Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Provision of Access for	)	RM No. 8535
900 Number Service	)	

U S WEST COMMENTS

A. Introduction and Summary. U S WEST Communications does not oppose the petition filed by Teleservices Industry Association ("TIA") which asks the Commission to initiate a proceeding investigating the feasibility and desirability of implementing a number portability capability with 900 access service.[1] However, if the Commission does commence such an inquiry, it should simultaneously investigate the feasibility and desirability of introducing the same portability capability with a newer and potentially more promising service: 500 — or personal communications— access service.

While U S WEST does not oppose the commencement of an inquiry, it does wish to advise the Commission that the introduction of service provider number portability, whether for 900 service or any other service, is neither as easy nor as inexpensive as the TIA petition suggests. Indeed, the market

[1] *See* TIA Petition for Rulemaking, RM No. 8535 (Oct. 18, 1994). *See also* Public Notice, Report No. 2037 (Oct. 25, 1994).

demand for 900 pay-per-call services may not be large enough to absorb the additional costs access providers would incur to support 900 portability.

U S WEST submits these comments so TIA and the rest of the industry can address these market and economic issues in the reply comments and so this Commission can then use this information in deciding whether to commence a proceeding.

B. Modifying the Existing 800 Data Base Infrastructure Is Not Feasible. TIA asserts that the costs to provide 900 portability "will be small" because "almost all of the required technology already has been deployed."[2] According to TIA, telephone companies can provide 900 portability simply by making "minor" adjustments to their existing 800 data bases.[3]

TIA's undocumented beliefs and allegations are grossly mistaken, and it is unfortunate that TIA filed its petition without first discussing the matter with engineers knowledgeable about current 800 data base technology.[4] Even this Commission has noted that current 800 data base technology is

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[2] TIA Petition at 16.

[3] Id. at 17-18.

[4] It is also unfortunate that TIA filed its petition without first presenting its proposal to industry fora, so the industry would have an opportunity to consider needed service requirements and the technical issues associated with provisioning TIA's undefined requirements.

"not service independent."[5] In fact, attempting to modify existing 800 data base technology to support another service (like 900 service) could require radical changes to virtually all components of the 800 system.

The primary assumption developers made a decade ago in designing the current 800 data base technology was that the system would be used to support one service only: 800 service. It should not, therefore, be surprising that virtually all components of this system must be changed if an assumption as basic as this is later changed.[6] Among other things, changes would have to be made to the Service Management System ("SMS") software; most of the systems interfacing with the SMS, including billing systems; the capacity of the SMS computer hardware (to accommodate storage of additional customer records); the software controlling individual 800 data bases (and for some data base owners, the expansion of their processing and storage capabilities); and the switch software which generates queries to the 800 data bases.

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[5] Intelligent Networks, 8 FCC Rcd 6813, 6814 n.9 (Aug. 31, 1993). Actually, current 800 data base technology is even more limited than the Commission noted, as this system is capable of being used with the 800 SAC only. Consequently, U S WEST is examining use of its AIN to support number portability when exhaust of 800 numbers requires the opening of a new SAC.

[6] For example, as a result of this assumption, developers designed the 800 system to store and process seven-digit numbers only; after all, storage and processing of 10-digit numbers would have been inefficient because the first three digits of all 10-digit numbers would have been 800. However, to use the same software to accommodate another SAC (like 900) would require that virtually all system components be modified so 800 numbers can be distinguished from 900 numbers.

U S WEST has not contacted the vendors of these components to determine whether it is even technically feasible to modify the current system to accommodate another service using another Service Access Code. However, even assuming all components can be modified, U S WEST is confident that the changes would involve considerable cost and could not be fully implemented for three years (at best). Consequently, if it is eventually determined that market demand would support the added costs to provide 900 number portability, U S WEST would support this capability using an entirely different technology: Advanced Intelligent Network.

C. U S WEST Would Use Instead Its Advanced Intelligent Network. The 800 data base technology currently in use is no longer state-of-the-art as it was when the system was designed a decade ago. Technological advances in recent years have been revolutionary and, as discussed above, 800 data base technology does not appear to be sufficiently flexible to support in a cost-effective manner number portability in connection with other services. If U S WEST were to provide a number portability capability with its 900 access service (or any other access service), it would likely use instead its Advanced Intelligent Network.

Advanced Intelligent Networks, the Commission has noted, "are designed to facilitate rapid service creation. With [AIN], some of the intelligence currently in software housed in every switch is placed instead in fewer,

centralized databases. The centralized databases interact with LEC switches to route calls. The use of databases allows new services to be introduced in the network quickly . . . [because there is no longer] the need to make software changes in individual switches. * * * The architecture of [AIN] is designed to be service-independent — supporting many services rather than a single service."[7]

U S WEST is aggressively deploying AIN in its network. For example, it expects that, before the end of next year, end office switches serving approximately half of its access lines will be AIN-compatible. However, any new or expanded use of this AIN network may require U S WEST to expand the capacity of its AIN data bases, expand the capacity of its CCS-SS7 network connecting those data bases with its switches, and modify its AIN to perform any new functions requested.

D. Major Business Issues Must be Addressed Before a 900 Portability Capability Could be Introduced. U S WEST, given the extent of its anticipated AIN deployment, should have much of the infrastructure in place to support the provision of a 900 number portability capability before the end of next year.[8] However, as discussed below, having embedded infrastructure

[7] Intelligent Networks, 8 FCC Rcd 6813-14 ¶¶ 6 and 8 (Aug. 31, 1993).

[8] Of course, U S WEST may need to expand the capacity of some or all of this infrastructure to accommodate any additional usage of it, interconnect with the national SMS, and modify

Footnote Continued on Next Page

does not mean that the telecommunications industry is prepared to support number portability nationwide; nor does it mean that it would be prudent and cost effective to introduce 900 number portability. This section discusses two of the important questions which must be addressed before any decision is made to introduce number portability for 900 access service (or for any service for that matter).

1. A Service Management System ("SMS"). 900 service is a national service — that is, most 900 service providers want callers to reach their service, regardless of where they may be located at the time they make the 900 call attempt. To meet this need for nationwide coverage in a number portability environment, all 900 access providers in this country must be capable of providing 900 portability. This, in turn, requires that all 900 access providers have access to the very same carrier identification information so they know to which 900 service provider (or its 900 transport carrier) they must deliver each 900 call attempt.

It is not practical for all 900 access providers to access the same 900 data base. For example, 800 access providers access regional data bases in processing 800 call attempts, and there are a dozen or so regional 800 data bases located throughout the country. The use of multiple "carrier identifi-

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its AIN data bases to accommodate 10-digit screening in a manner consistent with any na-

Footnote Continued on Next Page

cation" data bases in the provision of a national service like 800 or 900 therefore requires the deployment of a single Service Management System, or SMS. An SMS, the Commission has noted, "is the centralized data base system that provides a national coordinated system for the assignment of . . . numbers, the entry of . . . customer records, and the loading of customer records into regional data bases (SCPs) owned and operated by the LECs."[9]

The SMS for 800 service, developed and paid for by U S WEST and the other Bell companies, cost approximately $37 million. Given the criticisms the Bell companies were later subjected to for having assumed this necessary task, coupled with the regulatory hurdles and restraints to which they were later subjected, U S WEST does not plan to undertake a similar role with SMS for other services, including an SMS/900.

Nevertheless, the provision of 900 number portability requires an operational SMS/900, and the following issues need to be addressed before an SMS/900 can be deployed and become operational:

- What SMS hardware should be used, and who decides what equipment to purchase?

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tional standard.

[9] SMS/800 Access Order, 8 FCC Rcd 1423, 1425 ¶ 19 (Feb. 10, 1993).

- Who develops the SMS service requirements, and who decides both what these requirements will be and who will write the software implementing those specifications?

- Should an SMS/900 also be used to support other national N00 services (like 500 services), and who decides what services the SMS will support?

- Who will operate the SMS, and who decides who will operate the SMS?

- How will all SMS investment and operational expenses be recovered?

- Who will advance the funds necessary to purchase the SMS hardware and software before the system becomes operational (and recovery fees can be imposed)?

- What interfaces will be available between 900 service providers and the SMS, and who decides what interfaces will be available?

- What interfaces will be available between the SMS and individual 900 data bases to download information, and who decides what interfaces will be available?

None of these important questions is even raised in the TIA petition.

2. 900 Access Providers Must Have Some Confidence That They Will Recover Their "Portability" Costs. Any business will provide a new service only if it has some confidence that it will recover its costs (as well as realize a return on its investment). Simply stated, there must be a market demand for the new service or feature and the market must be willing to pay the costs incurred in providing the service (including a return on investment).

This simple axiom applies to the provision of any new telecommunications service, including a number portability capability with 900 access service. Even if it is technically possible to provide 900 portability, the question remains whether a market for the capability truly exists — that is, are 900 service providers willing to pay the extra costs access providers will incur to provide 900 number portability.

U S WEST is concerned that the pay-per-call market may not support the introduction of 900 number portability. Specifically, the 900 services market does not appear to be large enough to support an increase in access charges (to cover the additional costs in supporting number portability). If the access charges are too high for the market to bear, 900 service providers will simply exit the market, leaving U S WEST and other 900 access providers with an investment which they will be unable to recover.

TIA's assertion that the pay-per-call market "has grown steadily" cannot be squared with U S WEST's experience.[10] In fact, the number of interstate 900 call attempts originating in U S WEST's service area has been decreasing:[11]

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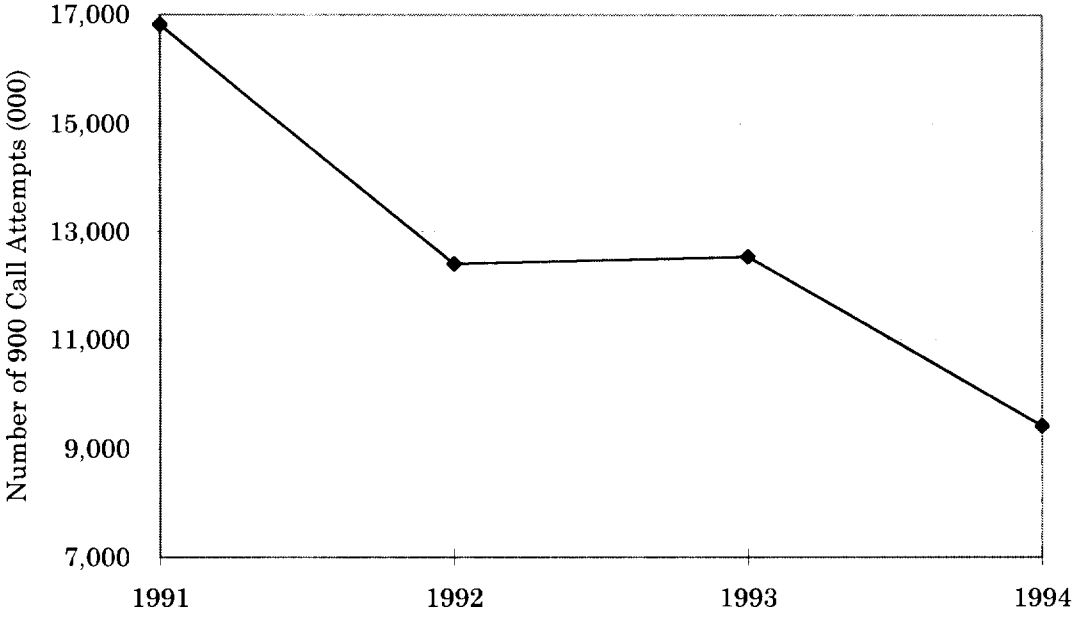
[10] *See* TIA Petition at 2.

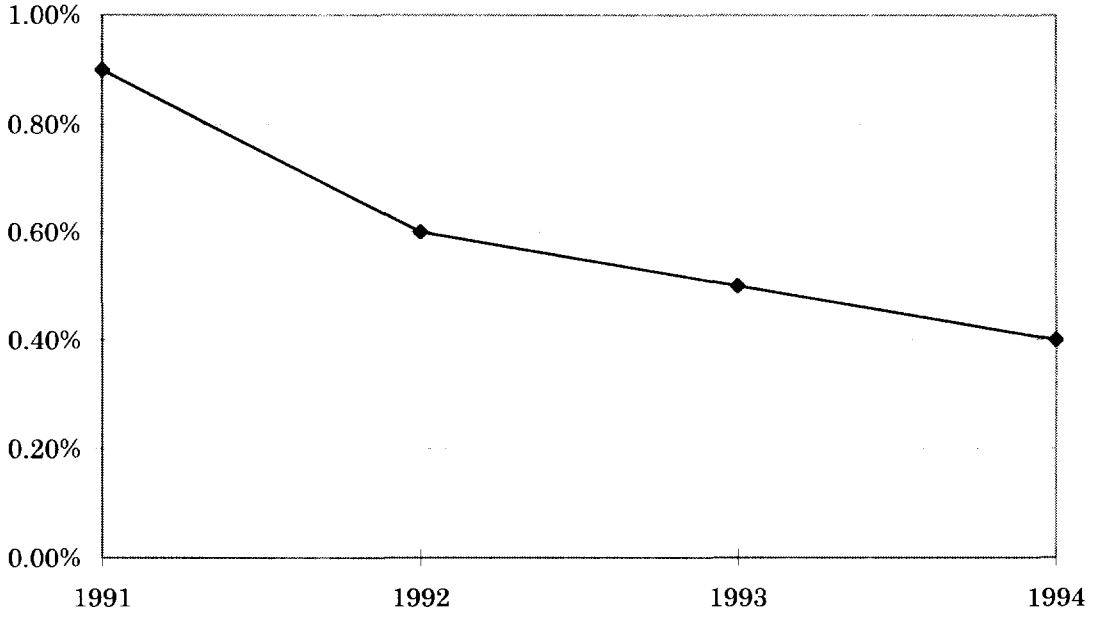
[11] In this and in the next chart, 1994 data is through October 31, 1994 only.

Interstate 900 Messages



Equally significant, 900 service call attempts are a minuscule (and decreasing) fraction of 800 service calls attempts — **less than one percent (1%)**:

900 Messages as a Percent of 800 Messages



This data suggests that the per-call cost to provide 900 portability may be significantly higher than the current per-call cost to provide 800 portability (because 900 portability costs must be spread over a much smaller customer base).[12]

Until more financial and market demand data is available, U S WEST cannot make a reasoned decision over whether investing in a 900 portability

[12] It is, of course, possible that at least some of the increased access cost for portability will be offset by the lower prices transport carriers will charge (because portability makes the transport market far more competitive). However, given that the size of the 900 market is less than 1% of that of the 800 market, this offset will not be nearly as significant for the 900 market as it was for the 800 market.

capability would be prudent — that is, whether by doing so it would have a reasonable opportunity to recover its investment and expenses, plus a return on its investment. It bears emphasis that, like any business, U S WEST's capital dollars are limited, and U S WEST has an obligation to its shareowners to invest those finite dollars in areas where they can enjoy the most significant return.

E. If Anything, the Commission Should Investigate the Feasibility and Desirability of Providing a 500 Number Portability Capability. The 500 Service Access Code has recently been assigned to personal communications services. Personal communications — or 500 — access service will initially be provisioned much like 900 access service is provided today (and much like 800 access was provided before data base technology was introduced last year): *via* the "NXX" method of carrier identification whereby the 500 service provider (chosen by the party being called) is identified by the fourth, fifth, and sixth digits in the dialed 500 number. The "NXX" approach is not capable of supporting number portability because a person switching to another 500 service provider must, by definition, change his or her telephone number to include an NXX assigned to that provider.

This Commission has already declared that number "portability should be achieved as expeditiously as possible [in the 500 market] so that subscribers will be able to change service providers while retaining the same 500

number."[13] The industry has begun investigating the feasibility of introducing number portability with 500 access services, but real progress has been slow.

U S WEST would provide a number portability capability with its 500 access services the same way it would provide the same capability with its 900 access services: *via* its Advanced Intelligent Network.[14] The issues with 500 access service are, moreover, largely the same issues that are raised with 900 access service: the need for an SMS and a determination that the benefits outweigh the costs so access providers have some confidence that they will recover their added costs. Consequently, if the Commission is going to investigate the feasibility and desirability of introducing 900 portability, it

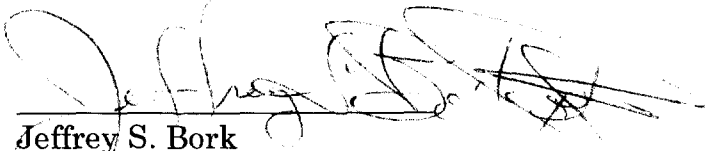
[13] Letter from A. Richard Metzger, Jr., Chief, Common Carrier Bureau, to Ronald R. Conners, Director of NANP Administration (May 3, 1994).

[14] The supply of 800 numbers is diminishing rapidly, and the industry is now discussing the opening of a new SAC (*e.g.*, 822) to provide an additional supply of numbers for 800-like services. U S WEST would also likely use its AIN in supporting portability with any new SAC chosen (because the 800 data base technology cannot be modified to handle another SAC).

should also examine the feasibility and desirability of introducing 500 portability.

Respectfully submitted,

U S WEST Communications, Inc.



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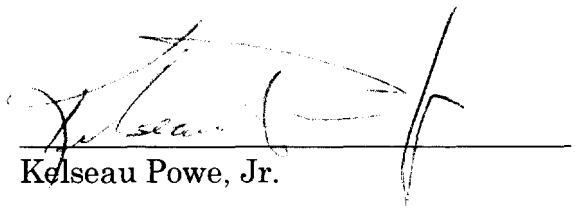
November 23, 1994

CERTIFICATE OF SERVICE

I, Kelseau Powe, Jr., do hereby certify that on this 23rd day of November, 1994, I have caused a copy of the foregoing **U S WEST COMMENTS** to be served via first-class United States Mail, postage prepaid, upon the persons listed on the attached service list.



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