable enhancement to LRN.”

California Public Utilities Commission

“California also disagrees with parties which claim that there is a particular solution which is ready to be implemented nationwide.”

Interim Number Portability

Until long-term number portability is technically feasible, interim number portability is acceptable and meets “checklist”

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- Act expresses Congress’s clear judgment that interim number portability alternatives are acceptable for purposes of satisfying the competitive checklist.
 - Remote Call Forwarding (RCF)
 - Direct Inward Dialing (DID)
- BOC entry into the interLATA market cannot be delayed by the Commission pending implementation of a long-term number portability solution.
- The Commission need not further consider whether RCF and DID are appropriate interim measures.
 - California already requires interim number portability through RCF
 - » Pacific provides Directory Number Call Forwarding
 - » Provided under contract to MFS
 - » Interim Number Portability tariff pending before the CPUC

Incumbent LECs should not bear a disproportionate share of the costs of LNP

- The Commission should develop a *competitively neutral* cost recovery mechanism that spreads the cost of long-term number portability equitably among all telecommunications carriers.
- New entrants contend that incumbent LECs should bear all costs of internal network upgrades, as well as a proportion of shared costs based on relative number of lines of each carrier.
- Compelling incumbent carriers to bear the vast majority of costs of LNP cannot be considered competitively neutral.
- Cost Recovery should be determined prior to ordering an implementation timeline.

**Response To AT&T's and MCI's
Inaccurate and Misleading Statements
About QoR & LRN**

AT&T misleadingly overstates the readiness of LRN

- No requirements for AT&T's LRN have been accepted in California or nationally
 - Chicago and Atlanta are the lone cities to have experiments scheduled to be conducted with AT&T's unproven architecture
- Bellcore requirements for LRN **and** QoR are not expected to be released until July 1996
 - California Requirements will be about the same timeframe
 - Requirements only address service provider portability where there is "rate center consistency"
 - Location portability and LNP with *inconsistent rate centers* won't be available from Bellcore until October 1996
- Requirements for a Nationally-administered SMS have not even been discussed by the national industry, let alone agreed to
 - No plans for national RFP
 - California industry just beginning to develop requirements for SMS
 - » No timetable yet available
- Requirements and specifications for the required expansion to 10-digit global title translations (GTTs), as required by LRN, are yet to be developed
- Significant work must still be done in design and planning of LNP before any architecture is ready for implementation
 - ***Network reliability should not be compromised***

AT&T is misguided in its understanding of QoR/LRN interoperability...it wants LRN to be the “monopoly”!

- Provisions have been made to ensure that routing attempts from carriers utilizing QoR to terminating carriers employing LRN have no interworking problems
- Carriers choosing to deploy AT&T's LRN will be compatible with QoR
 - QoR is an enhancement to LRN
 - Both use “lrn” as common routing information
- NORTEL will make available, as part of the LRN feature package, “free of charge”, the QoR Release Capability
 - Other vendors, such as AT&T's Lucent Technologies, are expected to follow the proactive market lead of NORTEL
- Requirements for QoR and LRN are being developed concurrently, as part of the same document, by both Bellcore and Industry Standards fora (i.e., ANSI)
 - Compatibility and interoperability have been addressed
- In a competitive market, interoperability standards are developed and competitive solutions coexist
 - e.g., SS7, AIN
- The Commission must not be misled into thinking that there is universal support for AT&T's LRN
 - There are far more new entrants than incumbents, creating a misleading impression of “overwhelming support”.

Query On Release is not an interim measure

- QoR is a “next generation” enhancement to LRN
- QoR is designed for the purpose of reducing LRN network infrastructure consumption and to reduce unnecessary database queries inherent in LRN
- No new software is required for a QoR to LRN transition since QoR is an incremental option to the LRN feature software (NORTEL)
- The transition to LRN, *if ever needed* due to ported numbers volumes in excess of economic or technical thresholds, will merely involve deactivating the QoR software on a per NPA-NXX basis and will not require any new software capabilities
 - However, the network would require extra hardware to handle any increased load caused by a move to the full LRN solution
- QoR and LRN can co-exist and interoperate **within** a network if necessary, based upon the volume of ported number queries in given geographies or switches, and based upon sound network engineering principles

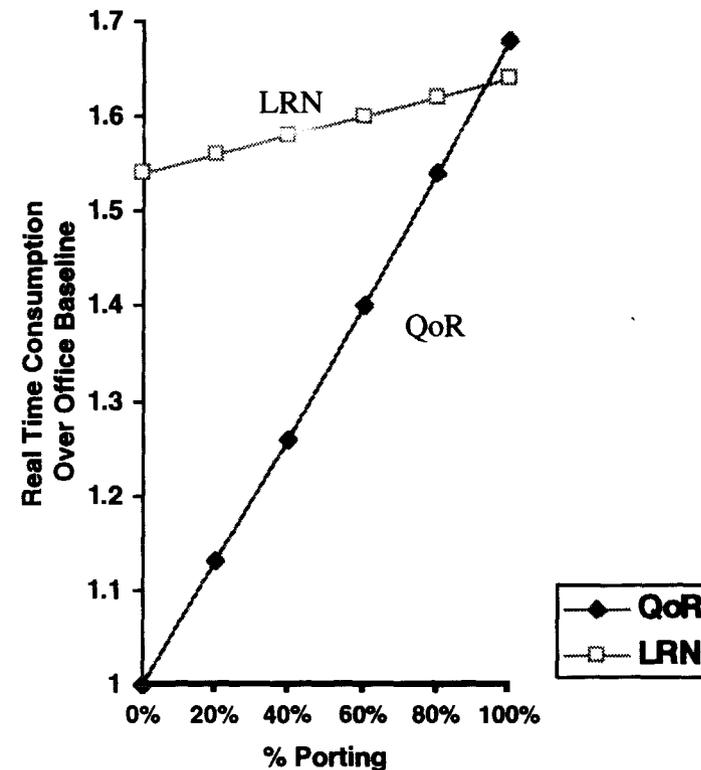
AT&T and MCI ignore the facts about QoR

- **QoR, like LRN, is a permanent portability solution that is technically feasible, and can be scheduled for deployment in the same relative timeframe**
 - Both QoR and LRN need additional requirements development and testing
- **NORTEL has committed to QoR capability by 2Q97**
 - same as LRN
- **Other vendors are expected to have QoR capabilities within a reasonable period of months of the above date, to meet customer requirements**
- QoR builds on the initial work of preliminary network architectures of LRN and RTP to provide more economical and technically efficient alternatives for use in actual telephone networks, versus hypothetical networks

- QoR will ensure that customers have the ability *“to retain, at the same location, existing telecommunications numbers without the impairment of quality, reliability or convenience when switching from one telecommunications carrier to another.”*
- Given the fact that it is Pacific’s customer that will be originating telephone calls from our network to other parties both in and outside of our network, it is in our interest to ensure that all calls complete within the expectations of our customers as to *“quality, reliability or convenience”*
- Any “post dial delay” between QoR and LRN will be imperceptible
 - AT&T’s own LRN solution treats intraswitch versus interswitch customers differently and there is a differential in post dial delay
 - In today’s network, there are differences in post dial delay of calls
 - Post dial delay is not an issue with QoR
 - QoR post dial delay is expected to be **imperceptible**
 - **This issue is a “red herring”**

QoR is significantly more efficient than LRN

- Significant “real-time” savings within a switching network can be realized by utilizing QoR over LRN
- QoR is quite effective in network infrastructure savings as well as switch based “real-time” savings over LRN
- LRN wastes the AIN office based triggering capability by requiring look up on all interswitch originating calls to portable NPA-NXXs
- “Real-time” Consumption savings by QoR over LRN are even more dramatic under the preliminary Suburban Model
 - “Real-time” consumption by LRN over baseline is in the range of 2.2 to 2.4



Preliminary Urban Traffic Model
Urban Real-time Consumption

**Query on Release
(QoR)**

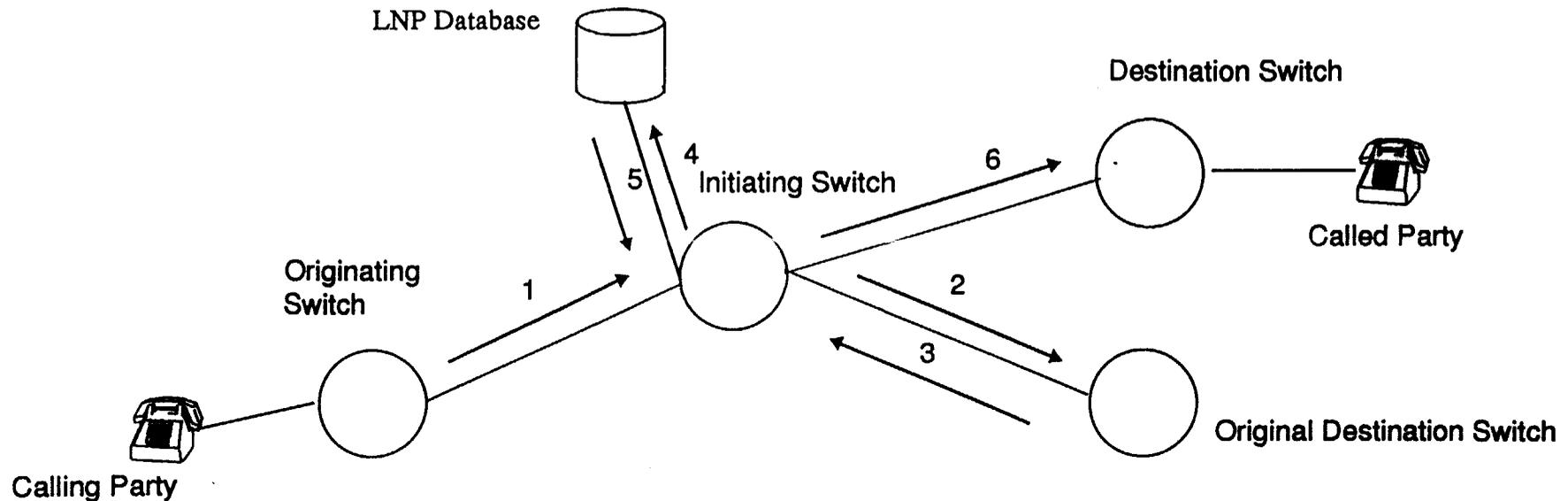
What is Query on Release (QoR)?

- QoR is a network capability that significantly reduces the number of database queries
 - Only requires queries on ported calls
 - Eliminates unnecessary queries for non-ported calls
 - Mitigates the negative network impacts of AT&T's LRN
- QoR, like LRN, is an N-1 type configuration
- QoR, like LRN, uses a common routing scheme
- QoR, like LRN, queries an external database
- QoR, like LRN, is AIN-based
- QoR, like LRN, fully and fairly support operator services, 911/E911 functions and vertical features such as call forwarding
- **QoR, unlike LRN, is more cost effective and technically efficient**

How does QoR work?

- Prior to querying a routing database, attempts to complete call to switch assigned NPA-NXX of dialed number
 - SS7 signaling messages utilized
- If number served by switch, call is completed just as it is today
- If number is ported, call signalling message is “released back” to N-1 switch to perform database query
- Database query to an external database is performed in N-1 network to determine the location routing number (lrn) of the new serving switch
- Call is then physically and efficiently routed to the serving switch

Basic QoR Operation



1. The calling party originates a call and Originating switch routes the call accordingly.
2. After receiving the incoming call setup message, the Initiating switch will route the call toward Original Destination switch with QoR indicator.
3. Upon the receipt of incoming call, the Original Destination switch determined that the called number does not reside here. It releases the call back to Initiating switch and indicates that it does not serve the called number.
4. In order to route the call, the Initiating switch will need to know the routing information (lrn) of the Destination switch. Therefore, Initiating switch will query the LNP database for this information.
5. The LNP database will send a response message with routing information (lrn).
6. Based on the routing information (lrn) in the response message, the Initiating switch will route the call toward the Destination switch where called party currently resides.

Conclusion

The Commission should adopt routing, service and performance standards, instead of specifying technologies and architectures



- The Commission should mandate that common routing information be passed between networks and service quality standards be established as a federal number portability policy
- Carriers should be permitted to deploy the most efficient and cost effective solutions for number portability that are compatible with their respective networks.
- AT&T's Location Routing Number (LRN) database technology should not be mandated on all carriers
- The Commission should not preclude the use of QoR, or other viable alternatives that may be developed
- Incumbent LECs should not bear a disproportionate share of the costs of LNP
- The Commission should develop a competitively neutral cost recovery mechanism that spreads the cost of long-term number portability equitably among all telecommunications carriers
- Significant issues must still be addressed beyond which architectures should be considered
- Interim number portability alternatives are acceptable for purposes of satisfying the competitive checklist

Query on Release “Carrier Choice”

Presentation to the California LNP Task Force

May 10, 1996

Steve Sposato and Kevin Moisan

The information contained herein is preliminary. Pacific Bell makes no representations or warranties of any nature whatsoever with respect to any information furnished herein. In particular, it should be noted that national standards regarding the subject matter may not exist, and are furthermore subject to change. Pacific Bell makes no commitment to purchase, or standardize any products or services utilizing this information.

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Presentation Outline

- Evolution of QOR
- QOR Description and Call Flows
- Signaling Requirements
- Framework Compliance (separate handout)
- Summary