ORIGINAL

U S WEST, Inc.
1020 Nineteenth Street NW Suite 700
Washington, DC 20036
202 429-3120
Fax: 202 293-0561

Melissa Newman
Vice President - Regulatory Affairs

December 2, 1999

EX PARTE

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 – 12th Street, SW, TW-A325
Washington, DC 20554

Re: CC Docket No. 99-68

Dear Ms. Salas:

On Wednesday, December 2, 1999, Bob Taylor, Mark Hollings and the undersigned, representing U S WEST, met with Howard Shelanski, Yog Varma, Jane Jackson, Rodney McDonald, Deena Shetler, and Tamara Preiss to discuss the above-referenced proceeding. The attached material was distributed at the meeting and served as the basis of the discussion.

In accordance with Section 1.1206(b)(2) of the Commission's rules, an original and one copy of this letter and attachment are being filed with your office for inclusion in the public record of this proceeding.

Acknowledgment and date of receipt of this submission are requested. A duplicate of this letter is attached for this purpose.

Sincerely,

Melissa Newman/ESM

Melissa Newman

Attachments

cc: Howard Shelanski
Yog Varma
Jane Jackson
Rodney Mc Donald
Deena Shetler
Tamara Preiss

NATIONAL ECONOMIC
RESEARCH ASSOCIATES
ONE MAIN STREET
CAMBRIDGE, MASSACHUSETTS 02142
TEL: 617.621.0444 FAX: 617.621.0336
INTERNET: http://www.nera.com

n/e/r/a
Consulting Economists

AN ECONOMIC AND POLICY ANALYSIS OF EFFICIENT INTERCARRIER COMPENSATION MECHANISMS FOR ISP-BOUND TRAFFIC

William E. Taylor, Agustin Ros and Aniruddha Banerjee
National Economic Research Associates, Inc.
One Main Street
Cambridge, MA 02142

December 1, 1999

AN ECONOMIC AND POLICY ANALYSIS OF EFFICIENT INTERCARRIER COMPENSATION MECHANISMS FOR ISP-BOUND TRAFFIC

I. INTRODUCTION

1. The emergence and rapid progress of the information age is having a profound impact on our economic, social, and political environment.[1] As we approach the turn of the millennium, there is no better testament to the transformation occurring than the increasingly important role the Internet is having in the daily lives of more and more people and institutions. Businesses are using the power of the Internet to reduce costs and improve overall operating efficiencies.[2] Individuals are finding that the Internet offers vast opportunities to obtain important information that can be used to make better-informed decisions on a host of market and non-market activities (i.e., advance career objectives and minimize expenditures on leisure activities). By reducing the cost of information to both producers and consumers, the Internet is reducing the losses in economic efficiency that result from market failure due to asymmetric information. The potential benefits from the continued growth of the information economy are enormous.

2. In order that the economy may reap the full potential of the Internet, public policy regarding the Internet must be consistent with, and lead to, the achievement of economic efficiency. In the long run, only policies that are consistent with economic efficiency provide the opportunity to achieve lower costs, lower prices, and new and innovative services. Moreover, because the market is now poised to provide these benefits without a jump-start from outside sources of subsidy, it is also important to minimize unintended distortions to competition elsewhere and, in particular, to local exchange competition. Finally, the

[1] The growth of the Internet in recent years—in terms of both volume and content—has been nothing short of astonishing. The conventional wisdom is that the Internet "doubles" every year, a rate of growth that is unprecedented in virtually every other sphere of economic activity.

[2] For example, businesses are using the Internet to reduce the costs of their inputs, exchange inventory information with crucial suppliers in real time with minimal administrative and transaction costs, and seek out new market opportunities.

exponential growth of Internet usage itself makes inefficient policies dangerous: what appears to be a reasonable subsidy today will quickly become unreasonable if not checked.

3. To date, the emergence and growth of the Internet has been aided by two subsidies—one express and one implicit. First, although Internet calls give rise to local exchange switching and transmission costs for incumbent local exchange carriers ("ILECs"), Internet Service Providers ("ISPs") are largely exempt from paying ILECs for those costs. Through the Enhanced Service Provider ("ESP") exemption, ISPs are excused from paying the access charges ordinarily assessed on carriers of long distance traffic. As a result, ILECs may not charge ISPs for their use of the local exchange to carry what are effectively interstate calls from the premises of ISP customers to the ISP locations.[3] This exemption creates a subsidy in favor of ISPs at the expense of the ILECs and CLECs that carry the calls placed by the ISPs' customers. And, ILECs and CLECs do not shoulder the burden evenly: in lieu of access charges, CLECs are permitted to collect regular business service rates from the ISPs they serve, while the ILECs that originate the bulk of those calls collect nothing from the ISPs.[4]

4. The ESP exemption has led to a second, albeit implicit, subsidy. In the absence of a regulatory scheme for compensating carriers for carrying ISP-bound traffic -- the ESP exemption makes the access charge regime unavailable -- many states have applied the reciprocal compensation scheme as the model for compensation. In so doing, they have applied the same rates in assessing payments for ISP-bound traffic as those used for traditional voice traffic. As we describe below, this causes ILECs originating ISP-bound calls to pay more for the carriage of those calls than such carriage costs—essentially creating windfall profits for the CLECs that serve ISPs and, by extension, allowing the CLECs to subsidize the ISPs and the ISPs' customers for Internet access.

5. In this paper, we apply economic principles to show that the appropriate form of intercarrier compensation for such traffic is not reciprocal compensation. The practical effect of the

[3] FCC, *In Re: MTS and WATS Market Structure*, CC Docket No. 78-72, Memorandum Opinion and Order ("MTS/WATS Order"), 1983.

[4] Of course, where the ILEC serves the ISP, it, too, can collect the basic business service charge.

ESP exemption has been an intercarrier compensation scheme that jeopardizes the efficient development of local exchange competition (and, to the extent that infrastructure is harmed, the continued growth of the Internet itself) and presents obstacles to more efficient intercarrier compensation schemes.

6. If, however, the Commission determines that reciprocal compensation is the required mechanism for intercarrier compensation for ISP-bound traffic, we also show that the prices which are charged for such calls should not be the same as those used for traditional voice traffic. Use of voice-based rates for ISP-bound traffic results in gross overpayments by ILECs to CLECs serving ISPs. This, in turn, creates perverse economic incentives for CLECs to serve ISPs and to shun residential customers as well as to generate customers and traffic artificially for the purpose of collecting reciprocal compensation payments.

7. Our analysis and conclusions in this paper are based on an examination of current regulatory and policy initiatives and of how carriers that jointly provision access to an ISP would be compensated in unregulated competitive markets. Our major findings are as follows:

   - Persisting with the current reciprocal compensation scheme will generate an inefficient subsidy for Internet use, distort the local exchange market and generate harmful arbitrage opportunities for CLECs. These include incentives for CLECs to generate sham customers and traffic and to specialize in serving ISPs in order to receive reciprocal compensation revenues.

   - Costs incurred in carrying ISP-bound traffic are lower than those incurred in carrying traditional voice traffic. Because the reciprocal compensation scheme does not take this into account, ILECs are paying CLECs for carrying calls to ISPs at rates that exceed the cost CLECs incur in carrying the calls, and the costs avoided by the ILECs in having the calls carried by the CLECs.

8. In Section II, we address the ESP exemption and analyze the inefficiencies it creates by barring LECs from recovering the costs of ISP-bound traffic directly from the ISPs or their customers. In Section III, we assume that reciprocal compensation will apply to ISP-bound traffic and analyze the harm to efficiency and the distortion of local exchange competition that result from applying rates and a rate structure suited for traditional voice traffic to the payment of reciprocal compensation for ISP-bound traffic.

II. ALLOWING ILECs TO RECOVER THEIR COSTS OF ORIGINATING ISP-BOUND TRAFFIC FROM THE ISPs THEMSELVES WOULD BE ECONOMICALLY EFFICIENT.

9. Cost causation is a fundamental economic principle that should inform any analysis of pricing and cost recovery. The principle asks two questions: (1) who or what has caused the cost in question (cost source)? and (2) how much is the cost in question (level of cost recovery)? Once the person or activity that gives rise to a cost has been identified, the amount of cost in question is recovered entirely from that source.

10. Consumers determine what and how much to buy on the basis of prices they pay. Their act of buying also causes costs. To ensure that society's scarce resources are put to their best use and that only the goods and services of highest value to society are produced and consumed, consumers (cost-causers) must be made to pay prices that fully reflect the costs they cause. Application of the cost causation principle thus leads to prices that fully recover costs and, at the same time, ensure that consumption occurs—and resources are used—efficiently.

11. We can use the principle of cost causation to gain a better understanding of the problem at hand. Suppose customer Jane is a U S WEST subscriber for local service and an AOL customer for Internet traffic. Suppose further that AOL obtains access service from a CLEC. When Jane places an Internet-bound call, what costs are incurred and what revenue sources are available to cover those costs? Switching and transmission costs are straightforward: U S WEST carries the call from Jane's computer to U S WEST's point of connection with the CLEC, the CLEC carries the call to AOL, and AOL performs protocol conversion and sends the call out into the Internet. At present, revenue to cover these costs comes from four sources: Jane pays U S WEST a regulated price for residential local exchange service and pays AOL a competitively-determined price for ISP services. AOL pays the CLEC a price for network access service that is limited by the FCC's ESP exemption from including interstate carrier access charges. And, U S WEST pays reciprocal compensation to the CLEC.

12. The principle of cost causation implies that, *for the purposes of an Internet call*, Jane is properly viewed as an AOL customer placing an Internet-bound call, not a U S WEST customer placing a local call. Although the portion of her Internet call that lies entirely within the circuit-switched network, i.e., up to AOL, *resembles* a local call, its economic function is very different, since AOL is not simply a passive end-user recipient of her call. Rather, AOL designs, markets and sells Jane the service, collects her monthly fee for Internet access, answers her questions, establishes telephone numbers at which she can access its services without paying toll charges, and pays the CLEC for access to the public switched telephone network. Moreover, AOL performs standard carrier functions such as transport and routing, as well as maintains leased facilities within the backbone network. U S WEST and the CLEC simply provide access-like functions to help the Internet call on its way, just as they might provide originating or terminating carrier access to help an inter-exchange carrier ("IXC") carry an interstate long distance call.

13. By contrast, when a U S WEST subscriber places a local call that terminates to a CLEC subscriber, what functions does U S WEST perform? Obviously, it originates the call by providing dialtone, local switching, and transport to the CLEC's point of interconnection. In addition, U S WEST markets the service to its subscriber (and customer of local calls) and determines both the level and structure of the price and other terms and conditions under which the customer decides to place the call. U S WEST determines if the call has been completed, bills and collects from the customer for the call (if measured service applies) or for flat-rate service, and answers questions regarding the bill or the service. The story is precisely symmetric if the originating party is a CLEC customer and U S WEST or another CLEC terminates the call.

14. Consequently, the same subscriber can act both (1) in the capacity of a customer of the originating ILEC when making a local voice call, and (2) in the capacity of a customer of the ISP when making an Internet call. This situation is not an unfamiliar one: it is exactly analogous to the subscriber acting in the capacity of a customer of an IXC when making a long distance call. Like the ISP, the IXC acts as its customer's agent in assembling the necessary components of the customer's call. When a U S WEST subscriber places a long distance call using, e.g., AT&T, U S WEST's function is limited to recognizing the carrier

code (or implementing presubscription in its switch) and switching and transporting the call to AT&T's point of presence. While, at some level, the functions its network performs are similar to those used to deliver local traffic to a CLEC,[5] the economic functions are very different. It is AT&T that markets the service to its customer and determines both the level and structure of the price and other terms and conditions of the call. AT&T sends, explains, and collects the bill from the customer or loses the revenue if it cannot. Thus, under this model of cost recovery—the ILEC-IXC model of interconnection—the originating subscriber is, from an economic perspective, the customer of the IXC, not of the originating ILEC.

15. For these reasons, under an economically efficient system of compensation, the ILEC would not be required to pay reciprocal compensation to a CLEC for Internet calls made by the ILEC's subscribers. Instead, the ISP—as the agent of the cost-causer—would pay the ILEC (and the CLEC that also serves it) usage charges analogous to carrier access charges paid by IXCs, i.e., the ILEC-IXC interconnection regime would apply. Only such a payment would close the gap between the full cost of the call up to the ISP and the local call charge that is assessed on the end-user by the originating ILEC. By recovering the full cost of the Internet call from its customer (the cost-causer), the ISP will no longer depend on a subsidy from the serving CLEC to defray its costs. Without windfall profits from reciprocal compensation, the CLEC will have no incentive or opportunity to subsidize its local service to the ISP; instead, it (and the originating ILEC) will be assured recovery of its costs to handle the Internet call because the ISP's customer will be paying for the full cost of that call. The salient characteristic of this economically correct form of intercarrier compensation is that the CLEC that switches Internet calls for the ISP is compensated, not from reciprocal compensation paid by the originating ILEC, but from charges paid by the ISP.

[5] U S WEST supplies the customer's loop and provides dialtone, local switching, and transport to AT&T's point of presence.

III. BASING RECIPROCAL COMPENSATION FOR ISP-BOUND TRAFFIC ON RATES CREATED FOR VOICE TRAFFIC HARMS ECONOMIC EFFICIENCY AND DISTORTS LOCAL EXCHANGE COMPETITION.

16. We begin the analysis in this section by showing that the per-minute costs incurred to carry an ISP-bound call are less than the costs incurred to carry the average voice call. We then show that requiring ILECs to pay reciprocal compensation for such calls without adjusting the rates to reflect the difference in costs results in a higher-than-necessary cost liability for ILECs, and a windfall for CLECs. Since competitive market forces will funnel at least some of the excess compensation CLECs receive from the ILECs to the CLECs' ISP customers, the *net* price ISPs pay for such traffic must be *below* the costs imposed by such calls. Thus ISP traffic receives a subsidy, which as competition among ISPs oblige them to pass on part or all of their cost "savings" to their Internet access customers, the subsidy is propagated forward to those Internet customers as well.

A. Structure of Costs: ISP-Bound Traffic is Not as Costly as Voice Traffic.

17. The per-minute costs incurred in transporting an ISP-bound call are smaller than those incurred in carrying traditional voice calls, for several reasons. First, for every call, there are broadly two types of cost: a *fixed* cost (invariant to the length of the call) for call setup at both ends of the call, and an *incremental* or variable cost that arises for every minute a call passes through a switch.[6] The full *per minute* cost of that call is the sum of the incremental cost of that minute plus the fixed cost averaged over the total length of the call. The latter component would obviously diminish as the fixed cost is averaged over an increasing number of minutes. Thus, if the average ISP-bound call were between five and seven times longer than the average voice call,[7] the average *fixed* cost component for the former would be considerably smaller than that for the latter. *Even if* the incremental cost

[6] It is of some interest whether that incremental cost itself declines, stays constant, or rises with the length of the call. However, we do not get into that issue here.

[7] See, e.g., Kevin Werbach, "Digital Tornado: The Internet and Telecommunications Policy," *OPP Working Paper Series No. 29*, Federal Communications Commission, March 1997, p. 59, Figure 9.

component of both types of calls were the same, the *per minute* cost of the average ISP-bound call would still end up being considerably less than that for the average voice call. A simple numerical example illustrates this fact.

18. Suppose the incremental cost for each minute is 0.5¢. Then, a 3-minute call would have a total incremental cost of 3×0.5 = 1.5¢ and a 20-minute call would have a total incremental cost of 20×0.5 = 10¢. Suppose the fixed cost of call setup—which does not vary with the length of the call—is 2¢. Then the *total* cost of the 3-minute call (inclusive of call setup) would be 1.5+2 = 3.5¢, and that for the 20-minute call would be 10+2 = 12¢. To figure what each call costs on a per-minute basis, simply divide the total cost of each by the respective number of minutes. Thus, the 3-minute call would cost 3.5÷3 = 1.66¢ per minute and the 20-minute call would cost 12÷10 = 1.2¢ per minute. That is, as the call duration increases, the cost per minute would fall.

19. In addition, the incremental cost for the two types of calls may differ. The incremental cost of the local call is normally the basis for an ILEC's termination rate. Yet that rate is itself a composite that reflects how the cost of local calls varies among different types of customers and customer locations. Unlike CLECs, ILECs must be prepared to provide local service to any or all such customers, regardless of their usage or location. In contrast, the incremental cost of an ISP-bound call does *not* reflect such a composite. ISPs can place their equipment in high-density, central business locations and frequently can collocate equipment in the CLEC's switch. Transport costs for such calls will be lower than for an average of all traffic terminating within the local exchange.

20. As a result, the per-minute *incremental* cost of carrying traffic to particular end-users can vary a great deal, depending upon their location and the characteristics of the traffic. And, as explained earlier, because of average call durations, the *full* per-minute cost of carrying calls (inclusive of both incremental and fixed costs) is typically higher for averaged voice traffic than for ISP-bound traffic alone.

B. Applying Current Reciprocal Compensation Rates to ISP-Bound Traffic Distorts the Local Exchange Market.

21. When ILECs pay reciprocal compensation for ISP-bound traffic at rates created for traditional voice traffic, CLECs receive incremental revenues that, at the margin, exceed the incremental costs they incur in carrying the traffic. In addition, the amount the ILECs pay exceeds whatever costs they might save when CLECs carry that traffic on the ILECs' behalf. It should not be surprising that such compensation for ISP-bound traffic does not reflect costs. In many jurisdictions, compensation is based on the ILECs' forward-looking total element long run incremental cost ("TELRIC") of terminating traffic averaged over a wide range of end-users, services, and service locations. This has important implications for setting compensation for *ISP-bound calls* on the same basis.

22. When traffic between the ILEC and the CLEC is balanced,[8] the accuracy of TELRIC as the basis for reciprocal compensation is less material; any overpayment by an ILEC to transport traffic on the CLEC's network is offset by a corresponding overpayment by the CLEC to transport traffic on the ILEC's network. With balanced traffic, no individual ILEC or CLEC is either helped or handicapped in competing for retail local exchange customers by the requirement that interconnection compensation be based on TELRIC averaged over all customers. However, when traffic between the ILEC and the CLEC is grossly out of balance, e.g., when the CLEC transports traffic originated by the ILEC but returns little or no traffic to it, the accuracy of TELRIC-based compensation becomes critical.

23. Suppose, for simplicity, an ILEC's cost to deliver Internet traffic to an ISP that it serves is the same as the cost incurred by a specialized CLEC that serves a collocated ISP. That is, an ILEC's own cost for carrying for ISP-bound traffic is the same as the cost it avoids when a CLEC handles such traffic instead. If the ILEC is then required to pay reciprocal compensation for ISP-bound traffic at an averaged TELRIC-based rate that reflects *all* forms of local traffic, its total payment would necessarily be higher than if compensation levels were properly tied to the type—and, hence, the cost—of the traffic carried. This

[8] Traffic is said to be "balanced" when originating and terminating volumes are similar.

increase would not be offset by a similar increase in revenue from handling the CLEC's return traffic (because the CLEC does not originate any traffic). Thus, local exchange competition is distorted by the application of the averaged TELRIC to ISP-bound traffic; CLECs that primarily serve ISPs (and originate little or no traffic) receive revenues in excess of cost while ILECs (or even other CLECs) that serve all types of customers experience an increase in costs without a commensurate increase in revenues.

24. One end result of reciprocal compensation for ISP-bound traffic is a subsidy to Internet use. CLECs can share the windfall profits from reciprocal compensation with the ISPs they serve in one obvious way: by lowering their charges for the local exchange services purchased by ISPs (possibly below the charges the ISPs would face if they purchased the same services from ILECs instead).[9] Competitive pressure would then oblige those ISPs to pass on some or all of that subsidy to their customers for Internet access. This subsidy to Internet use within the circuit-switched network could only stimulate demand for Internet services inefficiently and further aggravate the ILECs' already tenuous position under the reciprocal compensation arrangement by making them pay ever-increasing amounts of such compensation to the CLECs. Additional negative consequences could be: (1) greater congestion at local switches engineered for voice traffic generally and, as a result, poorer quality of voice traffic, and (2) CLECs making the opportunistic choice to specialize only in the delivery of ISP-bound traffic.

C. Distortion of the Market Creates Perverse Incentives.

25. Requiring the payment of a reciprocal compensation price for ISP-bound traffic that exceeds actual costs creates a number of perverse incentives. First, CLECs have an incentive to *avoid* competing to serve customers who originate such traffic. As most switched ISP-bound traffic comes from residential users, the incentives to compete to serve residential users are artificially diminished. A residential customer that dials up the Internet

[9] Some CLECs insist that they do not discount services to ISPs, they merely charge ISPs the competitive market price. However, competitive forces in the market for ISP access services will reduce the market price for ISP access to reflect the incremental revenue from reciprocal compensation, effectively passing through reciprocal compensation payments to ISPs and their customers.

two hours a day (60 hours per month) would generate 3,600 minutes of reciprocal compensation: at a penny a minute, $36 per month in reciprocal compensation payments would likely exceed the LEC's revenue from supplying basic exchange service. At 0.1 cents per minute, reciprocal compensation would have a larger financial impact ($3.60 per month) on local exchange economics than the FCC's subscriber line charges.

26. Conversely, under an unadjusted reciprocal compensation scheme, the incentives for CLECs to specialize in carrying ISP-bound traffic are artificially increased. Suppose, for example, an ILEC serves 95 percent of the residential local exchange traffic in a market. If an ISP obtained local business service from the ILEC, only 5 percent of its incoming Internet-bound traffic (generated by subscribers of one or more CLECs) would generate reciprocal compensation payments. If it signed up with a CLEC instead, 95 percent of its incoming Internet-bound traffic would generate such payments. When the reciprocal compensation price exceeds CLECs' cost to handle the traffic, and CLECs are able to transfer some of this windfall to the ISPs they serve, the ISPs have a strong financial incentive to seek incoming Internet-bound traffic from CLECs as opposed to ILECs. By encouraging a greater trend toward CLEC-ISP alliances for collecting reciprocal compensation revenues for ISP-bound traffic, this creates a further distortion in the local exchange market.

27. This scheme also gives CLECs and ISPs an incentive to encourage end users to maximize their time online. For example, a CLEC's profits increase whenever an ILEC subscriber—or her computer—can be induced to call the ISP and remain on the line 24 hours a day.[10] One egregious example of such abuse of the reciprocal compensation arrangement surfaced recently in North Carolina. In litigation currently before North Carolina regulators, BellSouth (the ILEC in this case) has identified a scheme planned and executed by US LEC of North Carolina, LLC ("US LEC") to generate vast amounts of reciprocal compensation

[10] Dedicated (private line) connections that bypass the public switched network are most efficient for customers desiring "always-on" or 24 hour connectivity. Despite this fact, such connectivity is sometimes offered in a manner that involves traffic origination through an ILEC's switch and termination through an ISP-serving CLEC's switch. This arrangement is clearly less interested in efficiency or the best use of valuable network resources than it is in generating the maximum possible revenue from reciprocal compensation.

payments from BellSouth.[11] According to BellSouth's complaint, US LEC created a sham network that, in effect, established perpetually open or "nailed up" connections between BellSouth's network and US LEC's network through their respective local switches in order to generate reciprocal compensation for 23 hours and 59 minutes a day.[12] To this end, US LEC allegedly recruited Metacomm, Inc. to serve as a BellSouth "customer" (although it functioned more as a carrier than as an end-user) and to arrange for those connections to be made and held open. In return, US LEC allegedly promised Metacomm a 40% share of the reciprocal compensation revenues earned from BellSouth under this arrangement (an allegation that neither US LEC nor Metacomm has denied). BellSouth currently estimates that this alleged effort to exploit the reciprocal compensation arrangement has generated nearly $150 million for the US LEC-Metacomm partnership, although BellSouth has refused to pay that amount, pending a decision on its complaint.

28. Abuses of reciprocal compensation can be particularly acute for long duration calls (typically data calls or calls to Internet destinations) and particularly profitable for CLECs unconstrained by regulatory requirements or franchise obligations to serve as carriers of last resort. The profit available from such abuse may not be in the interest of society at large, but reflects rational *private* economic behavior by entities facing perverse incentives. The scale of the damage from such abuse exceeds just the compensation amounts transferred by the ILEC to the CLEC. It also includes the loss of technical efficiency that comes from imposing congestion and other costs on ILECs whose circuit-switched networks were not initially designed to handle long duration and exclusively data calls. In addition, such abuse rewards CLECs for imposing inefficiencies on the circuit-switched network and, thus, reinforces the perverse incentives.

29. At least two states have recognized the perverse incentives created by reciprocal compensation for ISP-bound traffic. First, in reversing its decision to permit such compensation, Massachusetts declared that the unqualified payment of reciprocal

[11] North Carolina Utilities Commission, *In the Matter of BellSouth Telecommunications, Inc., Complainant, v. US LEC of North Carolina, LLC, Respondent*, Docket No. P-561, Sub 10.

[12] Details of the complaint may be found in BellSouth's *Post-Hearing Brief* in Docket No. P-561, Sub 10.

compensation for ISP-bound traffic was antithetical to real competition in telecommunications:

> The unqualified payment of reciprocal compensation for ISP-bound traffic, implicit in our October Order's construing of the 1996 Act, does not promote real competition in telecommunications. Rather, it enriches competitive local exchange carriers, Internet service providers, and Internet users at the expense of telephone customers or shareholders. This is done under the guise of what purports to be competition, but is really just an unintended arbitrage opportunity derived from regulations that were designed to promote real competition. A loophole, in a word. ... But regulatory policy ... ought not to create such loopholes or, once having recognized their effects, ought not leave them open.
>
> Real competition is more than just shifting dollars from one person's pocket to another's. And it is even more than the mere act of some customers' choosing between contending carriers. Real competition is not an outcome in itself—it is a means to an end. The "end" in this case is *economic efficiency* ... Failure by an economic regulatory agency to insist on true competition and economic efficiency in the use of society's resources is tantamount to countenancing and, to some degree, encouraging waste of those resources. Clearly, continuing to *require* payment of reciprocal compensation ... is not an opportunity to promote the general welfare. It is an opportunity only to promote the welfare of certain CLECs, ISPs, and their customers, at the expense of Bell Atlantic's telephone customers and shareholders.[13]

30. Second, in a recent decision on an interconnection arbitration in their state, Louisiana regulators denied the payment of reciprocal compensation for ISP-bound traffic and noted:

> [BellSouth] put forth evidence that it would not have agreed to pay reciprocal compensation for ISP traffic because such an arrangement would have certainly resulted in economic harm to [BellSouth]. Given that CLECs such as KMC primarily, if not exclusively, serve business customers including ISPs, while [BellSouth] serves the vast majority of Internet end-users, paying reciprocal compensation on ISP traffic would result in absurd amounts of reciprocal compensation flowing to the CLECs. Indeed, in this particular case, KMC billed [BellSouth] reciprocal compensation for ISP traffic that was approximately 340% more than KMC received in revenue from providing actual service to its ten (10) ISP customers in Louisiana. ... The negative impact on

[13] Massachusetts Department of Telecommunications and Energy ("DTE"), *Complaint of MCI WorldCom, Inc., Against New England Telephone and Telegraph Company d/b/a Bell Atlantic-Massachusetts for Breach of Interconnection Terms Entered Into Under Sections 251 and 252 of the Telecommunications Act of 1996*, Docket No. 97-116-C, Order ("Massachusetts ISP Compensation Order"), May 1999. Emphasis added (in part) and in original (in part).

> competition in the local market as well as the potential for abusing the reciprocal compensation obligation from permitting such an arrangement are obvious.[14]

Evidence that reciprocal compensation payments exceed CLECs' costs of handling the traffic could not be more clear. Non-traffic sensitive loop costs for telephone companies average about 80 percent of total costs, while the traffic-sensitive costs for switching and transport make up the remaining 20 percent.[15] If reciprocal compensation payments roughly covered the costs of handling the traffic, we would thus expect cost-based reciprocal compensation revenues to average about a quarter of the competitive-market based revenues from supplying loops. Instead, in Louisiana, we find that reciprocal compensation obligations—ostensibly to recover the traffic sensitive switching and transport costs to terminate traffic—more than triple the revenue from non-traffic sensitive local exchange rates.[16]

31. Finally, as a percentage of total revenues, reciprocal compensation payments range as high as 84 percent for US LEC or 71 percent for Focal[17] while other CLECs currently have different business plans in which reciprocal compensation amounts to 4.1 percent of revenue for Time Warner and 1.5 percent for GST.[18] Irrespective of individual CLEC's intentions, market forces will ensure that reciprocal compensation payments will be reflected in market-determined prices that ISPs pay for access to the local exchange.

32. The FCC has taken explicit note of the fact that arbitrage opportunities arise when compensation rates are out of line with transport costs. In the context of paging, the FCC

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[14] Louisiana Public Service Commission, *In Re: Petition of KMC Telecom, Inc. Against BST to Enforce Reciprocal Compensation Provisions of the Parties' Interconnection Agreement*, Docket No. U-23839, Order, October 13, 1999,at 20-21.

[15] This approximate 80/20 split of costs can be observed in ARMIS data for regulated ILECs and in ratios from the Benchmark Cost Proxy Model for forward-looking economic costs.

[16] "KMC generated approximately $636,427 in revenue from providing service to its ten Louisiana ISP customers during the same time period that it billed BST $2,160,985 in reciprocal compensation for traffic to those ten ISP customers." Louisiana Public Service Commission, Order No. U-23839, *KMC Telecom v. BellSouth Telecommunications, Inc.*, October 13, 1999, Factual Finding No. 13.

[17] Telco Business Report, Vol 16, No. 16, August 2, 1999 at 2.

[18] Duff & Phelps Credit Rating Co., "An Overview of the CLEC Industry," November 1999, at 3.

has recognized the possibility of arbitrage and declined to use the ILEC's TELRIC termination costs as a proxy for those of the CLEC:

> Using incumbent LEC's costs for termination of traffic as a proxy for paging providers' costs, when the LECs' costs are likely higher than paging providers' costs, might create uneconomic incentives for paging providers to generate traffic simply in order to receive termination compensation.[19]

Instead, the FCC has required separate cost studies to justify a cost-based rate which the FCC explicitly expects would be lower than the wireline ILECs' TELRIC-based rate. Note that the paging case also involves one-way calling; like ISPs, paging companies do not originate traffic. More recently, the FCC has acknowledged that:

> efficient rates for inter-carrier compensation for ISP-bound traffic are not likely to be based entirely on minute-of-use pricing structures. In particular, pure minute-of-use pricing structures are not likely to reflect accurately how costs are incurred for delivering ISP-bound traffic.[20]

33. This is clear recognition of the fact that TELRIC-based rates are fundamentally unsound for intercarrier compensation for ISP-bound traffic. Echoing this sentiment, Massachusetts regulators stated flatly that:

> The revenues generated by reciprocal compensation for ... incoming traffic are most likely in excess of the cost of sending such traffic to ISPs. ... Not surprisingly, ISPs view themselves as beneficiaries of this "competition" and argue fervently in favor of maintaining reciprocal compensation for ISP-bound traffic. However, the benefits gained, through this regulatory distortion, by CLECs, ISPs, and their customers do not make society as a whole better off, because they come artificially at the expense of others.[21]

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[19] FCC, *In the Matter of Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order ("Local Competition Order"), released August 19, 1996, ¶1093.

[20] FCC, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996* and *Inter-Carrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98 and 99-68, Declaratory Ruling in CC Docket No. 96-98 and Notice of Proposed Rulemaking in CC Docket No. 99-68, released February 26, 1999, ¶29.

[21] Massachusetts ISP Compensation Order. Emphasis added.

IV. CONCLUSIONS

34. A policy for intercarrier compensation for ISP-bound traffic requires specifying who pays what to whom to cover the costs caused by dialup Internet traffic. We have shown that the cost-causer is the end user acting as a customer of the ISP. Therefore, like the IXC that pays carrier access charges to defray the cost of originating or terminating a long distance call, the ISP should pay analogous charges to defray costs incurred by other carriers on its behalf to switch an ISP-bound call. Doing so would ensure that the cost causer would face a price that reflects the entire cost his actions create. Persisting with reciprocal compensation (from the ISP customer's originating ILEC to the CLEC that ultimately switches the call to the ISP) would generate an inefficient subsidy for Internet use, distort the local exchange market, and generate unintended arbitrage opportunities for CLECs.

35. In addition, we have shown why requiring ILECs to pay reciprocal compensation for ISP-bound traffic at the same rates at which they pay for the transport and termination of traditional voice calls is inconsistent with economic efficiency and jeopardizes the development of local exchange competition and the continued growth of the Internet. The per-minute costs incurred in carrying ISP-bound calls are lower than those incurred for voice traffic. The current reciprocal compensation scheme does not, however, account for these differences. As a result, ILECs pay CLECs for carrying calls to ISPs at rates that exceed both the cost CLECs incur in carrying the calls and the costs avoided by the ILECs in having the calls carried by the CLECs.

36. In the long run, only policies that are consistent with economic efficiency provide the opportunity to achieve lower costs, lower prices, and new and innovative services. The current application of reciprocal compensation for ISP-traffic merely shifts revenues from one pocket to another but does practically nothing to improve the efficiency of the market. In fact, by creating perverse opportunities for CLECs to specialize in serving ISPs with the sole aim of accumulating reciprocal compensation revenues, it succeeds only in reducing economic welfare.

Inter-Carrier Compensation

For ISP-Bound Traffic

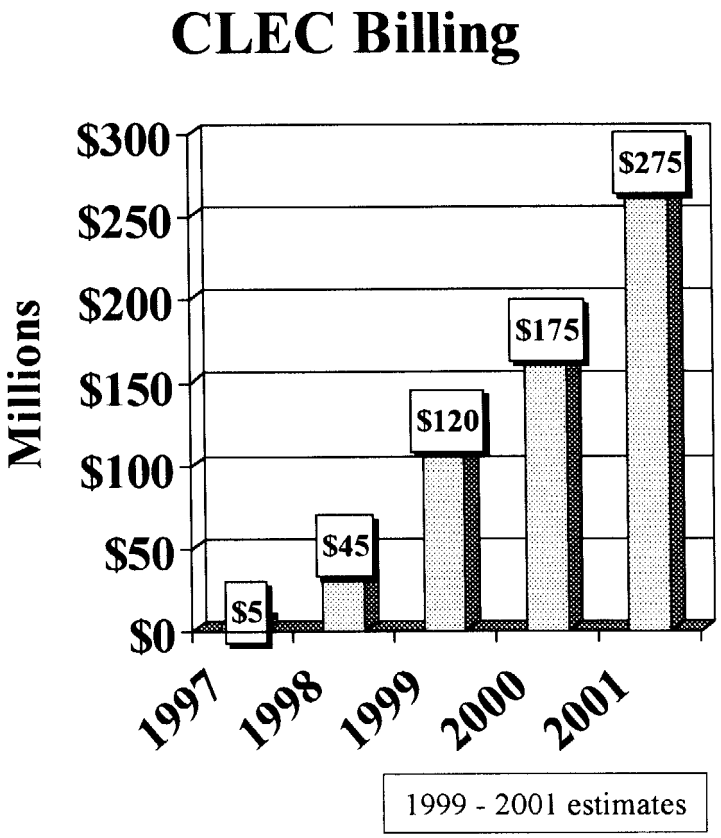
CC Docket No. 99-68

Overview

- Trends
  - Expenses
  - MOUs
  - Trunking Capital
- Economics
- Data Analysis/Modem Identification
  - Modem Identification Phase I and II
  - Test Results
  - Production Results
- Conclusion

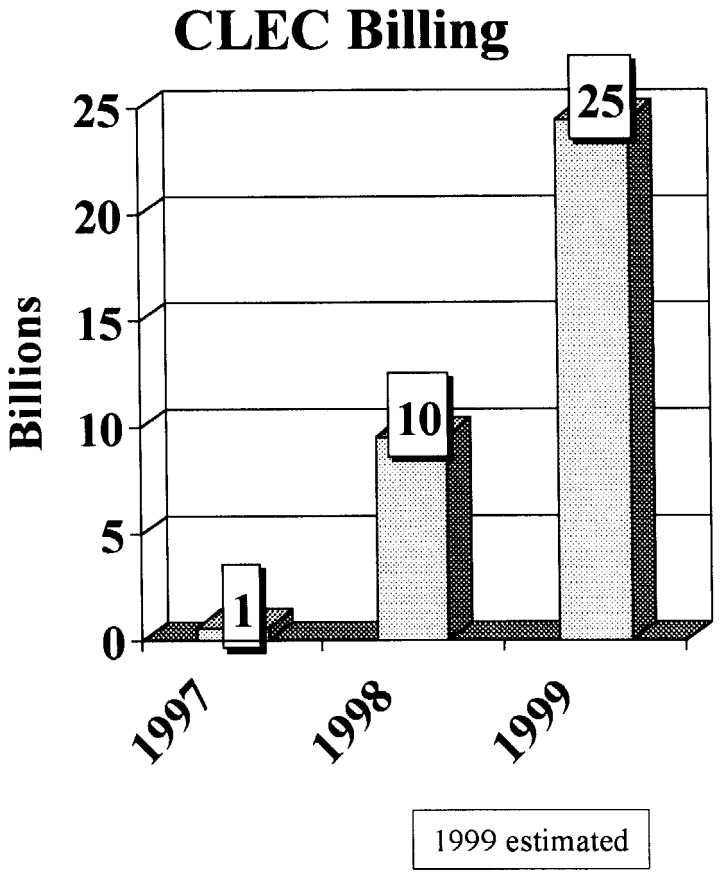
Trends - Reciprocal Comp
local usage billing

- **Monthly reciprocal compensation expense per 1 FR line calling the CLEC**
  - $ 5.92 (Oregon) to $ 20.41 (Minn)
  - 32% (Oregon) to 118% (Minn) of residential rates
- **Average rate per MOU- $.0042**
- **7 CLECs = 90% of reciprocal compensation billings**
- **Estimated current impact on all residential lines for CLEC billing**
  - Minnesota $14.37 or $1.60 per month
  - Washington $12.44 or $1.38 per month
  - Utah $7.97 or $.89 per month
  - Colorado $6.49 or $.72 per month
  - Current billing trends indicate 75% growth in 2000 & beyond
- **Revenues billed to CLEC's for '99 traffic is approximately $7M or 6% of traffic billed by CLEC's**



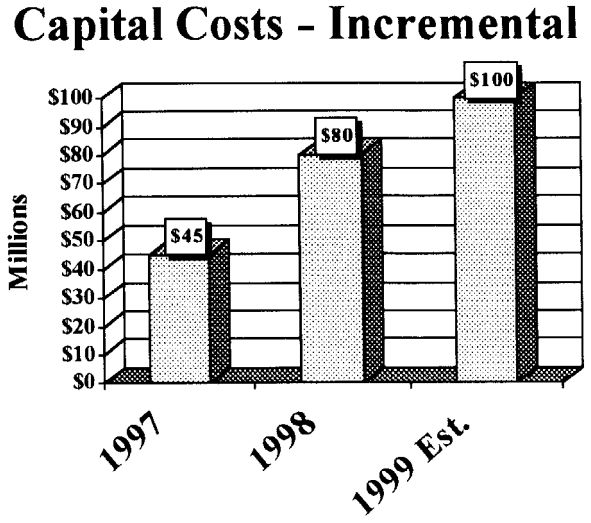
Trends - Reciprocal Comp MOUs

- USW Local Terminating/Originating ratios
  - 50/50 USW
  - 40/60 ILEC (EAS)
  - 98/2 CLEC (based on sample)
- Jurisdictional ratios
  - USW 70-80% local
  - CLECs 90% + local
- 7 CLECs = 90% reciprocal compensation MOUs (out of 91 CLECs)



Trends - CLEC Trunking Capital

- Trunking is the "Pipe" for reciprocal compensation traffic
- CLEC's are forecasting staggering volumes



DS1's	'97	'98	'99
Trunk additions*	2,200	8,800	15,100
Trunks in service*	2,200	11,000	26,100
Current utilization			50%
Trunks in use			13,000

Based on CLEC forecasts of 70% growth

Reciprocal Compensation Economics

($M)	'97	'98	Estimated '99	Total
• Cash in				
– Reciprocal Compensation	$ 0	$. 5	$ 7	$ 7.5
– CLEC Trunking	$.5	$4	$ 9	$13.5
– Total	$.5	$4.5	$16	$21.0
• Cash out				
– Reciprocal Compensation	$5	$45	$120	$170
– Capital - CLEC Trunking	$45	$80	$100	$225
– Total	$50	$125	$220	$395
• Net Cash Flow*	($49.5)	($120.5)	($204)	($374)

- Understanding the ecomonics of reciprocal compensation must include the cost of "the pipe"
- U S WEST is basically providing the pipe for free to CLECs while spending almost half a billion dollars
- Under current interstate rules, this type of traffic would require CLECs purchase private line services

** Pretax basis*

Data Analysis/Modem Identification

- Phase I - Modem Classification
  - Create algorithm to analyze call characteristics of recorded data
  - Apply algorithm to recorded data
  - Result - probable terminating modem usage identified
- Phase II - Modem Identification
  - Analysis of terminating numbers identified in Phase I
    - ISP web sites, ISP report, manual dialing, automated dialing
  - Result - terminating modem usage identified

Data Analysis/Modem Identification
Test Results on 1 CLEC

Week of 1/24/99	Terminating #s	Terminating MOUs (000,000's)	Percentage	Average Hold Time
Modem	100	36.4	97.7%	25.6
Non-Modem	19,216	.9	2.3%	1.9
Total	19,316	37.3	100.0%	19.8
Week of 4/18/99				
Modem	134	40.7	97.1%	27.4
Non-modem	19,798	1.2	2.9%	2.6
Total	19,932	41.9	100.0%	21.4

Data Analysis/Modem Identification Production Results

	August	September	Total
Total CLEC MOUs	2.7 billion	3.0 billion	5.7 billio
Total Modem MOUs	2.4 billion	2.6 billion	5.0 billio
% Modem Traffic	86.6%	86.8%	86.7
Average Hold Time	26.8	26.1	26.

91 CLECs generated modem traffic
3 CLECs generated 50% of modem traffic
10 CLECs generated 90% of modem traffic

Data Analysis/Modem Identification
Production Results (cont)
Top 6 CLECs

	Total Term MOUs	Total Modem MOUs	% Modem MOUs	Average Hold Time
CLEC 1	1,374	1,311	95%	27.3
CLEC 2	804	755	94%	24.7
CLEC 3	618	531	86%	27.4
CLEC 4	459	435	95%	24.7
CLEC 5	328	308	94%	23.6
CLEC 6	314	302	96%	26.8

MOUs in Millions (000,000's)

Conclusion

- Trends are clear
  - Usage and costs are exploding at double digit rates
- Interstate data-bound traffic is exempt from access charges
- The CLECs need to be incented to negotiate with the ILECs for appropriate compensation of its modem related traffic