Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20544

In the Matter of	)	
	)	
Telephone Number Portability	)	CC Docket No. 95-116
	)	
CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues	)	

REPLY COMMENTS

The South Dakota Telecommunications Association, Townes Telecommunications, Inc. and Dickey Rural Telephone Cooperative, (jointly referred to as the Companies), by their attorneys, hereby respond to various comments filed on the Commission's Memorandum Opinion and Order and Further Notice of Proposed Rulemaking (FNPRM)[1] concerning the implementation of wireless to wireline local number portability (LNP).

Wireline Carriers Should Only be Required to Accept Ports Within the Rate Center

The Companies support the comments of various incumbent local exchange carriers (ILECs) which demonstrate that wireless to wireline portability outside of the rate center would require significant and costly modifications to wireline carrier networks and operations support systems and it would result in customer confusion.[2] There are additional technical obstacles, however, for rural ILECs in implementing wireless to wireline portability – the same technical obstacles created by the Commission's order for wireline to wireless portability.

[1] Telephone Number Portability, CC Docket No. 95-116, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, FCC 03-284 (rel. Nov. 10, 2003) (FNPRM).
[2] See, Comments of BellSouth Corporation at 4-12; Comments of Verizon at 3-12.

As explained by rural ILECs in connection with wireline to wireless porting, for the most part, wireless carriers do not directly interconnect with rural ILECs and they do not maintain numbers in the rural ILECs' rate centers. This lack of direct interconnection is overcome by routing calls between wireless and wireline carriers to a third carrier. In South Dakota, for example, calls from a South Dakota independent ILEC to a wireless carrier are routed to an interexchange or toll carrier.

This is not changed by local number portability (LNP). In the case of a wireline number that is maintained in the wireline carrier's rate center and which is ported to a wireless carrier, calls to the ported number handled by the wireline carrier (in the absence of direct trunks to the wireless carrier) also would have to be routed to a third carrier, such as an interexchange or toll carrier. The same situation persists in the case of a wireless number ported to a wireline carrier, where the number remains in the wireless rate center.

AT&T, therefore, is wrong with respect to rural ILECs when it states, "there is no network impediment to wireless-to-wireline porting, provided that the recipient wireline carrier has a point of interface located within the LATA associated with that number."[3] In the case of the South Dakota independent ILECs, for example, the wireline carriers have points of interface in the South Dakota LATA, as South Dakota is a one-LATA state. However, the wireless carriers, for the most part, do not have a point of interface in any of the independent ILECs' service territories and the independent ILECs do not have points of interface outside of their service territories. Thus, although all the carriers may have a point of interface in the South Dakota LATA, their networks do not interconnect. This is explained in detail in Appendix A, which describes the relationship between wireline and wireless networks for the purpose of LNP.

[3] AT&T Comments at 3.

FX Service is not a Viable Substitute

The commenters that contend FX service can be used to provide LNP also are wrong. In the initial comments, the Companies argued that requiring LECs to provide free FX service for the purpose of LNP would result in discriminatory treatment of similarly situated customers and in wireline customers subsidizing the service of other wireline customers (those with ported wireless numbers). However, on further evaluation, the Companies submit that FX service cannot be used as a method to provide wireless to wireline LNP. FX service is a line-side connection between the ILEC's host switch and the customer in a foreign exchange via a private transport facility for which the FX customer pays. For the most part, wireless switches do not have line-side connections and are not equipped to serve subscriber loops, foreign or otherwise, with loop current, dial tone and the like.

The type of connection between a wireline switch and a wireless mobile switching center (MSC), therefore, would be a trunk-side connection. In South Dakota, the South Dakota Network provides intra-LATA interexchange DS-1 trunk backhaul facilities at a monthly cost of $11.04 per mile. In addition to this, there are charges from the LECs at both ends of such a facility for terminating the circuit. Qwest, for example, charges $120 for the "channel termination" to its nearest wire center. It would also charge local transport mileage from that wire center to the wire center of the MSC (if they were not in the same wire center) at $0.95 to $1.83 per mile, depending upon total mileage, and another $120 for the channel termination from the terminating wire center to the MSC location. Based on the distance between an independent ILEC and a wireless carrier's MSC, which can be quite significant, the monthly cost of trunking facilities could easily exceed $1,000. For South Dakota ILECs that can often be as small as 700

access lines, this is a significant expense, particularly when one considers that one or more of these circuits would be required for each wireless carrier with which porting is required.

Wireless carriers have refused to order such facilities, presumably because it would not be cost-effective in light of the small amount of traffic exchanged between the wireless carrier and the wireline carrier. It would defy logic for the Commission to find that ILECs must now make this same uneconomic investment for the sake of LNP – which would involve even less traffic.

Remote Call Forwarding is not Appropriate

Remote Call Forwarding, as suggested by Nextel, also is not appropriate to terminate a call outside of a particular ILEC rate center."[4] Remote Call Forwarding still does not solve the problem that there is no direct connection between the wireline switch and the wireless MSC and, therefore, calls to a wireless switch would be routed to an interexchange carrier. In addition, it would require *doubling* the use of numbering resources, as a forwarding number assignment would be required from the porting-in carrier besides the original ported-out number. Further, this approach clearly conflicts with the statutory definition of LNP, which requires, among other things, that consumers be able to retain telephone numbers without impairment of "quality, reliability, or convenience."[5] Using a call-forwarding method would not allow the ported customer to have all the features and functionality otherwise offered by the carrier.

[4] Comments of NEXTEL Communications at 5-6.
[5] 47 U.S.C. § 153 (30).

The Commission Should Defer Action on the Porting Interval

Finally, the comments demonstrate that there is no need to reduce the wireline porting interval.[6] At a minimum, the Commission should defer action on the question of the porting interval until after the North American Numbering Council (NANC) releases its recommendation on this issue.[7] After that time, the Commission should seek comment on the NANC recommendation to ensure that the concerns of small carriers are fully addressed.

Conclusion

The fundamental problem remains for wireless-to-wireline porting as was created by the Commission for wireline-to-wireless porting: namely, the Commission declines to consider methods for transporting ported calls outside of the rate center, and to specify who should pay for the facilities or transport and switching to accomplish it. FX methodology and remote call-forwarding as described by various commenters is inappropriate and unrealistic. Accordingly,

[6] See, Comments of AT&T Corp. at 10; Comments of Verizon at 12.
[7] See, Comments of the Cellular Telecommunications & Internet Association at 4-5.

the Commission should not require ILECs to implement wireless to wireline LNP where there is a mismatch in the rate center, via any of these proposals.

Respectfully submitted,

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APPENDIX A

INTERMODAL LNP REQUIRES "HYBRID" INTERCONNECT SOLUTIONS

VANTAGE POINT SOLUTIONS[1]

The FCC's *Memorandum Opinion and Order and Notice of Proposed Further Rulemaking* (the "Order") concerning wireline to wireless Local Number Portability (LNP) has sought to force its implementation, but has provided little guidance as to how it is to be accomplished, save an edict that interconnecting facilities and interchange agreements between the carriers shall not be required. The industry in ensuing comments has attempted to quantify how it might be implemented in actual practice, however solutions offered typically make sense for only one type of network provider or the other, and have been fraught with inevitable feasibility and practicality issues. This frankly is because wireline and wireless networks and their service areas are fundamentally dissimilar, and, regardless of what efforts are made to equate them, they will never be correlated. In fact, this fundamental dissimilarity is the root of all intermodal LNP issues of this proceeding, and they will only be dealt with successfully with "hybrid" solutions that interface each network in its own environment.

LNP was originally scripted and implemented for a wireline-to-wireline world, one which essentially is two-dimensional. Number portability is provided-for between carriers that exist in the same "plane." Intermodal LNP attempts to graft wireless onto this two-dimensional world. However, there simply is no correlation between wireless service areas and wireline rate centers, nor will there ever be. This is established by the simple fact that wireless subscribers can move around far outside of the wireline rate center to which their NXX is assigned while within their Cellular Geographic Service Areas (CGSAs), and can do so on a call by call basis, while wireline subscribers cannot move around between their rate centers. Although the FCC has identified that the location of a mobile at the initiation of a call is to be used for the purposes of assessment of call-by-call access charges[2], this simply is not suitable for the necessarily permanent correlation of mobile location with a rate center and its NXX(s), for the purposes of intermodal LNP. Wireless therefore exists *on its own plane* as far as intermodal calling is concerned, and the only possible correlation between it and the wireline plane is where

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[1] Vantage Point Solutions is a telecommunications engineering and consulting company providing a full range of services including professional engineering, outside plant engineering, strategic planning, technology evaluations, network architecture design, regulatory expertise, and feasibility studies, specializing in the unique business challenges faced by Independent Local Exchange Carriers (ILECs). It has a seasoned staff of telecommunications professionals, key members of which are well known and respected in the telecommunications industry, and which include registered Professional Engineers in 20 states. It's management has over 150 years of combined experience. A majority of the Companies are clients of Vantage Point Solutions, whose headquarters is located in Mitchell, South Dakota.

[2] FCC First Report and Order, Interconnection between Local Exchange Carriers and Commercial Radio Service Providers, August 8, 1996, ¶1043

the wireless interconnection network access channels "hit the ground," where they must then adhere to the rules of the wireline plane. Thus, any consideration of the two planes requires a three-dimensional view.

Wireline-to-wireline LNP essentially is two-dimensional in that both wireline carriers involved in a port exist in the same plane. This is depicted in Figure A-1.

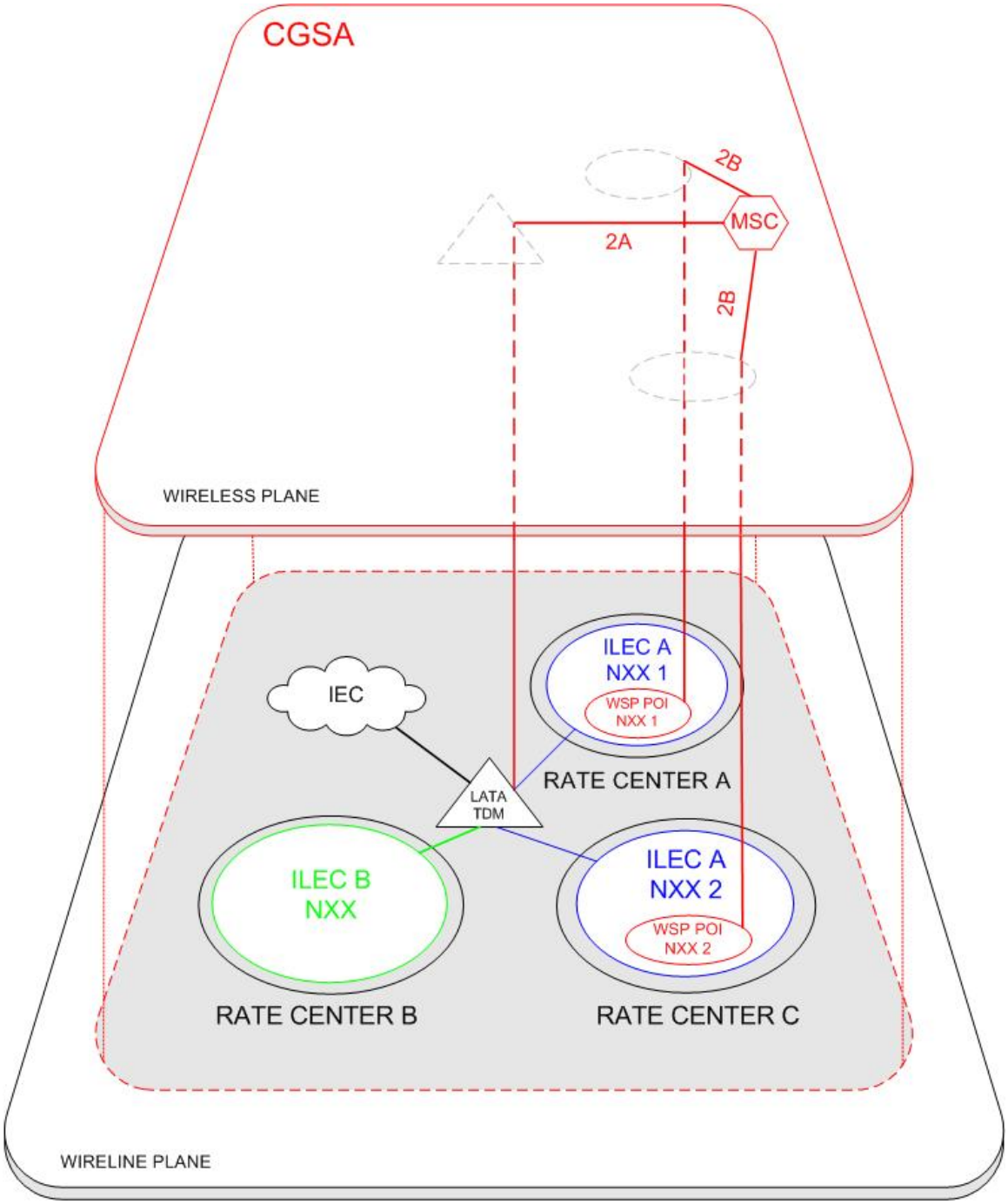

Figure A-1

ILEC B on the Wireline Plane is representative of a rural wireline carrier and accurately represents most rural ILEC Companies. For this company, there are no established POIs with the wireless carrier, no interconnections between the wireless carrier and the wireline carrier, and no wireless NXX in the rate center. Porting of numbers and routing of calls between it and its various wireline neighbors behaves according to established *Local* Number Portability and location-based routing axioms for its plane.

By overlaying this plane with the wireless network on its own plane, intermodal calling scopes can now properly be modeled in the three-dimensional view. For Pre-LNP calling, like-subscribers (wireline or wireless) may call one another toll-free anywhere within their respective carrier's local service area. However, wireline calls to/from outside the wireline service areas conform to the long established and embedded location-based routing methods, while wireless calling scopes are a hybrid of the two planes. Thus, the routing of wireless calls follows one set of rules while in the wireless plane, and another while being delivered through the wireline plane.

Specifically, in terms of mathematical Set Theory, the wireless terminating local calling scope is actually the Union (or "hybrid") of calling from other mobile subscribers of the same wireless carrier - wherever they are in the CGSA and regardless of their mobile ID number - and, of calling from land parties that are only in the same rate center as the one for which the mobile NXX is coordinated – *not* from other rate centers under the wireless plane. Similarly, the wireless originating local calling scope typically consists of CGSA-wide mobile to mobile calling - following no wireline rules - when within the wireless plane, plus mobile to land calling that is arbitrarily defined by the wireless carrier. (The wireless carrier may opt to allow local calling to any land NXX under its plane for its subscribers, but this is only as a business decision to pay the cost of transporting wireless-originated calls to those various foreign rate centers via its own network and/or via its switched access arrangements with the wireline carriers; and, notably, has *nothing to do* with the ability of wireline subscribers in those rate centers to call the wireless NXX.)

Once the wireless transport of a call hits the wireline network, though, again, it must adhere to and operate by the established wireline routing and rating rules, and wireless carriers pay the traditional reciprocal compensation charges for local calls or access charges for toll calls. Thus, although "a wireless carrier's 'coverage area' overlaps the geographic location in which the customer's wireline number is provisioned," the respective carriers' local service areas exist in two different planes and behave according to two different and divergent sets of rules. In the real 3-D world, they are not intersecting or even tangent, and thus have nothing to do with each other. Their only commonality is the interconnecting (vertical) network access channels between the planes.

There are many cases in the real 3-D world where direct connection between the wireline carrier's rate center and the wireless carrier do not and will not exist, however, as the Order dismisses the need for physical wireless POIs, numbering resources, or interconnection agreements for the porting-out rate center. This is especially true for the small, rural ILECs that do not have the population densities to provide economic justification for the wireless carriers to establish such interconnections.

In Figure A-1, for example, should a wireline subscriber wish to port his number, which originally was assigned from the ILEC NXX associated with Rate Center B, to a wireless phone, the porting-in (wireless) carrier *de facto* "maintains the ported number's original rate center designation following the port,"[3] because established wireline location-based routing and rating rules apply for calls to/from this wireline NXX. When a landline customer of ILEC B attempts to call his neighbor, who has now ported his number to the wireless carrier, ILEC B would perform a database dip to determine the Location Routing Number (LRN) of the ported number. ILEC B would then route this call (it is unclear how, since there are no facilities) to the wireless MSC that theoretically was supposed to be in the same location as it is, which would in turn receive the call and translate the called party number into a Mobile ID number for terminating the call.

The same problem now arises in the other direction, for wireless to wireline porting, where the wireless number is maintained in the wireless carrier's rate center after the number is ported to a wireline carrier with a different rate center. Again in Figure A-1, let's suppose that a wireless subscriber with a number from the wireless carrier's NXX associated with Rate Center A wishes to port this number to a landline telephone at his home in rural Rate Center B. LECs for calling parties in other rate centers simply will route calls originated on their switches to the dialed number via toll routes to the wireless MSC based upon the NPA-NXX dialed, per established location-based routing rules; whereupon the wireless MSC will do a database dip and determine where (theoretically locally) to route the call. Since it would be to a rate center in which it does not have a POI, though, the method of transporting the call and paying for it is undefined. If there is no common facility or interchange agreement, only conventional, switched toll routes remain; but again, no translating, routing or rating rules have been established for this scenario.

As for originating calls, the newly ported wireline subscriber cannot expect to place local calls to the entire wireline region that happens to be under the wireless plane as he did when he was a wireless subscriber. The existing location-based wireline routing rules necessarily will send calls dialed to other exchanges under the wireless plane via traditional toll routes. Attempting to make any/all ILECs under the wireless plane adhere to a common local calling scope on a number by number basis is outside the ability of the existing location-based routing rules.

When viewed in the real 3-D world, it also is now apparent that attempting to consolidate rate centers to approximate the wireless CGSA is not a feasible alternative either. Wireless service areas are dictated by the very nature of RF propagation, and the curves of their boundaries will constantly change according to ongoing antenna system and RF power optimizations, as well as seasonal and day to day propagation characteristics. In the case of CDMA, they even change dynamically according to cell site capacity and loading. Wireline service areas on the other hand are defined by geographic, regulatory and arbitrary boundaries that are typically straight line and rectangular, and that change according to human intervention, not physics. Trying to equate the two amounts to trying to drive the proverbial square peg into the round hole.

[3] FCC Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, Telephone Number Portability ¶1

Pockets where foreign rate center porting would be required will always persist and will change with time.

Thus, the fundamental problem remains for wireless-to-wireline porting as was created by the Order for wireline-to-wireless porting: The Order declines to define methods for transporting ported calls outside of the rate center, and to specify who should pay for the facilities or transport and switching to accomplish it.

The only realistic method of implementing intermodal porting, in either direction, then, is via vertical connections between the two dissimilar planes in the real 3-D world in which they exist. Interfacing the two planes requires numbering resources and physical wireless network access channels that extend to touch the wireline plane *locally* where *Local* Number Portability is contemplated, and/or, rules for routing calls to/from ported numbers via toll and interexchange switched access. This is true for both wireline to wireless as well as wireless to wireline intermodal porting. Only this will maintain the inbound and outbound calling scopes that are proper hybrids of the individual calling scopes for the two planes, and allow intermodal porting to take place without the chaos that necessarily will result from otherwise changing axioms of either system's functionality.

CERTIFICATE OF SERVICE

I, Kelly Laraia, hereby certify that copies of the foregoing Reply Comments were served by U.S. Mail on this 4th day of February, 2004 to the persons listed below:

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