

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition of DeltaCom, Inc. for order)
determining DeltaCom, Inc. not liable for) Docket No. 090327-TP
access charges of KMC Data LLC,)
and Hypercube Telecom, LLC)
_____)

**REBUTTAL TESTIMONY
OF
J. GREGORY SIDAK**

**On behalf of
Hypercube Telecom, LLC**

July 9, 2010

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1 **Q. Please state your name, title, and business address.**

2 A. My name is J. Gregory Sidak. I am chairman of Criterion Economics, L.L.C. in
3 Washington, D.C. My business address is Criterion Economics, L.L.C., 1614 20th
4 Street, Washington, D.C., 20009. My professional qualifications appear in my
5 direct testimony.

6 **Q. What is the purpose of your rebuttal testimony?**

7 A. I have been retained by Hypercube Telecom, L.L.C. (Hypercube) to rebut various
8 factual, economic, and legal arguments that Mr. Don J. Wood makes in his direct
9 testimony on behalf of DeltaCom, Inc.

10 **Q. Does Mr. Wood confine his testimony to his stated purpose of examining**
11 **“factual assertions”¹ in this case?**

12 A. No. Mr. Wood makes a number of unsupported economic arguments in his
13 testimony. Many of the concepts for which Mr. Wood offers interpretations have
14 economic significance, which Mr. Wood either does not acknowledge or does not
15 analyze correctly. For example, by making claims about the “value” of an access
16 element, Mr. Wood necessarily makes an *economic* argument. In particular, Mr.
17 Wood’s claims that “[t]he presence of Hypercube does not add value for the end
18 user making the call, the IXC, or the ‘8YY’ customer of the IXC” and that

1. Prefiled Direct Testimony of: Don J. Wood Filed on Behalf of DeltaCom, Inc., at 5 ll.17-18, In re: Petition of DeltaCom, Inc. for Order Determining DeltaCom, Inc. Not Liable for Access Charges of KMC Data, Direct LLC and Hypercube Telecom, LLC, Dkt. No. 090327-TP (PSC Fl. June 15, 2010) [hereinafter *Wood Direct Testimony*].

1 Hypercube's services only "provides value *to the wireless carrier*" are economic
2 arguments.²

3
4 **Q. Briefly, can you give some additional examples?**

5 A. Yes. A second example is Mr. Wood's suggestion that Hypercube degrades
6 network quality. A third is his interpretation of "on behalf of." A fourth is his
7 claim that "something is amiss" because Hypercube remits payment to CMRS
8 carriers pursuant to their private contracts. A fifth is his assertion that DeltaCom
9 cannot efficiently directly interconnect with Hypercube. At first glance, these five
10 arguments may seem like unrelated factual assertions. What connects them,
11 however, is a consistent misapplication of correct economic reasoning regarding
12 demand and production relationships for telecommunications services.

13 **Q. What does "value" mean as a matter of economics?**

14 A. In economics, value is revealed through voluntary exchange. Every person has a
15 willingness to pay for a good or service (which may be positive or zero) derived
16 from the value that the person receives from consuming the good or service.
17 Likewise, an owner of a good or service is willing to give up the good, or incur
18 the cost of providing the service, at a payment equal to or exceeding the value that
19 the seller derives from owning the good or withholding the service. Voluntary
20 exchange is in principle mutually beneficial.³ Therefore, when a voluntary

2. *Id.* at 25 ll.16-17, 21-22 (emphasis in original).

3. PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, ECONOMICS 266 (16th ed., The McGraw Hill Companies, Inc. 1998); ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 584 (6th ed., Pearson Education, Inc. 2005).

1 exchange occurs, the buyer and the seller both part with something that is worth
2 less to each of them than what the other party offers. In the transaction, the buyer
3 reveals his willingness to pay for, and the seller reveals the price at which he is
4 willing to supply, the good or service.

5 Because of the mutual benefit from voluntary exchange, one can
6 objectively measure value using prices from market transactions. "In a market
7 system," wrote the late Nobel laureate Paul A. Samuelson with William D.
8 Nordhaus, "everything has a price, which is the value of the good in terms of
9 money [P]rices represent the terms on which people and firms voluntarily
10 exchange different commodities."⁴ Assertions about the value of a good or service
11 are indeterminate if they are not accompanied by empirical measurement in the
12 form of market-determined prices.

13 The institution of common carriage subject to tariffed rates does not
14 change this fundamental principle about the need to refer to market-determined
15 prices to infer value. As a common carrier, Hypercube is obligated to provide
16 interconnection and the services in its price list to other carriers.⁵ These regulatory
17 obligation do not alter the fact that Hypercube's provision of interconnection and
18 services have value. That value is revealed through Hypercube's voluntary
19 acceptance of the common carrier's duty to provide services, including tandem
20 services, at rates (pursuant to its price list) that are intended to replicate the

4. SAMUELSON & NORDHAUS, *supra* note 3, at 27.

5. See PETER H. HUBER, MICHAEL K. KELLOGG & JOHN THORNE, *FEDERAL TELECOMMUNICATIONS LAW 280* § 3.11.1 (2d ed., Aspen Law & Business 1999); RICHARD A. EPSTEIN, *PRINCIPLES FOR A FREE SOCIETY* 297 (Perseus Books 1998).

1 market-determined price that would be struck by a willing buyer and a willing
2 seller.

3 Although providing interconnection is not voluntary, in that Hypercube
4 cannot withhold interconnection, the decision to become a common carrier—and
5 accept the corresponding obligations—is voluntary. Therefore, Hypercube is a
6 willing provider of interconnection. However, Hypercube would only willingly
7 become a common carrier if it received payment equal to or exceeding the value
8 associated with not becoming a common carrier—with retaining the right to
9 refuse service. As in any voluntary transaction, if Hypercube did not expect to
10 benefit from becoming a common carrier, it would not have done so. The same
11 holds true for the services in Hypercube's price list. The benefit to Hypercube in
12 supplying tandem services in its price list is that, in return for relinquishing the
13 right to refuse service, Hypercube is guaranteed "just and reasonable"
14 compensation for those services as a matter of both statutory and constitutional
15 right.

16 Just and reasonable rates are the prices that would result from a voluntary,
17 market transaction. The Supreme Court has defined the protections afforded by
18 the Takings Clause in these terms.⁶ Although the rates Hypercube charges to

6. In *Kimball Laundry Co. v. United States*, Justice Frankfurter wrote for the Court:

The value compensable under the Fifth Amendment . . . is only that value which is capable of transfer from owner to owner and thus of exchange for some equivalent. Its measure is the amount of that equivalent. But since a transfer brought about by eminent domain is not a voluntary exchange, this amount can be determined only by a guess, as well informed as possible, as to what the equivalent would probably have been had a voluntary exchange taken place.

Kimball Laundry Co. v. United States, 338 U.S. 1, 5-6 (1949).

IXCs with which it has voluntary direct interconnection agreements are lower than the price-list rates that Hypercube charges carriers, such as DeltaCom, that refuse direct interconnection, those contract rates are evidence of the economic value of Hypercube's services, voluntarily purchased and sold at market-determined prices. It necessarily follows that any rate that Hypercube charges *below* that price-list rate is also just and reasonable. The voluntary contracts between Hypercube and other IXCs both provide measures of the value of the services that Hypercube has supplied. Consequently, it is disingenuous for DeltaCom to claim that Hypercube's services have no value.

To summarize, the transaction between Hypercube and a carrier for interconnection and tandem services is a voluntary exchange between a willing buyer and a willing seller. Each carrier has the option of either directly interconnecting with Hypercube at privately negotiated contract rates or indirectly interconnecting with Hypercube and paying the rates that Hypercube charges pursuant to its price list. Hypercube's price-list rate therefore represents an upper bound of the market-determined price, which reveals both the value to Hypercube of providing interconnection services and the value to the carrier of receiving interconnection services. Mr. Wood cannot disprove the validity of this measure of value without first disproving the fundamental principles of price theory.

Q. Do Hypercube's contracts with other IXCs confirm the economic value of Hypercube's services—and contradict Mr. Wood's factual assertion that DeltaCom derives no value from Hypercube's services?

1 A. Yes, as I explained in my report, the fact that a number of IXC's, including IXC's
2 larger than DeltaCom, have entered into voluntary agreements with Hypercube
3 substantiates that the service provided by Hypercube is valuable to IXC's, contrary
4 to Mr. Wood's and DeltaCom's claims otherwise. If these larger IXC's did not
5 value Hypercube's competitive tandem switching, then they would discontinue
6 using Hypercube's service.

7 **Q. In claiming that DeltaCom derives no benefit from the services that**
8 **Hypercube provides, does Mr. Wood ignore the two-sidedness of the market**
9 **for 8YY Calls?**

10 A. Yes. Mr. Wood uses incorrect economic reasoning. He argues that, "[t]he
11 presence of Hypercube does not add value for the end user making the call, the
12 IXC, or the '8YY' customer of the IXC."⁷ Mr. Wood overlooks the fact that
13 telecommunications markets are two-sided, which means that DeltaCom—
14 through its 8YY subscribers—has demand for 8YY calls. That demand exists in
15 addition to, and is complementary to, the demand that wireless subscribers have to
16 make 8YY calls.

17 **Q. Have you published scholarly articles on the significance of two-sided**
18 **demand in telecommunications regulation?**

19 A. Yes. I have published several articles and given testimony before the U.S. Senate
20 and the Federal Trade Commission.⁸

7. *Wood Direct Testimony* at 25 ll.16-17.

8. *See, e.g., J. Gregory Sidak & David J. Teece, Innovation Spillovers and the "Dirt Road" Fallacy: The Intellectual Bankruptcy of Banning Optional Transactions for Enhanced Delivery Over the Internet*, 6 J. COMPETITION L. & ECON. (2010), available at

1 **Q. What is significant about the two-sided nature of the market for 8YY**
2 **calling?**

3 A. As I explained in the report included as Exhibit JGS-2 to my testimony, when a
4 consumer calls an 8YY number, the call is valued by both the user and by the
5 8YY customer, which earns sales revenues in the case of a private retailer and, in
6 the case of a government agency, accomplishes its public objective of informing
7 and serving the needs of citizens. Both sides of the market exhibit positive
8 demand for 8YY service, and both sides are therefore willing to pay a positive
9 price. However, that willingness to pay is not equal. Subscribers of 8YY service
10 surely have a greater demand to receive an 8YY call than a typical wireless
11 subscriber does to make it.

12 **Q. Would consumers be better off in aggregate if DeltaCom were required to**
13 **pay Hypercube for the services that it has provided in delivering wireless-**
14 **initiated 8YY calls to DeltaCom?**

15 A. Yes. Exhibit __ (JGS-3) depicts these demand characteristics of 8YY calls for
16 both wireless end users and 8YY subscribers in graphical terms. The demand
17 curve of end users for wireless access is relatively flat, and the demand curve of

<http://jcle.oxfordjournals.org/cgi/reprint/nhq003>; J. Gregory Sidak, *A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet*, 2 J. COMPETITION L. & ECON. 349, 361-62 (2006), available at http://www.criterioneconomics.com/pdfs/A_Consumer_Welfare_Approach_to_Network_Neutrality_Regulation_of_the_Internet.pdf; Net Neutrality, Hearing before the Sen. Comm. on Commerce, Science, & Transportation, 109th Cong., 2d Sess. 59 (2006) (testimony of J. Gregory Sidak); see also J. Gregory Sidak, Consumer Welfare and Network Neutrality, Presentation at the Federal Trade Commission Broadband Connectivity Competition Policy Workshop (Feb. 13, 2007), available at <http://www.ftc.gov/opp/workshops/broadband/presentations/sidak.pdf> (cited in FEDERAL TRADE COMMISSION STAFF REPORT, BROADBAND CONNECTIVITY COMPETITION POLICY (June 2007), available at <http://www.ftc.gov/reports/broadband/v070000report.pdf>).

1 8YY subscribers for toll-free service is relatively steep. If DeltaCom would pay
2 Hypercube for the services in Hypercube's price list that Hypercube has supplied,
3 the wireless carriers that use Hypercube would be able to charge a marginally
4 lower monthly price to their end users up to the amount of revenues received from
5 their contracts with Hypercube. Hypercube's cost of carrying the 8YY call from
6 the MTSO to the ILEC en route to DeltaCom's switch would then be transferred
7 to the 8YY subscribers through the repricing of 8YY service by DeltaCom. In
8 Exhibit __ (JGS-3(a)), the initial price of wireless access is p_1 . DeltaCom's
9 payment to Hypercube would enable the wireless carrier with which Hypercube
10 has a network-access arrangement to reduce price to p_2 . Corresponding to the
11 price reduction, the number of wireless customers would increase from Q_1 to Q_2 .

12 Because only wireless access demand and 8YY service demand are
13 discussed here, for simplicity I assume that the contract allows the wireless
14 carriers to avoid all the costs of tandem switching performed by Hypercube,
15 which is the case of direct interconnection between an IXC and the calling party's
16 carrier.⁹ Then the shaded area A represents the cost of database query and tandem
17 switching of the 8YY calls initiated on a wireless network. The consumer welfare
18 gain for wireless end users from the marginal price reduction can be decomposed
19 into two parts: (1) savings from lower prices for existing, inframarginal wireless
20 customers, represented by area A , and (2) surplus to marginal wireless customers
21 who would not purchase wireless access otherwise, represented by area B .

9. Hypercube *Ex Parte* Presentation 2, In re: Notice of Ex Parte, CC Dkts. Nos. 01-92 and 96-262, at 7 (Nov. 19, 2009) [hereinafter *Hypercube Ex Parte Presentation*].

1 The transfer of a portion of the cost of network access for wireless-
2 initiated 8YY calls—the shaded area A —to 8YY subscribers would cause the
3 price of 8YY service marginally to increase from p'_1 to p'_2 and the number of
4 8YY subscribers to decrease marginally from Q'_1 to Q'_2 , as shown in Exhibit __
5 (JGS-3(b)). Because of the assumption that almost all the costs incurred by
6 Hypercube to transport the call would now pass through to 8YY subscribers, this
7 change would imply that area C approximates area A . Thus, the consumer-welfare
8 loss to 8YY subscribers from the price change would equal the shaded area C plus
9 area D .

10 However, the fact that the demand curve for 8YY service is steeper than
11 the demand curve for wireless access implies that the magnitude of the decrease
12 in 8YY customers would be proportionally smaller than the magnitude of the
13 corresponding increase in wireless customers. Moreover, the welfare gain of
14 wireless customers (area A plus area B) would exceed the welfare loss of the 8YY
15 customers (area C plus area D). Thus, the net consumer welfare gain (area B
16 minus area D) would be positive. Consumers (of wireless access and of 8YY
17 services) would, on balance, be better off.

18 **Q. Is it possible that both 8YY subscribers and wireless end users would**
19 **unambiguously benefit if DeltaCom were required to pay Hypercube for the**
20 **services that it provides in the delivery of wireless-initiated 8YY calls?**

21 **A.** Yes. The analysis shown in Exhibit __ (JGS-3) takes into account only the *static*
22 changes in demand that occur as a result of 8YY subscribers bearing a greater

1 portion of the costs of wireless-initiated 8YY calls. Dynamic analysis reveals that
2 the gains to economic welfare are even greater than the static analysis above
3 indicates. The demand of 8YY subscribers for 8YY service is complementary to
4 the demand for wireless minutes of use: as more wireless users consume more
5 wireless minutes of use, the value of having an 8YY number increases because
6 more consumers will call the 8YY number. Consequently, the demand curve for
7 8YY service will shift outward in the presence of an increase in the number of
8 wireless minutes of use consumed. This outward shift in demand is analogous to
9 an increase in the quality or performance of 8YY service, holding price
10 constant.¹⁰ Exhibit ____ (JGS-4) shows the case of dynamic demand for 8YY
11 service.

12 Exhibit ____ (JGS-4) shows that the demand of 8YY subscribers will
13 increase if the number of wireless minutes of use consumed increases as a result
14 of lower wireless subscription costs. Overall welfare increases by area *F* as a
15 result of the outward shift in demand for 8YY subscriptions. (Area *E* is equal to
16 the consumer surplus of 8YY subscribers observed in the static analysis shown in
17 Exhibit ____ (JGS-3).) To the extent that the quality-enhancement effect of
18 additional consumption of wireless minutes of use on the demand for 8YY
19 subscriptions is large, area *F* will offset the surplus loss that 8YY subscribers
20 experience as a result of an increase in price from p'_1 to p'_2 . In this case, 8YY
21 subscribers—and DeltaCom—will *benefit* by bearing a larger proportion of the

10. In this respect, the outward shift of the demand curve for 8YY service resembles a positive income effect.

1 cost of wireless-initiated 8YY calls. In other words, the repricing of 8YY service
2 will not only increase aggregate consumer welfare; it will be Pareto efficient in
3 the sense of making consumers better off while not making any other party worse
4 off.

5 By the mechanisms shown in Exhibit __ (JGS-3) and Exhibit __ (JGS-4),
6 social welfare increases as a result of commercial contracts between CLECs and
7 wireless carriers, because IXCs have the ability to pay the CLECs for providing
8 the services that the IXCs are consuming. The welfare gain is a result of the
9 different nature of the demand curves—the different willingnesses to pay—of
10 wireless end users and 8YY subscribers. For these reasons, if DeltaCom were
11 allowed to withhold payment to Hypercube for its provision of tandem-switched
12 access and database query services in Hypercube's price list to DeltaCom,
13 consumer welfare would suffer in Florida.

14 **Q. Do the same principles apply to specific network features, such as the**
15 **delivery of an 8YY call using tandem switching through carriers such as**
16 **Hypercube?**

17 A. Yes. When Mr. Wood claims, “[r]ather than looking to the wireless carrier for
18 compensation for the functions performed on its behalf, Hypercube is attempting
19 to have DeltaCom pay for this functionality,” he explicitly ignores the value that
20 DeltaCom receives from Hypercube's services.¹¹ If the quality of a call, either
21 through reduced connection times or through reduced risk of service interruption,

11. Wood Direct Testimony at 27 ll.12-16 (emphasis in original).

1 would improve from more efficient transport through tandem switching, then both
2 the user (who enjoys faster and more reliable call connection) and the 8YY
3 subscriber (who, as a result of the improved consumer experience, benefits from
4 increased demand for its product) are willing to pay for this service. The 8YY
5 subscriber has positive demand for Hypercube's service; consequently, DeltaCom
6 benefits from Hypercube's service because Hypercube's service allows it to serve
7 its 8YY customers.

8 **Q. How does the two-sided nature of demand for 8YY calls affect the public**
9 **interest?**

10 A. As I explained in my direct testimony and my attached report, through private
11 contracts, CMRS carriers are able to appropriately and legitimately transfer to
12 Hypercube some of the burden of delivering an 8YY call to the appropriate
13 IXC—who is the cost causer by virtue of its decision to sell toll-free services. By
14 reducing the cost to CMRS providers of carrying 8YY calls by taking over
15 transport and database-dip functions, Hypercube enables wireless providers to
16 more easily recover the costs of their networks, which increases investment
17 incentives and promotes innovation on wireless networks. Consumers therefore
18 benefit from increased innovation on wireless networks and reduced prices for
19 wireless subscriptions.

20 By performing a portion of the work necessary to the delivery of 8YY
21 calls and charging IXCs such as DeltaCom, Hypercube forces 8YY subscribers to
22 bear a greater share of the cost caused by the 8YY service. Moreover, 8YY

1 customers are also more suited to pay for the costs of 8YY service: DeltaCom
2 could pass the cost of Hypercube's service onto its (largely business and
3 government) 8YY customers more easily than wireless carriers could pass the
4 costs of wireless-initiated 8YY calls onto their customers, who are typically
5 individuals. As noted earlier, it is likely that 8YY customers have more inelastic
6 demand, and therefore it is economically efficient, from the standpoint of Ramsey
7 pricing, for them to pay a greater proportion of the sunk cost of making wireless-
8 initiated 8YY calls.¹²

9 **Q. Would it be possible for DeltaCom to charge its 8YY customers a positive**
10 **price if the market for 8YY calling were not two-sided?**

11 A. No. A subscriber of 8YY service offers to pay the cost for consumers to call the
12 8YY subscriber. The existence of such a service is predicated on the existence of
13 consumers who want to call—toll-free—the 8YY subscriber. If the market for
14 8YY calling were *not* two-sided, DeltaCom could not charge its 8YY customers a
15 positive price. Hypercube contributes to the value that the ability of end users to
16 call 8YY numbers creates.

17 Yet, Mr. Wood asserts: "To the extent [Hypercube] has provided any
18 services at all, it has provided those services to the wireless carrier whose
19 customer originated the call."¹³ This reasoning is incorrect on economic grounds.
20 Neither Mr. Wood nor DeltaCom can credibly claim that DeltaCom does not
21 receive value from Hypercube's services. Because DeltaCom receives value, it

12. See, e.g., HARVEY ROSEN, PUBLIC FINANCE 334 (7th ed., McGraw-Hill Irwin 2005).

13. See *Wood Direct Testimony* at 25 ll.16-18; see also *Wood Direct Testimony* at 31 ll.3-5.

1 has a willingness to pay. And indeed, DeltaCom does pay ILECs when they
2 perform similar functions. It is hardly inefficient or unfair that this Commission
3 require DeltaCom to pay for the value that it has derived at Hypercube's expense.

4 **Q. Does Mr. Wood's claim that the fact that DeltaCom cannot tell that Hypercube**
5 **is part of the call flow prove that Hypercube's services lack value?**

6 A. No. Mr. Wood states, with emphasis, that "the call flow . . . *appears to DeltaCom*
7 *to be exactly the same*" when a wireless-initiated 8YY call is delivered over
8 Hypercube's network to the ILEC as when Hypercube is not involved in the call
9 flow.¹⁴ Evidently, Mr. Wood thinks that the imperceptibility of Hypercube's
10 presence in the call path is a bad thing.

11 **Q. Is he correct?**

12 A. No. Two points bear emphasis. First, the appearances to DeltaCom are not the
13 dispositive fact for any legal test that is applicable here. Second, Mr. Wood's
14 comment is a powerful admission against interest by DeltaCom that Hypercube is
15 successful at providing seamless service. If there is not "any indication to
16 DeltaCom that Hypercube had inserted itself into the call flow,"¹⁵ then Mr.
17 Wood's claim that Hypercube's presence degrades the quality of 8YY service is
18 untenable.

19 **Q. Does Mr. Wood support his factual assertion that Hypercube's presence**
20 **degrades call quality for end users?**

14. *Id.* at 52 ll.21-22.

15. *Id.* at 53 ll.2-3.

1 A. No. Ostensibly on the basis of the schematics shown in Diagrams 1-3 of his
2 testimony alone, Mr. Wood hypothesizes that “it is *possible*” that Hypercube’s
3 presence in the call flow results in “degradation in call quality.”¹⁶ However, Mr.
4 Wood does not define and measure “degradation.” Nor does he explain how
5 marginal changes in “degradation” affect the relevant measure of economic
6 welfare. Mr. Wood does not say whether the “degradation” he hypothesizes could
7 be perceived by human beings. Without evidence derived from actual call data
8 that the performance and reliability of wireless-initiated 8YY calls decrease as a
9 result of Hypercube’s presence, Mr. Wood’s statements do not rise beyond the
10 level of unsubstantiated and unscientific speculation.

11 **Q. Given the two-sided demand for 8YY service, is it plausible on economic**
12 **grounds, as Mr. Wood asserts, that CMRS carriers would contract with**
13 **Hypercube if its services degraded the quality of 8YY calls?**

14 A. No. The argument is implausible as a matter of economic analysis. Wireless
15 carriers have complementary demand for 8YY calling because wireless end users
16 have positive demand for 8YY calls. Furthermore, wireless carriers compete
17 aggressively not only on the basis of price, but also on the basis of call quality and
18 signal coverage. Customer churn in the wireless industry is high.¹⁷ Put differently,

16. *Id.* at 25 ll.10-12 (emphasis added).

17. *See, e.g.,* Comments of Gerald R. Faulhaber & David J. Farber, Innovation in the Wireless Ecosystem: A Customer-Centric Framework at 17, In the Matter of Preserving the Open Internet, Broadband Industry Practices, GN Dkt. No. 09-191, WC Dkt. No. 07-52 (filed with the FCC on behalf of AT&T Jan. 14, 2010) (“And customers have no qualms about changing their carriers; the FCC (2009) found that between 15% and 40% of customers change carriers every year. With number portability, changing carriers is easy, and customers show that they are willing to move.”) (citing Federal Communications Commission, Thirteenth Report, Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With

1 no wireless carrier profitably could sustain any nontrivial, nontransitory increase
2 in price. A reduction in quality with price held constant amounts to an implicit
3 price increase. Wireless customers would not tolerate it.

4 If Hypercube's services did in fact cause degradation of the quality of
5 wireless service for end users on the networks of the CMRS carriers with which
6 Hypercube contracts, those wireless carriers would quickly lose subscribers to
7 other providers. This is *not* the case, and Mr. Wood offers no evidence to the
8 contrary. Hypercube continues to contract with the nation's largest wireless
9 carriers for the provision of wireless-initiated 8YY calls. In short, Mr. Wood's
10 assertion that Hypercube's services degrade call quality lacks any foundation in
11 logic or fact.

12 **Q. Do you agree with Mr. Wood's interpretation of the phrase "on behalf of" as**
13 **he uses it to describe the services that Hypercube provides to the wireless**
14 **carriers with which it has contractual agreements?**

15 A. No. Mr. Wood uses the phrase "on behalf of" throughout his testimony.¹⁸ Each
16 time, he does so to suggest that Hypercube's contracts with wireless carriers are a
17 means for wireless carriers to charge IXCs indirectly for the provision of wireless-
18 initiated 8YY calls in violation of FCC regulations. Mr. Wood, quoting the FCC,
19 states: "Hypercube cannot bill for access functions performed by another carrier if
20 that carrier did not independently have the right to impose access charges on the
21 IXC: 'in cases where the carrier serving the end user had no independent right to

Respect to Commercial Mobile Services, WT Dkt. No. 08-27, ¶ 181 (Jan. 16, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-54A1.pdf (last visited July 1, 2010)).

18. Wood Direct Testimony at 15-16, ll.15-2.

1 collect from the IXC, industry billing guidelines do not, and cannot, bestow on a
2 LEC the right to collect charges on behalf of that carrier.”¹⁹ Mr. Wood’s
3 interpretation of “on behalf of” is in this respect misleading and contrary to fact.

4 *Oxford Dictionaries Online* defines “on behalf of” as “in the interests of a
5 person, group, or principle” or “as a representative of.”²⁰ Hypercube does not
6 provide services “on behalf of” a wireless carrier in the sense that it charges “as a
7 representative of” the wireless carrier for network elements that the wireless
8 carrier provides. Under its contract with a CMRS carrier, Hypercube takes
9 responsibility for the database query and a portion of the transport functions for
10 an 8YY call initiated on the carrier’s network. Hypercube thereby relieves the
11 wireless carrier of part of the burden of carrying wireless-initiated 8YY calls.
12 However, Hypercube charges IXCs only for the services that it provides pursuant
13 to the price list that it has filed with the Commission, which contains a legal
14 service for the provision of intrastate 8YY calls. Hypercube does not act as the
15 agent of the wireless carrier and charge IXCs “in the interests of a . . . principle”
16 for services that the wireless carrier supplies. Moreover, nothing in the FCC’s
17 regulation of either CMRS carriers or CLECs prevents Hypercube from charging
18 IXCs rates pursuant to its price list for the services that it provides, including

19. *Id.* (quoting Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Petition of Z-Tel Communications, Inc. for Temporary Waiver of Commission Rule 61.26(d) to Facilitate Deployment of Competitive Service in Certain Metropolitan Statistical Areas, Eighth Report and Order, CC Dkt. No. 96-262, 19 F.C.C. Rcd. ¶ 16 (2004) [hereinafter *Eighth Report and Order*]).

20. OXFORD DICTIONARIES ONLINE,
http://oxforddictionaries.com/view/entry/m_en_us1225721?rskey=Cpst67&result=1#m_en_us1225721.004
(last visited July 1, 2010)

1 services that it supplies as part of a private network agreement with a CMRS
2 carrier for the provision of wireless-initiated 8YY calls.

3 **Q. Do you agree with Mr. Wood that “something is amiss” because Hypercube**
4 **remits payment to the wireless carriers with which it has commercial**
5 **contracts?**

6 No. Mr. Wood does not give an economic explanation for his assertion that,
7 because Hypercube pays the CMRS carriers under its commercial contracts,
8 “something is amiss.”²¹ Mr. Wood’s point appears to relate to the nature of
9 demand for 8YY service—specifically, the economic value that Hypercube’s
10 services create and the willingness of different sets of consumers to pay for those
11 services.

12 But Mr. Wood does not present his argument that “something is amiss” in
13 precise, rigorous economic terms. *Oxford Dictionaries Online* defines “amiss” as
14 “not quite right” or “inappropriate.”²² Mr. Wood’s comment is therefore
15 normative and pejorative. Economics is not philosophy, however. Economics
16 addresses what is, not what ought to be. To an economist, it is therefore a *non*
17 *sequitur* to describe a demand relationship normatively in terms of whether it is
18 “appropriate” or “right.” The fact that Hypercube pays a wireless carrier under the
19 terms of its contract says nothing about the value that Hypercube’s services
20 provide to DeltaCom.

21. *Wood Direct Testimony* at 26 l.11.

22. OXFORD DICTIONARIES ONLINE,
http://oxforddictionaries.com/view/entry/m_en_us1221439#m_en_us1221439 (last visited July 1, 2010).

1 **Q. Is Mr. Wood correct when he implicitly argues that the FCC's decision to**
2 **detariff CMRS carriers precludes them from contracting with CLECs for the**
3 **provision of network access?**

4 A. No. In its declaratory ruling on CMRS access charges²³ in 2002 and the *Eighth*
5 *Report and Order* in 2004,²⁴ the FCC acknowledged that a CMRS carrier may
6 contract with other carriers to recover the costs of network access. In particular,
7 because CMRS carriers operate in a "detariffed, deregulated environment," they
8 are entitled to "arrange whatever compensation arrangement they like for the
9 exchange of traffic."²⁵

10 Although the FCC ruled that a CLEC may not "collect access charges for
11 the portion of the service provided by the CMRS carrier,"²⁶ CLECs *are* entitled to
12 collect access charges for the services that they provide pursuant to a filed tariff or
13 price list or a privately negotiated contract. At the federal level, the FCC ruled in
14 its *Eighth Report and Order* that a CLEC may charge for the access components it
15 provides, but that "the rate that a competitive LEC charges when it is not serving
16 the end-user should be no higher than the rate charged by the competing
17 incumbent LEC for the same functions."²⁷ In other words, for interstate traffic, an
18 intermediate CLEC may charge for the access components it provides so long as
19 it does not charge above the approved benchmark rate.

23. Petitions of Sprint PCS and AT&T Corp. for Declaratory Ruling Regarding CMRS Access Charges, 17 F.C.C. Red. 13,195 ¶ 7 (2002) (Declaratory Ruling) [hereinafter *2002 Sprint PCS/AT&T Corp. Declaratory Ruling*].

24. *Eighth Report and Order*, *supra* note 19.

25. *2002 Sprint PCS/AT&T Corp. Declaratory Ruling*, 17 F.C.C. Red. at 13,195 ¶ 7.

26. *Eighth Report and Order*, *supra* note 19, ¶ 16.

27. *Id.* ¶ 17.

1 Mr. Wood seems to suggest that because “the presence of Hypercube as an
2 alternative provider of [800 database query and transport] functions could provide
3 value *to the wireless carrier*,” wireless carriers should be precluded from
4 contracting with Hypercube for its services.²⁸ Perhaps his argument is that
5 Hypercube should not be permitted to charge for those services simply because
6 the CMRS carrier, as well as DeltaCom and its 8YY subscribers, benefits from
7 them. Mr. Wood’s ultimate meaning is unclear.

8 However, as evidenced by the FCC’s liberal allowance for “whatever
9 compensation arrangement [CMRS carriers] like for the exchange of traffic,” it
10 cannot be the case that the FCC’s detariffing of wireless was premised on its
11 intention to prevent wireless carriers from capturing any economic benefits from
12 devising more cost-effective means for delivering traffic. The right of CMRS
13 carriers to contract privately to recover the costs of network access by “whatever
14 compensation arrangement [CMRS carriers] like” is broad.²⁹ Until the FCC states
15 otherwise, CMRS carriers retain the right to contract with CLECs for the
16 provision of network access.

17 **Q. Does the fact that a wireless carrier is capable of providing a particular access**
18 **element preclude it from entering into a contract with a CLEC for the**
19 **provision of that access element, as Mr. Wood claims in his testimony?**

20 **A.** No. Mr. Wood implies throughout his testimony that, because “a query can be—
21 and often is—initiated by the wireless MTSO,” wireless carriers should be

28. *Wood Direct Testimony* at 25 ll.21-22 (emphasis in the original)

29. *2002 Sprint PCS/AT&T Corp. Declaratory Ruling*, 17 F.C.C. Rcd. at 13,195 ¶ 7.

1 *obligated* to perform the database dip function.³⁰ At one point, Mr. Wood even
2 claims that “[t]he other network functions [besides end office switching] provided
3 by Hypercube are the responsibility of the originating carrier.”³¹ However, Mr.
4 Wood provides no authority for that proposition, either as a matter of economic
5 theory or as a matter of telecommunications law. I am not aware that the FCC or
6 the Florida PSC imposes any legal obligation on a CMRS carrier to vertically
7 integrate instead of contracting with a CLEC.

8 **Q. Do you agree with Mr. Wood’s factual statement that “the 800 database**
9 **query is a function associated with originating switching?”³²**

10 A. No, I disagree. The 8YY database query is a function unique to, and therefore
11 necessarily “associated with,” toll-free calling. Mr. Wood’s apparent purpose in
12 asserting this counterfactual “fact” is to support his claim that Hypercube is
13 charging DeltaCom “on behalf of” a wireless carrier when it charges for services
14 *that Hypercube performs* but that Mr. Wood prefers to characterize as the
15 “responsibility”³³ of the wireless carrier. As I explained above, Mr. Wood’s
16 interpretation of “on behalf of” is both unpersuasive and factually irrelevant to the
17 actual transactions between Hypercube and CMRS carriers.

18 **Q. Does the FCC permit a CLEC like Hypercube that has contracts with CMRS**
19 **carriers for the joint provision of 8YY calls to charge IXC’s for the access**
20 **elements that it has provided?**

30. *Wood Direct Testimony* at 21-22 ¶¶20-1.

31. *Id.* at 57 n.36.

32. *Id.* at 45 ¶¶15-16

33. *Id.* at 45 n.31.

1 A. Yes. Mr. Wood is correct that the wireless carriers with which Hypercube has
2 contracts frequently provide the end-office switching element of service when an
3 8YY call is initiated on their networks in Florida.³⁴ However, the wireless carrier
4 then routes the call to Hypercube, which performs tandem-switched transport and
5 the data dip function.

6 Just because Hypercube does not perform *all* of the functions associated
7 with the origination and transport of a wireless-initiated 8YY call to the
8 appropriate IXC does not mean that Hypercube does not perform *any* of the
9 essential functions of access. Mr. Wood himself concedes that Hypercube “is
10 providing 800 database query and transport functions to the wireless carriers.”³⁵ It
11 would defy logic and plain English if the FCC’s understanding of “jointly
12 provided access services” required, as Mr. Wood implies, that one party provide
13 *all* the elements of access.

14 Hypercube charges only for the access elements that it provides. Its
15 services and the prices that Hypercube charges pursuant to its price list are
16 therefore valid under the FCC’s regulations governing the joint provisioning of
17 wireless-initiated calls. And likewise, this Commission has never prohibited the
18 common practice of intermediate LECs charging for access services that they
19 provide.

20 **Q. Is the fact that wireless carriers contract with Hypercube primarily for the**
21 **provision of 8YY calls relevant to this proceeding?**

34. *Id.* at 14 ll.6-8.

35. *Id.* at 71 ll.12-14.

1 A. No. Contrary to what Mr. Wood implies in his testimony,³⁶ wireless carriers are
2 entitled to contract with CLECs—and any other type of service provider—for
3 8YY traffic as well as all other traffic. By contracting with Hypercube for 8YY
4 calls initiated on their networks, CMRS carriers are able to reduce their own
5 costs, the savings of which redound to wireless end users. Mr. Wood seems to
6 imply that these gains in consumer welfare should be denied wireless users unless
7 wireless carriers use Hypercube for all of their traffic.

8 **Q. Is DeltaCom a “cost causer” in the sense envisioned by FCC regulations?**

9 A. Yes. DeltaCom is a “cost causer” because, as a RESPORG, it has held itself out to
10 the public (including to common carriers) as the provider of 8YY service to its
11 8YY customers and thereby has invited end users to call those 8YY numbers.
12 DeltaCom cannot now refuse to pay the costs of the 8YY service that it has held
13 itself out as being willing to pay. Consequently, DeltaCom is obligated to pay the
14 cost of the services that it consumes on Hypercube’s network for the provision of
15 service that directly benefits DeltaCom’s 8YY customers.

16 **Q. Is there an analogy under the common law of contracts that supports the**
17 **conclusion that Hypercube has an enforceable right to compensation from**
18 **DeltaCom?**

19 A. Yes. Although the dispute between DeltaCom and Hypercube over DeltaCom’s
20 refusal to pay Hypercube for its services may appear, at first glance, to hinge on
21 relatively obscure questions of public utility regulation, when analogized to a

36. *Id.* at 8 ll.10-11 (“Hypercube is only being inserted into the call flow for ‘8YY’ calls.”).

1 familiar fact pattern in contract law, the complexities unwind, and the guiding
2 principles become apparent. Specifically, contract law as it applies to reward
3 cases is instructive to resolve the question of whether DeltaCom has an
4 enforceable obligation to pay Hypercube for delivering wireless-initiated 8YY
5 calls to its network.

6 Consider a simple analogy. A person loses his cat, and he posts flyers that
7 announce a reward offer of \$500 to the person who finds and returns his cat.
8 Another person sees the flyers, and proceeds to find and return the cat; she has
9 performed the act that entitles her to the reward offered. Thus, the cat owner is
10 obligated to complete the bargain and reward the finder \$500. By analogy,
11 DeltaCom has lost the cat and has offered a reward. With knowledge of that
12 reward, Hypercube, upon delivering wireless-initiated 8YY calls to DeltaCom's
13 network, has found and delivered the cat. Hypercube has performed the act that
14 both completes the formation of the contract and entitles Hypercube to collect the
15 reward offered by DeltaCom.

16 Courts in many states have ruled that when one party offers a reward,
17 another party's performance of the act specified by the reward offer, when
18 undertaken with knowledge of the reward, constitutes acceptance and thus the
19 formation of a legally binding contract.³⁷ In *Morrell v. Quarles*, the Supreme
20 Court of Alabama recognized that,

37. See, e.g., *Morrell v. Quarles*, 35 Ala. 544 (Ala. 1860); *Gadsen Times v. Doe*, 345 So. 2d 1361 (Ala. Civ. App. 1977) (citing *Morrell*, 35 Ala. at 550); *Sumerel v. Pinder*, 83 So. 2d 692 (Fl. 1955); *Cobaugh v. Klick-Lewis, Inc.*, 385 Pa. Super. 587, 561 A.2d 1248 (Pa. Super. Ct. 1989); *Glover v. Jewish War Veterans of United States*, 68 A.2d 233, 233 (D.C. 1949); *Simmons v. United States*, 308 F.2d 160,

1 if one offer[s] a reward, and another, knowing of the offer, shall do the
2 lawful thing proposed to be rewarded, there is a contract supported by a
3 consideration; and that the assent to the contract is given by the party
4 claiming the reward, when he performs the designated act.³⁸
5

6 The U.S. Court of Appeals for the Fourth Circuit has similarly observed that
7 “[t]he offer of a prize or reward for doing a specified act, like catching a criminal,
8 is an offer for a unilateral contract. For the offer to be accepted and the contract to
9 become binding, the desired act must be performed with knowledge of the
10 offer.”³⁹ So, too, the Supreme Court of Florida has said that “[r]ewards are
11 contractual.”⁴⁰

12 As the reward cases vividly illustrate, acceptance of an offer or promise
13 may take the form of performance (of the act specified by the offer), as opposed
14 to taking the form of a return promise (to perform).⁴¹ In the context of rewards,
15 “[t]he only acceptance of the offer that is *necessary* is the *performance* of the act
16 requested to win the prize.”⁴² Therefore, when a person with knowledge of the
17 reward performs the act specified by the reward offer, that person has accepted
18 the reward offer. Consequently, the promisor’s offer of the reward is enforceable.

164-65 (4th Cir. 1963) (decided “under accepted principles of contract law on which [the court] may rely in the absence of pertinent Maryland cases”); *Hamer v. Sidway*, 27 N.E. 256 (N.Y. 1891); *Denney v. Reppert*, 432 S.W.2d 647 (Ky. Ct. App. 1968).

38. *Morrell*, 35 Ala. at 550.

39. *Simmons*, 308 F.2d at 164-65 (citing 6A CORBIN, CONTRACTS § 1489 (1962); RESTATEMENT OF CONTRACTS § 521 (1932)).

40. *Sumerel*, 83 So. 2d at 693.

41. See RESTATEMENT (SECOND) OF CONTRACTS § 71(2) (1981) (“A performance or return promise is bargained for if it is sought by the promisor in exchange for his promise and is given by the promisee in exchange for that promise.”).

42. *Cobaugh*, 385 Pa. Super. at 590 (emphasis added). See also *Sumerel*, 83 So. 2d at 693 (“To form a contract binding the offerer [of a reward], it [is] necessary that there be a meeting of the minds by an acceptance and performance within the terms of the offer.”) (citing *Broadnax v. Ledbetter*, 100 Tex. 375, 99 S.W. 1111 (Tex. 1907)).

1 In this case, DeltaCom has put the world on notice that it will pay local
2 exchange carriers that deliver the 8YY calls of DeltaCom's 8YY subscribers.
3 DeltaCom has made that offer by holding itself out to the public (especially to
4 common carriers) as the provider of 8YY service to its 8YY customers.
5 Specifically, as a RESPORG, DeltaCom publishes the 8YY numbers that it is
6 responsible for delivering in a directory and thereby invites any common carrier
7 to deliver traffic to it via those published 8YY numbers in return for DeltaCom's
8 promise to pay the carrier's rates via price list or contract.⁴³ Thus, when a carrier
9 routes an 8YY call to DeltaCom's network, the carrier knowingly accepts the
10 offer that DeltaCom has publicly made and is therefore entitled to the "reward"—
11 which is the price-list or contractually negotiated access and interconnection rates.
12 Hypercube has delivered the wireless-initiated 8YY calls of DeltaCom's 8YY
13 subscribers to DeltaCom's network with the knowledge of DeltaCom's
14 representation that it would compensate any carrier performing that act.

15 **Q. Does Mr. Wood provide any evidence to support his claim regarding the**
16 **volume of traffic necessary to justify DeltaCom's direct interconnection with**
17 **a CMRS carrier?**

18 A. No. Mr. Wood claims that "[i]n many cases traffic volumes may not be sufficient
19 to justify direct interconnect, making indirect interconnection the most efficient

43. There is no question that DeltaCom's publication of the 8YY numbers as a RESPORG constitutes an offer. The Restatement (Second) of Contracts defines an "offer" as "the manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it." RESTATEMENT (SECOND) OF CONTRACTS § 24 (1981). Thus, the offeror of a reward guarantees that he "will conclude" the bargain—by delivering the reward—when another party assents to or accepts the bargain. By the same reasoning, DeltaCom guarantees that it will conclude the bargain by paying the carrier for the delivery of the 8YY call.

1 and preferred option,” in reference to cases in which DeltaCom connects
2 indirectly to a CMRS carrier through an ILEC.⁴⁴ Given that DeltaCom has refused
3 to directly interconnect with Hypercube, Mr. Wood’s implication is that
4 Hypercube’s volume of traffic to DeltaCom is below the minimum efficient scale
5 for direct interconnection to be cost-effective for DeltaCom.

6 However, Mr. Wood does not provide any evidence of what DeltaCom’s
7 minimally efficient scale of traffic for direct interconnection actually is. He does
8 not even identify in qualitative terms what the components of fixed costs and
9 variable costs are for direct interconnection, such that one could express in precise
10 economic terms the calculation that would reveal the breakeven level of traffic at
11 which the cost savings of direct interconnection exceed the fixed costs (if any) of
12 direct interconnection. Absent a rigorous analysis of the costs and benefits of
13 direct interconnection, it is impossible for Mr. Wood to defend the position that
14 DeltaCom has a legitimate cost justification for its refusal to interconnect directly
15 with Hypercube for the delivery of wireless-initiated 8YY traffic.

16 **Q. Why is it significant that Mr. Wood implies that DeltaCom cannot efficiently**
17 **directly interconnect with Hypercube?**

18 A. It appears that Mr. Wood makes this assertion about the feasibility of direct
19 interconnection for the purpose of justifying his characterization of Hypercube’s
20 presence in the call flow as a “parasitic insertion.”⁴⁵

44. *Wood Direct Testimony* at 22 n.22.

45. *Id.* at 9 l.13.

1 Q. Do you agree with Mr. Wood's understanding of what it means to "deliver" a
2 call?

3 A. No. Mr. Wood states: “Taking a call further from its destination cannot accurately
4 be described as ‘delivering’ the call.”⁴⁶ This statement is incorrect. It adopts a
5 definition for “delivering” that Mr. Wood, again, implicitly asserts is the only
6 plausible interpretation. His implicit definition is something akin to “delivering
7 means the act of carrying a thing by the shortest physical distance between two
8 points.” Mr. Wood’s exercise in interpretation is arbitrary and lacks any empirical
9 or economic basis. The *Oxford Dictionaries Online* defines “deliver” as “to bring
10 and hand over (a letter, a parcel, or ordered goods) to the proper recipient or
11 address.”⁴⁷ This plain-English definition does not include the condition that the
12 shortest route be used. Moreover, direct interconnection with Hypercube could be
13 the shortest distance in many cases. Traffic would be routed directly from the
14 MTSO to DeltaCom without having to traverse the ILEC’s tandem network.

15 **Q. Do you agree with Mr. Wood’s assertion that “Hypercube cannot provide a**
16 **‘communications path between a Customer and an End User’ if that**
17 **customer is assumed to be DeltaCom (as Hypercube alleges and DeltaCom**
18 **denies)”?**⁴⁸

19 A. No. Mr. Wood engages in a false argument by implying, again, that there is only
20 one possible definition of “between”—his. Mr. Wood is implicitly defining

46. *Id.* at 39 ¶¶12-13.

47. OXFORD DICTIONARIES ONLINE,
http://oxforddictionaries.com/view/entry/m_en_us1239220#m_en_us1239220 (last visited July 1, 2010).

48. *Wood Direct Testimony* at 35 ll.3-5.

1 “between” to mean “in a position that is mutually contiguous with respect to.” Mr.
2 Wood is engaging in contract interpretation, yet without any of the standard
3 canons of construction that lawyers and judges use to interpret a legal text. His
4 approach is not scientific or rigorous.

5 One need only look up “between” in *Oxford Dictionaries Online* to find
6 several alternative plain-English possibilities for the definition of that word.
7 *Oxford Dictionaries Online* gives the following definitions for “between” that
8 relate to physical location: “at, into, or across the space separating (two objects or
9 regions).”⁴⁹ Other definitions include: (1) “in the period separating (two points in
10 time),” (2) “in the interval separating (two points on a scale),” (3) “indicating a
11 connection or relationship involving two or more parties,” (4) “by combining the
12 resources or actions of (two or more people or other entities).”⁵⁰

13 **Q. Does Mr. Wood’s assertion that Hypercube “gets the call no closer to**
14 **DeltaCom” have any relevance to whether Hypercube’s services improve the**
15 **reliability and efficiency of wireless-initiated 8YY calls?**

16 A. No. Distance is not the relevant parameter. And in any event, Mr. Wood offers no
17 evidence or analysis of distance. The physical location of switching and functions
18 like the data dip for 8YY services is partly a function of the cost of transmission.
19 As the cost of transmission falls relative to other costs of network operations, it
20 becomes more feasible to locate switching and data functions in more distant

49. OXFORD DICTIONARIES ONLINE,
http://oxforddictionaries.com/view/entry/m_en_us1226182#m_en_us1226182 (last visited July 1, 2010).

50. *Id.*

1 locations (where other kinds of cost advantages may exist).⁵¹ Obviously, packet-
2 switched messages sent over the Internet go by multiple routes, and only one can
3 be the geographically shortest distance. What matters is latency, congestion, and
4 reliability. It is disingenuous for Mr. Wood to complain that Hypercube “gets the
5 call no closer to DeltaCom.”⁵² If the call is moving at the speed of light over an
6 optical fiber, it makes no humanly perceptible difference if the call may encounter
7 some additional route mileage. For years, IXC’s have engaged in “least-cost
8 routing” that moved traffic in a manner that was most economical for the
9 customer, even if the distance traveled was greater.

10 **Q. Do you agree with Mr. Wood’s statements concerning DeltaCom’s Reported**
11 **100-percent PIU?**

12 A. No. Mr. Wood has not provided any evidence that demonstrates that the PIU
13 numbers reported by DeltaCom are accurate. Without independent analysis or
14 inquiry to confirm that DeltaCom’s reported PIU rates are not falsely inflated, Mr.
15 Wood cannot credibly claim that Hypercube has erred in assigning the price list’s
16 default PIU of 50 percent to DeltaCom’s traffic in response to DeltaCom’s refusal
17 to provide a traffic study to justify its claim of a 100-percent PIU. Moreover, it is
18 logically inconsistent for DeltaCom to report a PIU and simultaneously deny that
19 Hypercube has been providing a service to it.

51. This development is hardly new. *See, e.g.*, UNE Fact Report 2002, II.8-II.10, Prepared for and Submitted by BellSouth, SBC, Qwest, and Verizon, Federal Communications Commission, Review of the Section 251 Unbundling Requirements of Incumbent Local Exchange Carriers, CC Dkt. No. 01-338, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Dkt. No. 96-98, and Deployment of Wireline Services Offering Advanced Telecommunications Capabilities, CC Dkt. No. 98-147, (Apr. 5, 2002) (citing evidence that CLECs were increasingly operating switches over larger geographic areas and that the cost of switching was declining).

52. *Wood Direct Testimony* at 39 II.1-2.

1 **Q. Have you conducted empirical analysis of the calls that Hypercube delivered to**
2 **DeltaCom in Florida?**

3 A. Yes. To determine whether DeltaCom's reported PIU was plausible, I analyzed
4 proprietary Hypercube call data from April 2005 through December 2009, the
5 results of which are contained in the report attached to my direct testimony. Over
6 the course of this four-and-a-half-year period, the minimum percentage of
7 monthly intrastate minutes of use for DeltaCom in Florida—as measured by the
8 traffic transported to several Florida government agencies—ranged from 9
9 percent to 63 percent. These results indicate that DeltaCom could not plausibly
10 have had a PIU of 100 percent in any month—including October 2007, when it
11 reported a 100-percent PIU—because the minutes of intrastate use never fell
12 below 9 percent of the total minutes of use.

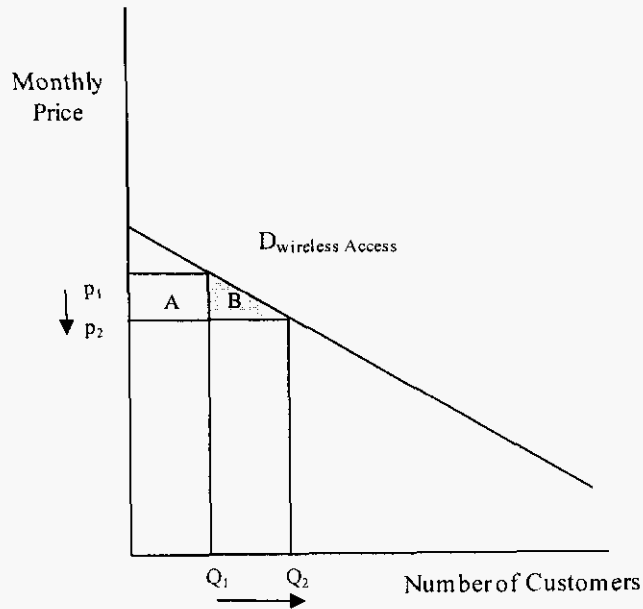
13 **Q. Do you have any concluding comments about Mr. Wood's testimony?**

14 A. Yes. Mr. Wood's *factual* assertions rest on many propositions that are
15 unsupported or demonstrably false. Mr. Wood's *legal* assertions do not appear to
16 be based on any legal training and do not employ standard tools of textual
17 interpretation used by courts and practicing lawyers. Mr. Wood's *economic*
18 assertions are not scientifically reliable because he does not support them with
19 empirical evidence or accepted theoretical principles found in peer-reviewed
20 publications.

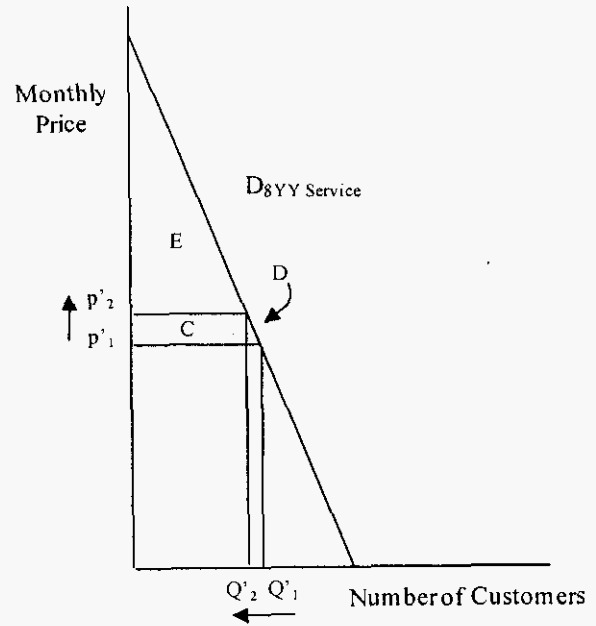
21 **Q. Does this conclude your rebuttal testimony?**

22 A. Yes.

EXHIBIT__JGS-3 DEMAND FOR WIRELESS ACCESS AND FOR 8YY SERVICE



(a) Demand for Wireless Access



(b) Demand for 8YY Service

EXHIBIT__JGS-4: DEMAND FOR 8YY SERVICE WITH STATIC AND DYNAMIC EFFECTS

