BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

Docket No. 00B-103T

IN THE MATTER OF PETITION BY ICG TELECOM GROUP, INC. FOR ARBITRATION OF AN INTERCONNECTION AGREEMENT WITH U S WEST COMMUNICATIONS, INC. PURSUANT TO SECTION 252(b) OF THE TELECOMMUNICATIONS ACT OF 1996.

REBUTTAL TESTIMONY

OF MICHAEL STARKEY

ON BEHALF OF ICG TELECOM GROUP, INC.

June 19, 2000

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I.INTRODUCTION

Please state your name and business address for the record.

A. My name is Michael Starkey. My business address is QSI Consulting, Inc., 6401 Tracton Court, Austin, Texas 78739-1400.

Q. Are you the same Michael Starkey that previously provided Direct Testimony in this proceeding?

A. Yes, I am.

Q. Have you had an opportunity to review the Direct Testimony of US West witnesses Messrs. McDaniel and Craig?

A. Yes, I have.

Q. Please provide the Commission with an overview of the US West Direct testimony before explaining for the Commission any disagreement you might have with that testimony.

A. US West, through the testimony primarily of Mr. McDaniel, advocates a number of public policy and jurisdictional positions in support of its claim that US West should not be responsible for compensating ICG when US West customers place telephone calls to Internet Service Providers ("ISPs") served by ICG's network. Though US West's testimony is extensive, US West's position ultimately rests on the following fundamental assertions:

1. Calls received by ISPs are interstate calls pursuant to past decisions made by this Commission and the Federal Communications Commission ("FCC"). Because calls made to ISPs have been defined as "interstate" traffic, these calls are similar to long distance traffic more so than local traffic. Therefore, the inter-carrier compensation arrangements that have traditionally been applied to long distance traffic (what Mr. McDaniel refers to as the "ILEC-IXC Model") serve as a more reasonable inter-carrier compensation platform for ISP traffic than does reciprocal compensation (apparently US West believes this is true as a matter of jurisdictional law, economic efficiency and proper public policy).

2. US West believes that the economic theory of "cost causation" is the proper analytical tool to be used in determining who should pay whom for traffic that is passed between US West and ICG. Because US West's local telephone subscriber is acting as a customer of an ISP when it makes an Internet call, US West believes that the ISP should be responsible for recovering the costs from the subscriber. Furthermore, US West believes the ISP should be responsible for compensating all carriers involved in carrying calls that it receives. US West believes that switched access charges similar to those assessed on long distance carriers serve as the proper mechanism of compensation to ensure that all intermediate carriers (i.e., both US West and ICG) are compensated for their costs of accommodating ISP traffic.

3. US West believes that reciprocal compensation payments made to Competitive Local Exchange Carriers who serve ISPs (what Mr. McDaniel refers to as the "ILEC-CLEC Model") assist in "subsidizing" Internet use. Likewise, US West contends that

reciprocal compensation payments distort the local exchange market and create an opportunity for unintended arbitrage.

4. US West further contends that reciprocal compensation payments made to CLECs will shift the burden of new network facility costs almost exclusively to US West. These increased costs would increase the revenue deficit that US West contends already exists in recovering costs associated with serving residential local subscribers. Because the existing local rates (US West focuses almost solely on residential rates) were not established with the additional network investment required to accommodate increased Internet traffic in mind, reciprocal compensation payments will place additional upward pressure on those rates.

5. Because of the "ESP Exemption" that effectively precludes either US West or ICG from assessing switched access charges on ISP customers, US West contends that the "second best" method of inter-carrier compensation should involve the CLEC who serves an ISP sharing the revenue it receives from the ISP with US West. Though US West believes this method may not generate revenue sufficient to cover either its own, or the CLECs costs, at least under such a structure US West posits that both carriers would assist in subsidizing Internet service. This, in US West's mind, would be competitively neutral.

6. Finally, US West believes that its current costs as approved by the Commission for reciprocal compensation are not reflective of costs CLECs incur when terminating ISP traffic. US West believes its reciprocal compensation rates are excessive when compared to the costs CLECs incur in this regard. Hence, in US West's opinion, a "windfall" profit is enjoyed by the CLECs when they are compensated for terminating ISP traffic at the US West reciprocal compensation rate (this windfall, in US West's opinion, adds to the distortion of the local marketplace discussed above).

Q. Please explain your primary disagreement with US West's analysis as summarized above.

A. While I would agree with US West that there certainly are important economic

market structure issues at hand and, that benefit can be gained from reviewing alternative reciprocal compensation options, the most important economic issue impacting the payment of reciprocal compensation is in my mind quite simple, and of critical importance. That is, *should the Commission abandon the rules of the competitive marketplace as they currently exist (i.e., reciprocal compensation) just because US West hasn't fared well under those rules*? Further, are the consequences of the marketplace we're seeing today (i.e., an imbalance in reciprocal compensation payments) the result of a "broken market" or, the results of a market pursuing the goals of the consumer (a competitive market's ultimate benefactor)?

Q. Can you answer these two important questions?

A. The remainder of my testimony is intended to show that the Commission should not modify the inter-carrier compensation mechanism that currently exists between US West and ICG. The current mechanism (the application of reciprocal compensation) is the only mechanism that will allow ICG to recover its network usage costs associated with US West's local subscribers from those subscribers. Indeed, it is the only method that will allow ICG to recover these costs at all. Further, the marketplace is working to the benefit of consumers as currently structured. ISPs are receiving competitive alternatives and are being provided services they were previously unable to receive from US West. Further, ICG is further expanding its network and its competitive offerings, all, to the benefit of Colorado's

telecommunications users.

Q. Does US West's testimony address either of these issues?

A. No, it does not. US West completely ignores the fact that it has lost (or failed to attract) a large number of ISP customers to its CLEC competitors and that this simple fact rests as the foundation for the "market distortions" it identifies throughout its testimony. In my direct testimony I encouraged the Commission to review each US West assertion made in support of its position in this proceeding with a simple question in mind: *Would this problem/situation be resolved if US West were successful in reestablishing the ISP(s) as its local customer(s)?* If the answer to this question is "Yes," then the competitive market, not regulatory intervention, serves as the best remedy for such a "problem." US West lost ISP customers in the competitive market as a result of its unwillingness and/or inability to meet their specific needs at a value-laden price.[1] As a result, US West is experiencing a traffic imbalance that requires it to make payments for calls made by its subscribers. If US West were successful in luring ISPs back to its network by offering them high quality

[1] See the ISP Survey Attached as Exhibit 2 to my Direct Testimony. Further, see US West response o ICG Data Request 141S1 wherein US West admits that it does not offer ISPs access to its central office for purposes of collocating their equipment. Collocation is an important component of service to most ISPs and CLECs who have been willing to allow such collocation have used it as an effective competitive tool against US West. US West, like most other ILECs, does not offer collocation to ISPs. This primarily results from the fact that if US West were to allow ISPs to collocate at rates, terms and conditions as favorable as those available from CLECs (what you would expect to result from a competitive marketplace), it would quickly become clear that the rates, terms and conditions offered by US West to CLECs for collocation are outrageously expensive and restrictive. US West obviously has a larger incentive to impede the progress of CLECs via the application of excessive collocation charges than to effectively protect its marketshare in the ISP market by offering reasonable collocation services (this will become even more obvious if the Commission forsakes reciprocal compensation for ISP-bound traffic).

services at reasonable prices, its traffic imbalance would shrivel (if not disappear or reverse) and all of the "market distortions" it bemoans would dissolve. This is the proper way in which to "resolve" US West's concerns. Simply put, the competitive marketplace must be allowed to work if consumers are to benefit from its results.

Q. Are there other general observations that you would like to make regarding the US West testimony?

A. Yes, there are. In reading through the US West testimony I am struck by the fact that US West attempts over and over again to align its position with the public interest. It does so by making a not-so-veiled threat that adoption of any position other than its own will undoubtedly lead to increased local residential rates. This position is unfounded, unsupported and disingenuous.

Q. Please explain why you believe US West's attempt to align its position with the public interest by arguing that local rates are likely to increase is disingenuous.

A. US West infers an upward pressure on local residential rates based upon on what it apparently believes to be the following set of facts: (1) US West has been required to undertake substantial increased investment because of increased Internet usage, 2) when added to the additional expense associated with reciprocal compensation payments, US West believes it is likely to lose money on at least some subset of its local residential customers, (3) this apparently results from the "fact" that the local

rates US West's subscribers currently pay weren't meant to recover costs associated with increased Internet usage. Finally, US West believes a good deal (if not the entire lot) of its residential customers are paying rates insufficient to recover the costs they generate and that reciprocal compensation payments will increase this burden beyond US West's ability to sustain current rate levels (i.e., US West apparently believes its residential customers as a group are being subsidized).

Q. Why does this particular argument hold your attention?

A. Before I even begin to rebut the factual errors that belie US West's misguided economic analysis, I think it is important for the Commission to focus directly on US West's argument. In doing so, the Commission should ask itself whether this is the type of argument it intends to entertain from a carrier who has been provided an alternative form of regulation (indeed, "price-cap" regulation). As I stated above, US West finds itself in the situation at issue in this proceeding (i.e., in the position of paying ICG more in reciprocal compensation than it receives from ICG), solely because ICG has been more successful than US West in soliciting the business of a given market segment (ISPs). However, this is apparently the very type of "risk" that US West agreed to bear in return for unrestrained profits via an alternative form of regulation (i.e. competitive risks). Indeed, the development of increased competition was apparently one of the primary arguments used to support an alternative regulatory framework. Yet, US West, instead of using the competitive process to

limit is financial repercussion, is asking for regulatory intervention on the part of the Commission in an effort to limit its risk by changing the rules of inter-carrier compensation (rules the Commission previously found that US West had agreed to before it began to suffer at the hands of the competitive marketplace). In supporting its plea in this respect, US West is arguing that the risk of the marketplace for these customers is too great and that its current rates are insufficient. Though the next section of my testimony directly rebuts US West's contention that its current rates are insufficient, in my mind, its arguments are simply not legitimate (or credible) arguments for a carrier to make after it has agreed to cap its rates and face the risks of the competitive marketplace. This is especially true when all indications point to the fact that its profits are going through the roof as a result. Simply put, US West is, by asking to be removed from its reciprocal compensation obligation, asking the Commission for the *quid* (unrestrained profits) without intending to ever provide the *pro quo* (assumption of market and technological risk at current rates).

Q. Isn't US West's argument akin to single-issue ratemaking initiatives that were systematically rejected under a rate-of-return regulatory framework?

A. Yes it is. First, I am not aware that US West has substantiated any of the claims that underlie its assertion that local rates are likely to increase given the continued application of reciprocal compensation for ISP bound traffic. Indeed, the next section of my testimony shows that US West's assertions regarding increased costs

and pressure on current rates simply isn't true as a factual matter. Nevertheless, even if US West were regulated by a traditional rate of return regulatory framework (which is the concept that seems to be in US West's mind when it talks about upward pressure on local rates due to increased costs), US West would never be allowed to increase a single rate (let alone residential rates) based upon a completely unsubstantiated assertion that it is incurring a shortfall in revenue (which appears to be the point of Mr. McDaniel's testimony at page 66). US West would have never, under rate-of-return regulation, been allowed to take a single issue, e.g., reciprocal compensation payments, and then, without proving overall financial shortcomings, ask that its local rates somehow be adjusted to accommodate any associated increased expense. Commissions have systematically rejected such an approach for years because it ignores the myriad of factors that contribute to a carrier's profitability and masks the true financial performance of the firm that is the proper focus of such an analysis.

II. IS THERE UPWARD PRESSURE ON US WEST'S LOCAL RATES DUE TO RECIPROCAL COMPENSATION PAYMENTS?

Q. Are US West's arguments regarding increased costs and revenue shortfalls similar to the arguments the ILECs have made in the past in an effort to remove the FCC's ESP Exemption that effectively prohibits local carriers from assessing switched access charges on Enhanced Service Providers (a larger group of which ISPs are a part)?

A. Yes, Mr. McDaniel's arguments regarding uncompensated investments and upward pressure on local rates are identical to arguments that US West and other ILECs have made before the FCC for many years in an attempt to remove the "ESP Exemption."

Q. Briefly explain the "ESP Exemption."

A. In effect, the ESP Exemption grants ESPs the right to access the public switched network as an end user (not a carrier) and thereby avoid the payment of usage sensitive switched access charges. ILECs have fought for years to remove the ESP Exemption so that they can treat ISPs as interexchange carriers (IXCs) to which switched access charges would be assessed. ILECs have steadfastly claimed that ISPs (a subset of the larger ESP family), for example, use large amounts of network usage that generates substantial usage sensitive costs, yet, the ESP Exemption precludes ILECs from recovering usage sensitive revenues from those customers. This "revenue shortfall," according to the ILECs, places upward pressure on the local rates of all subscribers.

Q. Has the FCC rejected those arguments?

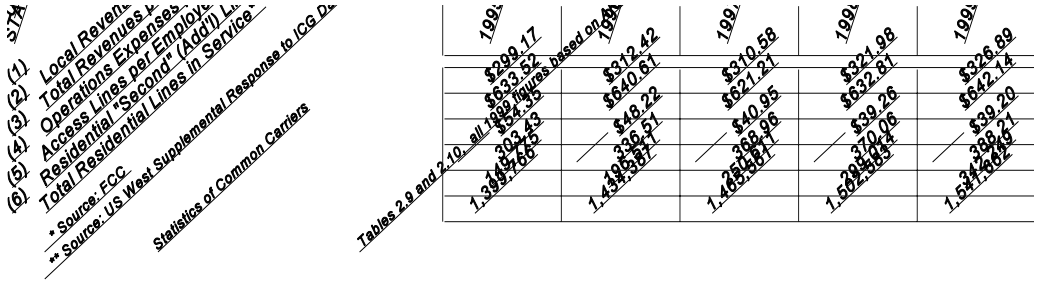
A. Yes. In its *First Report and Order* in CC Docket No. 96-262 (Access Charge Reform), released May 16, 1997, the FCC stated as follows when rejecting

ILEC attempts to remove the highly touted "ESP exemption" currently in place for ISP end users:

> 346. We also are not convinced that the nonassessment of access charges results in ISP's imposing uncompensated costs on incumbent LECs. ISPs do pay for their connections to incumbent LEC networks by purchasing services under state tariffs. Incumbent LECs also receive incremental revenue from Internet usage through higher demand for second lines by consumers, usage of dedicated data lines by ISPs, and subscriptions to incumbent LEC Internet access services. To the extent that some intrastate rate structures fail to compensate incumbent LECs adequately for providing service to consumers with high volumes of incoming calls, incumbent LECs may address their concerns to state regulators. [emphasis added]

Q. Has US West benefited from the sources of additional revenue that the FCC posits will result from increased Internet traffic?

A. Undoubtedly. The following table compares a number of important US West financial and operating statistics from 1995-1999:



As you can see from the table above, US West has experienced a remarkable increase in second access lines purchased by Colorado residential customers from 1995 to 1998 (the timeframe within which the bulk of Internet usage growth has taken place). The information above highlights the fact that US West's second access line growth averages an astounding 25.7% per year. At the end of 1999, nearly 13% of US West's total residential access lines in service were second lines that had been placed in service since 1996. Even US West conservatively estimates that these additional second access lines generate at least $90 million per year in increased revenue.[2]

Q. Doesn't this increase in second line growth also result in increased investments?

A. Undoubtedly some increase in capital investment is required to accommodate such extreme demand growth. However, it is important to point out that much of this increased demand can be accommodated by spare facilities that already exist in the US West network. Bell Atlantic's former CEO, Raymond

[2] See US West response to ICG Data Request Number 221S1 wherein by including only the basic local exchange rate of $14.91 per month and the multi-line residential subscriber line charge of $6.07 (a conservative estimate of $20.98 per access line per month in revenue), US West estimates that it receives more than $7 million per month solely on residential second access line charges.

F. Smith, properly recognized the attractiveness of selling second lines in a March 19, 1996, speech to a group of security analysts at Merrill Lynch:

> In 1995, sales of secondary lines at Bell Atlantic increased more than 50 percent, fueled by surging demand for Internet and telecommuting applications.

Unlike traditional horizontal line growth, which would have significantly added to our capital expenditures, the vertical growth we experienced in '95 brought most of the revenues down to the bottom line. That's because we were able to provision new lines and services from *idle capacity in an existing plant*. (Emphasis added.)

Q. Has US West likewise been able to accommodate much of this growth from existing plant so that these increased revenues are driven directly to the "bottom line" in the form of increased profits?

A. Yes, all available evidence suggests that US West has been very successful in doing exactly that. From 1995 to 1998, US West's total investment per access line actually declined by approximately 4% from $2,061.02 to $1,982.25. Given the common nature of general inflation over time, and the significant increase in demand we noted earlier, this decline in total investment is notable. This decline in investment per switched access lines not only assists US West in its tremendous profitability which I will describe in more detail soon, it also directly contradicts Mr. McDaniel's assertion that US West is incurring substantial, increasing investments associated with increased Internet usage (for which it is not being compensated).

Q. Isn't it possible that US West is experiencing a decline in capital investment per access line but that its expenses are increasing as a result of Internet usage thereby representing an uncompensated increase in costs?

A. Such a circumstance is possible but it isn't accurate in US West's case. If we return to the table of financial data included earlier in my testimony, we recognize immediately that US West is not only enjoying decreased capital investment per access line, it also experiencing a sharp decline in total operating expenses per switched access line. From 1995 to 1999, US West's total operating expenses per access line fell from $54.35 to $39.20, an astounding decrease of nearly 30%.[3] It is important to note that this decrease occurred during the very time that US West claims it was required to make substantial reciprocal compensation payments to CLECs and significantly increase investment in its network for purposes of accommodating increased Internet traffic originated by its subscribers.

Q. Is it likely that some large proportion of additional residential second

[3] A large portion of US West's decreased operating expense results from its increasing productivity in employee output per access line. In 1995, US West averaged approximately 2.71 employees per 1,000 access lines. In 1999, US West employed approximately 1.75 employees per access line, a decrease of more than 35%. Source: FCC *Statistics of Common Carriers*, Tables 2.9, 2.10.

access lines are used to access the Internet and generate the increased Internet usage traffic that US West bemoans throughout its testimony?

A. Yes, it is. Most ILECs point directly to increased Internet usage and the increased voice and data needs of "work-at-home" offices as the stimulus behind the tremendous growth of second access lines purchased by residential users in the past 5 years. For example, according to BellSouth's 1998 10K Report to the Securities and Exchange Commission:

> Switched residence lines increased by 3.9% in the period ended December 31, 1998, compared to a growth rate of 4.6% in 1997. In addition to continued economic growth in the region, the growth rate reflects demand for additional lines related to home office purposes, access to on-line computer services and children's phones. The number of such additional lines increased by 375,000 (19.9%) to 2,259,000 and accounted for approximately 61% of the overall increase in switched residence lines since December 31, 1997.[4]

Q. Are there other areas wherein increased Internet usage has boosted US West's revenues and profitability?

A. Yes, earlier in the FCC's quote rejecting the ILEC's doomsday predictions regarding the financial impacts of the ESP exemption, the FCC also pointed to increasing revenues and profits generated by the ILEC's own Internet access services and likely increases in digital data lines required to allow ISPs access to the network. US West's financial data shows that US West has

[4] Taken from page 27 of the electronic version of BellSouth Corporation's 10K Report filed with the Securities and Exchange Commission for operations in 1998.

seen marked increases in both of these areas as well. From 1995 to 1999, US West's demand for digital special access lines (non-switched) increased more than 3-fold (326%). This substantial increase is undoubtedly impacted not only by demand from ISPs served by the US West network, but also by CLECs purchasing special access circuits to reach their own ISP customers in areas where their networks are not yet complete. When you consider that digital special access circuits have been traditionally priced to generate substantial "contribution" (or margin), it is easy to imagine that this tremendous increase in demand contributes heavily to increased profitability.

Likewise, US West's 1999 *Annual 10K Report* brags that US West increased its *USWest.net* subscribership (US West's own ISP subsidiary) by 2½ times to 380,000 subscribers. US West expects even greater growth in the future. [5]

Q. What is the necessary financial result of decreasing capital investments, decreasing operating expenses, increased demand and increasing revenues?

A. Profits! According to the most recent *Hoover's Online* financial comparison data, US West reported an eye popping gross profit margin of 79.7% and an

[5] See US West 10K Report to the Securities and Exchange Commission, Letter to Shareowners.

equally impressive return on equity of 84.3%.[6] It is important to note that this tremendous financial performance isn't a singular, separable outcome generated by an unusually good year. Since 1995, US West's total return on investment has risen nearly 50%, averaging a steady, annual cumulative increase of more than 13%.

Q. What conclusions do you draw from the financial and operating information you've discussed above?

A. I conclude the following:

1. US West's arguments regarding uncompensated increases in capital investment and expenses associated with accommodating increased Internet traffic aren't supported by the facts. US West's financial data clearly shows that both capital investment and total operating expenses per access line fell dramatically during the very timeframe that should have exhibited stark increases if US West's assertions were true.

2. US West has profited tremendously from increased Internet usage on the part of its local customers. Increased Internet usage is the single largest factor in increased demand for residential "second" lines and US West has some of the most impressive second line growth (both in terms of second lines and increased revenues) that I've ever seen. It is important to note that these increases in demand and revenues come during a period of declining expenses. Likewise, *USWest.net*'s subscribership is on the rise as are revenues from digital special access lines provided to ISPs and CLECs who serve ISPs.

3. The Commission must reject any notion by US West that

[6] Hoover's Online Financial website: http://www.hoovers.com.

reciprocal compensation payments (or increased demand due to Internet usage in total) will put upward pressure on basic local rates. US West's astounding demand growth, revenue growth, decreasing expenses and subsequent profitability belie any argument on US West's part regarding financial difficulty in profitably serving residential customers regardless of Internet usage.

4. Finally, the data above strongly contradicts US West's contention that its residential subscribers are subsidized at current rates, even with large volumes of Internet calling. Residential access lines represent nearly 70% of US West's total lines. Likewise, residential access line growth has outpaced business access line growth by nearly 14%. If US West's current residential access line rates weren't sufficient to recover its costs of providing these customers service, US West would undoubtedly be seeing declining per-line profitability as residential demand increases. To the contrary, however, US West's financial data shows exactly the opposite result. Hence, only the opposite conclusion can be drawn. That is, US West serves residential customers profitably and the enormous increase in residential access line demand experienced over the past five years (largely due to increased demands for Internet accessible second lines) has added substantially to its tremendous profitability increase.

III. IMPACT OF RECIPROCAL COMPENSATION ON RESIDENTIAL COMPETITION AND ADVANCED SERVICES DEPLOYMENT

Q. Will the payment of reciprocal compensation for Internet bound traffic suppress demand for residential subscribers and the deployment of advanced services?

A. No, it will not. In my opinion, proponents of this theory subscribe to an overly static view of the competitive marketplace. Residential customers have in the past experienced less competitive opportunities than businesses

for one simple economic reason. That is, the average per-line revenue for a residential subscriber when compared to its per-line costs is lower than that for most businesses. Hence, carriers generally can expect a larger return per access line on the investment capital that has been entrusted to them when they service densely populated, revenue rich commercial areas and primarily business customers.[7] Several factors are currently evolving, however, that are likely to change this disparity: (1) as CLEC networks grow, the marginal cost to serve residential customers is reduced as CLEC networks extend closer to residential neighborhoods and they overcome many of their startup costs and begin to enjoy economies of scale, (2) the availability of advanced services (Digital Subscriber Loop - DSL - services, ISDN, etc.) provide enhanced revenue opportunities above and beyond typical residential voice grade services thereby impacting the *per-line revenue/per-line expense* equation, and (3) increased Internet usage has increased the average number of access lines per residential customer and increased the amount of disposable income the average residential subscriber dedicates to communications services

[7] It is important to note that density plays just as important a role in attracting competitors as does the distinction between residential and business customers. Residential customers living in densely populated Multi-Dwelling Units (MDUs), for example, are provided competitive telephony opportunities very similar to similarly situated business customers. Hence, the traditional line of thinking that competitive carriers prefer business customers over residential customers is likely more properly viewed as a recognition that competitive carriers prefer serving densely populated areas more so than sparsely populated areas and that as a result, they tend to serve densely populated business districts (obviously revenues per line also play an important role in selecting business customers over residential customers in most CLEC business plans).

provided by LECs (both ILECs and CLECs). As time and technology are allowed to foster these factors, competition for residential subscribers will undoubtedly increase without regulatory involvement.

Q. Will relieving US West of its obligation to compensate CLECs for carrying traffic to ISPs slow the development of the factors you've identified above and thereby thwart the Commission's obvious objective of increased competition for residential subscribers?

A. Yes, it will. As I've stated above, CLECs like ICG have been notably successful in attracting ISP customers to their network. As such, ISPs are an important market segment for the CLEC industry. In many cases, ISP customers have provided the funds necessary for the CLECs to expand their networks and to extend their further entry into the US West marketplace. It is, therefore, not surprising that US West attacks the payment of reciprocal compensation payments for these customers. US West is fully aware that a decision by this Commission that removes US West's reciprocal compensation obligations will leave CLECs in the unenviable role of carrying large amounts of US West traffic without any form of compensation (I explain in more detail later why ICG will be unable to collect its costs in this regard from its ISP customers). This will have a dramatic impact on the CLECs' business plans and their ability to further attract capital. This will

in turn slow (if not halt) their entry into new markets such as residential service.

Q. Before you go any further, why have CLECs been so successful at attracting ISPs?

A. Transitionally competitive markets like the local exchange market have shown that new entrants are usually most successful in attracting customers that (1) are most disaffected by the services or quality offered by the incumbent, (2) have technological, capacity, or other specific requirements that are not easily met by the incumbent's oftentimes overly generic service offerings and/or (3) don't have a long history of taking service from the incumbent. ISP providers, far more than residential subscribers, fall directly into all three of these categories. A great number of ISPs have apparently been unable to reach agreement with incumbent LECs in areas such as pricing for high capacity lines, provisioning intervals, collocation of their equipment in ILEC central offices or even, in some circumstances, the ability to purchase service in sufficient quantity to meet their own end-user customer demands (according to the ISP survey included with my Direct Testimony, it is also clear that ISPs fear they are being provided services from the ILECs at less desirable rates, terms and conditions than those provided by the ILECs to their own ISP, e.g., *USWest.net*). Likewise, most ISP organizations are

fairly new and they began their enterprise at a time when competitive alternatives for local exchange services were available. Hence, it is reasonable to expect that these types of businesses are less restricted by long term agreements, a long storied business relationship or other circumstances that often breed loyalty to the incumbent. The fact that these customers are far more likely to explore competitive opportunities than more traditional residential and/or business customers has made them an extremely important customer base for CLECs.

Likewise, CLECs, like ICG, because of their oftentimes unproven track record and nascent customer base in new markets, have been forced to target customers that require services specifically tailored to their strengths (*i.e.* customer service, new technology deployment, and substantial spare capacity). Given these characteristics, ISP providers and CLECs are often times "made for one another." ISPs have flocked to new entrant CLECs in increasing numbers. Likewise, CLECs have worked with ISPs to design new and innovative services and have provided ISPs the capacity they need to meet their customers' increasing demands.

Q. Is the fact that CLECs serve ISPs in greater proportion than a mature incumbent like US West the result of a market failure?

A. Not at all. Indeed, the relationships between CLECs and ISPs, as described above, are the direct result of how a competitive market is meant to work. Carriers who are unwilling to meet the demands of their customers -- as ILECs have shown an unwillingness to work with ISPs -- lose those customers to carriers who are more accommodating. Likewise, carriers who provide customer focused services and supply the capacity required to meet their customers' demands are rewarded. The fact that relatively new customers who require specific technological support have embraced new, competitive local carriers is one of the most promising outcomes of the local exchange market's transition to competition.

Q. Will the payment of reciprocal compensation for ISP traffic slow the development of advanced services like DSL products that do not generate dial-up Internet minutes?

A. No, it will not. US West argues that because dial-up Internet bound traffic would be decreased by the wide-spread deployment of digital subscriber loop (DSL) based services that provide “always on” Internet connections, reciprocal compensation revenues that exceed the underlying costs of terminating Internet bound traffic (thereby providing a profit center to CLECs), would be at risk. This argument, however, has many holes.

First, it is impossible to ignore the fact that xDSL based services are the fastest growing market in telecommunications and companies that have promised to deploy this technology have been rewarded with sky-rocketing stock prices. Consumers are demanding faster, more reliable access to the Internet via xDSL based services and companies that don't provide them will soon find themselves behind the competitive curve. Simply put, consumers are demanding xDSL based services and carriers who can't (or won't) provide them will have few customers. Neither ICG nor any other CLEC can ignore this simple competitive fact regardless of any nefarious motive US West may infer they possess to the contrary.

Second, US West's financial data submitted to its shareholders touts its own tremendous success in marketing advanced services. According to its 1999 10K Annual Report, US West is the only RBOC to reach its stated goal of serving over 100,000 DSL subscribers in 1999. Likewise, US West boasts that it is by far, the most highly penetrated DSL provider with "more than 10% of qualified, on-line households now subscribing."[8]

Third, it is important to remember that the vast majority of Colorado customers who will benefit most significantly from the deployment of

[8] See US West's 1999 10K Annual Report, Letter to Shareowners.

advanced services are currently US West customers (because US West serves the majority of residential and small business customers who are the primary market for copper loop-based advanced services). Hence, if the Commission's objective is the accelerated deployment of advanced services to customers who demand it most, the continued application of reciprocal compensation payments for Internet calling may well be the most effective tool in spurring such deployment. This results from the fact that for every customer US West can serve via DSL or another, non-dial-up Internet connection, its reciprocal compensation obligations are diminished. In this way, US West not only has an opportunity via the deployment of advanced services to increase the revenues it receives from its local subscriber pursuant to the subscriber's Internet usage (e.g., DSL services are generally more expensive than a second access line), it also keeps the customer's traffic on its own network, thereby reducing its reliance on a CLEC's network and consequently, avoiding reciprocal compensation payments.

Q. Does this incentive bestowed upon US West via the application of reciprocal compensation payments make economic sense?

A. Certainly. Heavy users of the Internet can be more efficiently served via non-dial up connections that connect directly to the packet-switched

network and bypass the resources of the public switched network. Absent customers being forced to pay for the costs they generate on the public switched network with their Internet usage, however, the economic signals necessary to push these heaviest users toward a non-dial up connection would be diminished. The responsibility to make reciprocal compensation payments for Internet traffic, however, reinstates the economic signal to remove the heaviest users from the public switched network and service those customers with advanced, high-speed, non-dial-up services (as I described above). While US West's agreement to cap its local usage rates may impede these economic signals from directly reaching the end user (an issue I discuss in more detail later in my testimony), certainly US West can and will respond to those economic signals created by reciprocal compensation payments by deploying advanced services at an accelerated pace.

Q. Is there additional information that the Commission should be aware of when contemplating US West's arguments regarding the impact of reciprocal compensation payments on advanced services?

A. Yes, there is. The following quote from the FCC's *BroadBand Today*[9] puts any argument US West might make in this respect in the proper light:

[9] *BroadBand Today*, A Staff Report to William E. Kennard, Chairman, Federal Communications Commission, October 1999.

> The ILECs' aggressive deployment of DSL can be attributed in large part to the deployment of cable modem service. Although the ILECs have possessed DSL technology since the late 1980s, they did not offer the service, for concern that it would negatively impact their other lines of business.[73] The deployment of cable modem service, however, spurred the ILECs to offer DSL or risk losing potential subscribers to cable. In various communities where cable modem service becomes available, the ILECs would soon deploy DSL service that was comparable in price and performance to the cable modem offering. Thus, prior to cable modem deployment, the ILECs had little incentive to deploy DSL and the consumer had no choice for high speed Internet access.
>
> [73] The deployment of DSL could have an adverse impact on the telephone companies' T1 business. T1 is a form of high-speed access that was sold primarily to business customers. With a price range of $300 to $3000 per month, the T1 business generated high profit margins for the telephone companies. Since the price point of DSL was lower, ranging from $50 to $1000 per month (depending on the type of DSL), the deployment of DSL service would undercut the T1 business. See Banc of America Securities, Equity Division, Wireline Telecom Services, at 3 (April 1999).

The quote above makes two points very clear. First, like the ILECs, CLECs will not be able to simply ignore the demands of customers and the competitive alternatives of their competitors in the marketplace. Even the ILECs who control tremendous market power were thwarted in their attempt to limit advanced services technology so as to maintain existing revenue streams. Certainly the CLECs, who control no market power, would be even less successful if they attempted to limit deployment of these services so as to protect reciprocal compensation payments. The quote above makes abundantly clear that the competitive marketplace, not regulatory policy, best drives carriers to deploy new technology. It is clear that like US West, if ICG and other CLECs don't offer DSL services, they

will suffer the economic consequences. As a result, reciprocal compensation payments, or the lack thereof, will not have a significant impact on the development or deployment of advanced services technology.

Second, it is clear that US West, along with other ILECs, has not always been so quick to promote DSL services that could undercut their other highly profitable businesses. It appears the role of defending xDSL based services is a fairly new endeavor for US West aimed solely at bolstering its arguments with respect to setting lower, as opposed to higher, rates for compensation relating to dial-up Internet traffic. Again, the Commission should view US West's championing of the public interest for the deployment of advanced services with the history provided in the FCC quote above in mind.

IV. JURISDICTIONAL VERSUS ECONOMIC ANALYSIS

Q. Are calls received by ISPs interstate calls?

A. ICG witness Ms. Schonhaut speaks to this issue in more detail. However, I would note for purposes of my testimony that the answer to this question isn't relevant to a proper analysis of this issue from a public policy and/or economic perspective.

Q. Mr. McDaniel apparently believes that because ISP traffic is interstate traffic, it is similar to long distance traffic and that for this reason, an inter-carrier compensation mechanism similar to that used for long distance traffic is appropriate. Do you agree?

A. No, I do not. Mr. McDaniel at page 33 of his Direct Testimony states that "regardless of the precise jurisdictional status of Internet-bound calls…the proper application of economic principles holds the key to determining what form of compensation is appropriate…" I agree with this statement. Closer scrutiny of Mr. McDaniel's testimony, however, shows that his application of economic principles is inextricably entwined with what he believes to be the jurisdictional nature of the traffic at issue. For example, Mr. McDaniel states as follows at page 44 of his Direct Testimony:

> The question at issue is: when multiple ILECs/CLECs combine to deliver traffic to an ISP, are they interconnecting in an ILEC-CLEC local interconnection regime or an ILEC-IXC interstate access regime? The Commission and the FCC have characterized the link from an end-user to an ISP as an *interstate* access service and, absent other considerations, ISPs would be subject to charges analogous to interstate access charges.

Mr. McDaniel uses this argument to then suggest that because ISP traffic has been characterized as interstate traffic, the ILEC-IXC inter-carrier compensation model is more appropriate than the ILEC-CLEC model. Obviously, Mr. McDaniel's testimony above has nothing to do with the

economic propriety of either the ILEC-IXC model or the ILEC-CLEC model, nor does it describe why, from an economic or public policy perspective, the simple fact that ISP calls may be considered to be interstate calls has any impact on economic efficiency or any other public policy objective. Mr. McDaniel's argument is simply a restatement of US West's legal position that ISP traffic is interstate traffic and hence, is subject to the same inter-carrier compensation mechanism as interstate long distance traffic.

Q. Should the Commission focus its attention on the economic impacts of adopting either the ILEC-CLEC or ILEC-IXC models regardless of the jurisdictional nature of ISP traffic?

A. Yes, it should. In my direct testimony I stressed that the Commission should focus its attention on determining which of these models will best aid in meeting the public policy objectives it deems to be important for Colorado telecommunications customers, regardless of any discussion of jurisdiction. I still believe that this is the most reasoned approach. Further, I am still of the opinion that the ILEC-CLEC model is the more economically rational of the two approaches regardless of the ultimate decision regarding the jurisdictional nature of the traffic (i.e., the extent to which it is determined to be "telephone exchange service" or "exchange access service"). This results from the simple fact that the ILEC-CLEC model most effectively (1) provides

the consumer of telecommunications network resources with price signals consistent with his/her consumption, (2) it creates an important "chain of market discipline" that helps form sustainable, competitively neutral and economically efficient commercial relationships between carriers involved in carrying telecommunications traffic, and (3) it avoids the outdated, inefficient and anti-competitive cross-subsidy flows that have plagued the switched access model (i.e., the ILEC-IXC model) from its inception.

Q. Mr. McDaniel at page 36 of his Direct Testimony states that "cost causation is the fundamental economic principle on which all pricing and cost recovery efforts should be based." Do you agree?

A. While Mr. McDaniel's statement may be somewhat overly broad, I don't disagree that an analysis regarding the "causation" of costs could be helpful to the Commission in this instance. However, I believe Mr. McDaniel's analysis in this regard leads him to a false conclusion. Indeed, I believe the theory of "cost causation" when properly applied supports my conclusion that the ILEC-CLEC model best meets the three important economic and public policy objectives I've listed above.

Q. Please describe the theory of cost causation.

A. Cost causation is not so much a theory as it is a hypothesis that costs can

be effectively traced to a party who, through its actions, generates the cost in question. This party is generally labeled as a "cost causer." Traditionally, cost causation has been traced via the review of decision-making. A fundamental tenet of the cost causation theory is that costs are caused by the decisions of market participants and all decisions that result in actions bear some cost. More simply, in every transaction, a market participant decides to take an action, the result of which generates costs for himself/herself and/or other market participants. It can be said that the decision and subsequent action that begets the transaction (in this case the completion of a dial-up call to an ISP), is the genesis of costs (in this case costs incurred by the ILEC, the CLEC and the ISP). As such, the party exercising the right to act (i.e. the right to place a dial-up Internet call) is the properly defined cost-causer.

Q. Why is identifying the "cost causer" important?

A. Generally an analysis of cost causation is employed for purposes of deciding who should pay for the costs resulting from particular actions (consumption being the most common action for which cost causation is employed). It has been shown that competitive markets work most efficiently, for example, when persons who generate costs are responsible for bearing the costs of their actions/decisions. In this way, market

participants can make informed economic decisions as to whether they will act/decide in a similar fashion in the future. Only by bearing the costs of his/her decisions in this way, can the cost causer (i.e., the decision maker) make an informed decision regarding the value he/she receives, compared to the cost he/she must incur. Again, only in this way are society's resources properly allocated based upon the informed decisions of its participants regarding their individual judgments of value. Absent this result, (i.e., the proper allocation of society's resources ensured by an effective price signal received by the consumer), prices set based upon a theory of cost causation do not add to economic efficiency. Mr. McDaniel describes this process as follows at page 37 of his Direct Testimony:

> Consumers determine what and how much to buy on the basis of prices they pay. Their act of buying also causes cost. 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.

Q. Where do you believe Mr. McDaniel makes a mistake with respect to the application of this theory?

A. Mr. McDaniel confuses the concept of *cost causation* and *cost recovery*. Mr. McDaniel ultimately admits that it is the ILEC subscriber who causes the

costs incurred to establish and maintain a dial-up Internet call (including the costs of the ILEC, the CLEC and the ISP).[10] Indeed, there can be no other logical conclusion. It is the local exchange customer (primarily ILEC residential customers) making a dial-up Internet call who makes a decision to call, decides how often to call and decides how long to maintain any single connection. In this way, it is difficult to deny the fact that the local exchange customer causes and controls the costs incurred by the ILEC, the CLEC and the ISP who all combine to provide access to the Internet. In this way, Mr. Daniel appropriately applies the theory of cost causation to its fruition by identifying the ILEC subscriber as the cost causer. He and I do not disagree on this fundamental point. We do, however, disagree with respect to the manner by which the cost causer should be made to pay for the costs he/she generates, i.e., the proper method of *cost recovery* (not *cost causation*).

Q. Please explain the disagreement that exists regarding the most efficient method by which to recover costs from the agreed upon cost causer.

A. Mr. McDaniel and I disagree as to the most effective method by which to ensure that the cost causer bears the costs he/she generates. Mr. McDaniel apparently believes that requiring the ISP to collect the revenues intended to

[10] Direct Testimony of Paul McDaniel, Page 43: *"In both cases* [both the ILEC-CLEC model and the ILEC-IXC model]*, the originating ILEC subscriber is the cost-causer, and that subscriber pays the supplier (the party with whom the subscriber has contracted for service) for the end-to-end service he receives."*

recover these costs from the end user customer and then distribute those revenues amongst other market participants (i.e., the ISP would in such a circumstance be the *collector/distributor* of Internet related costs), serves as the most efficient method of *cost recovery*. I strongly disagree given the current market dynamic.

Q. Please explain why you disagree with Mr. McDaniel and his suggestion that the ISP is the most efficient collector/distributor of Internet related costs.

A. Mr. McDaniel's recommendation simply will not work as an economic or commercial matter. Consequently, cost causers (local dial-up customers) will not, under Mr. McDaniel's plan, be forced to bear the costs they generate by making Internet bound calls. They will therefore make more calls than they otherwise would and someone else will be left to bear those costs. Not surprisingly, under US West's proposal, it is the CLEC that picks up the tab for the cost causer under the ILEC-IXC model.

Q. Please describe how the ILEC-IXC model advocated by Mr. McDaniel is destined to fail as an economically effective model.

A. The reason Mr. McDaniel's plan won't work can be summarized in two words: "ESP Exemption." As discussed earlier, the FCC's ESP Exemption

prohibits the market from forcing the ISP into the role of collecting and distributing from the local caller any revenues associated with making a local call to the ISP server. As I will discuss in more detail below, this is the most important distinction between using the ILEC-IXC model for long distance calling (wherein the FCC has, via its switched access rules, forced the long distance carrier into assuming the role of collector/distributor) and using that model for ISP traffic (wherein, via the ESP Exemption, the FCC has specifically precluded ISP's from the role of collector/distributor).

Q. Please explain how the ESP Exemption removes the ISP from any role in recovering expenses associated with local calls made by its subscribers.

A. The FCC's ESP exemption allows ISPs to access the network as end users, not as carriers, and hence, it requires local exchange carriers to provide them access to the network at rates, terms and conditions identical to those offered to other business customers (indeed they must be allowed to purchase from the business local exchange tariff). Hence, ISPs cannot be forced to pay for (or recover from the local subscriber) the usage sensitive costs that US West and ICG incur in providing calling services that allow a local user to reach the Internet. Hence, the ISP, will not/cannot recover from its subscribers costs associated with using the US West and ICG networks for purposes of

reaching its server. This results in a fatal flaw to Mr. McDaniel's theory that the ILEC-IXC model serves as the most effective model of inter-carrier compensation in this scenario. As I stated earlier, wherein the FCC, via its switched access rules requires the IXC to fulfill the role of collector/distributor of long distance revenues/costs within the ILEC-CLEC model, the FCC has specifically exempted ISPs from this role. As a result, ICG cannot, contrary to US West's contention, look to its ISPs for purposes of recovering the usage sensitive costs it incurs when US West's local subscribers connect to the Internet (either to recover its own costs or to recover costs that it would share with US West).

Q. Are there other problems with Mr. McDaniel's theory?

A. Yes, under US West's proposal, because the ISP cannot be forced to recover the usage sensitive costs ICG and US West incur in accommodating Internet calling, the local subscriber who make Internet calls (cost causer) will not bear his/her true costs of consumption (indeed ICG will incur these costs on an uncompensated basis) and will consume far more resources that he/she would have if required to pay for the associated costs. This leads to inefficient consumption ("over consumption") by which society's resources are misallocated. Further, because the end user customer is not paying for the costs he/she is generating, then someone must be recovering less than the

costs it incurs to provide this service. Under US West's proposal, the party that isn't allowed to recover its costs is the CLEC. In effect, the CLEC will be subsidizing the very US West residential customers for whom this Commission would prefer to see more competitive options. All of these results argue strongly for the Commission rejecting the ILEC-IXC model for purposes of inter-carrier compensation for Internet traffic.

Q. How does the ILEC-CLEC (i.e., reciprocal compensation) model provide the benefits of efficiency beyond those of the ILEC-IXC model given the current market dynamic (including the ESP Exemption)?

A. The ILEC-CLEC model places the role of collector/distributor upon the local exchange company who provides the cost causer (i.e., the local subscriber) with access to the network resources its consumes (both US West's, and via its interconnection agreement, with ICG's as well). It then leaves the local exchange carrier in charge of determining how it will recover those costs from the cost causer.

Q. Aren't US West's options associated with recovering these costs from the cost causer (i.e., its local subscriber) limited by regulation?

A. Yes, however, it is important to note that US West is limited in this regard primarily because of its own agreement to bear these risks. For example,

assume that US West continued to operate under a rate-of-return regulatory framework. As its local customers use more network resources for purposes of accommodating their Internet calling habits (both the resources of US West and ICG in this instance), then US West's own internal operating expenses would likely rise as would its expenses associated with using ICG's network to carry traffic (via reciprocal compensation payments). If this increase in expenses exceeded US West's ability to maintain a reasonable return on its investments (a highly unlikely scenario given the financial information we've seen above), then US West could (after having proven a revenue deficiency) petition for either an increase in rates or a change in the rate structure that more accurately focuses additional cost recovery from users who consume larger amounts of these resources. In this way, the ILEC-CLEC model would have worked to fruition. That is, it would have forced the cost causer to increase payments made to recover increased costs associated with increased Internet usage and it would have provided the producer of those services (both US West and ICG) with a sustainable flow of cost recovery.

Q. Does US West continue to operate under a rate-of-return regulatory framework similar to that you describe above?

A. No, it does not. Pursuant to its own agreement, in exchange for unlimited

profit opportunities, US West agreed to freeze certain of its local rates for a specified period of time (i.e., a "price-cap" regulatory framework). Hence, US West is limited in the extent to which it can raise local rates consistent with any increase in expenses it experiences. However, it is important to remember that US West, via this new framework, is unlimited with respect to the total revenues (and subsequent profits) it can generate via these same customers (the same cost causers). US West recovers additional revenues from these customers both directly, via second access sales, as well as indirectly from its own ISP business and from the digital private line services its sells to the ISPs and CLECs who also carry this traffic. In this way, US West's cost causers (its Internet using local subscribers) do allow it to recover additional revenues.

Q. Does the ILEC-IXC model advocated by US West give ICG any ability to recover Internet bound calling costs from the cost causer?

A. No, it does not. ICG is the only market participant involved in carrying the US West local subscriber's Internet bound call that has no direct commercial relationship with the caller. Absent reciprocal compensation payments, ICG receives no revenue from the caller in return for the costs the caller generates on ICG's network.

Q. US West has suggested that ICG in this way shares some of the shortfall that US West already receives for this customer and that somehow, this is a competitively neutral result. Do you agree?

A. Absolutely not. In the past I've characterized this argument on the part of the ILEC's as the "share the pain" theory. The "share the pain theory" is developed as follows: the ILEC's contend that local residential subscribers are already being subsidized at current rates (much as US West has done in this proceeding), then, the ILEC's contend that by requiring the CLEC's to carry these callers' ISP-bound traffic without reciprocal compensation, the subsidy afforded to the residential customers is shared between the ILEC and the CLEC. Hence, according to this theory, neither carrier is disadvantaged in the marketplace. This theory is ludicrous.

Q. Why is the "share the pain theory" ludicrous?

A. First, there is nothing competitively neutral about it. Under the guise of this theory, a carrier (the CLEC) is being asked to subsidize the customer of its competitor (generally considered to be residential customers). It is then being admonished for not actively competing for these customers in the marketplace.

Second, as I've shown above, there is no "pain" experienced by US West in

serving its residential customers (this appears to be true even for heavy Internet users). All available evidence supports the notion that no subsidy exists for US West's residential subscribers. Instead, it appears that this customer group adds significantly to US West's record profitability. Hence, there is no need for anyone, certainly not the CLEC, to provide a subsidy-flow (via the inability to recover costs caused by these customers) to this customer group. Indeed, if these customers' rates are compensatory, any subsidy-flow provided by the CLEC (absent reciprocal compensation payments this subsidy is provided in the form of avoided costs on US West's part) simply reduces US West's costs of serving these customers and adds to its profits. In this way, the "share the pain theory" will likely result in the CLEC actually subsidizing US West; its competitor.

V.THE COSTS OF INTERNET BOUND CALLING

Q. US West contends that CLECs, like ICG, reap windfall profits from current reciprocal compensation rates and that it is cheaper to carry/terminate ISP bound traffic than it is to carry/terminate more traditional voice traffic. Do you agree?

A. No, I do not. While Dr. Mercer addresses the majority of US West's testimony in this regard in detail, I do want to highlight a few important

points. First, as I stated in my Direct Testimony, to isolate traffic that originates to a given customer group and contend that the network costs associated with switching traffic to that customer group differ substantially from all other traffic on the network is nonsensical. All of the traffic passed between US West and ICG shares the same network, uses the same trunk groups and the same switch. Likewise, a minute of use accommodated by that singular network requires the same network capacity (both switching capacity and trunking capacity) as any other minute, regardless of where either minute of use is ultimately destined (i.e., whichever customer or customer group it ultimately terminates to, or originates from). There is no sound economic basis upon which to suggest that a minute of use destined for a barber shop versus a minute of use destined for an ISP generates any difference in network costs. Indeed, the network is oblivious and unconcerned with the subscriber type to which telephone call is terminated.

Q. Are the costs ICG incurs to terminate traffic of importance in this proceeding?

A. No, they are not. As I explained in my Direct Testimony, the FCC's reciprocal compensation construct establishes the Total Element Long Run Incremental Costs (TELRIC) of carrying local traffic as the key standard for setting reciprocal compensation rates. It then requires that rates charged

between carriers be symmetrical based upon the costs that result from a TELRIC study. The FCC further determined that a TELRIC study constructed by the ILEC serve as the basis for the symmetrical reciprocal compensation rates to be paid between the carriers.

Q. Does the FCC's reciprocal compensation construct have merit from an economic perspective?

A. Yes, it does. Because CLEC networks are generally immature and carry a very small portion of the overall local traffic in the marketplace, it would be difficult for these carriers to conduct an effective TELRIC study that would provide information relevant to the long-run, incremental costs of terminating the "total demand" of local traffic. On the other hand, the ILECs continue to carry the vast majority of local traffic and their networks are sized to accommodate a far more representative sample of "total demand." Hence, the cost studies presented by the ILECs serve as the most reasonable proxy of the market's TELRIC costs.

Q. US West suggests that Internet calls are longer in duration than other calls and that as a result, Internet calls over-recover call setup costs at the current per-minute-of-use, reciprocal compensation rate. Do you agree?

A. While I think this point is part and parcel of the faulty logic described above regarding the process of identifying cost characteristics by customer group, there is some validity to the point that the traditional process by which network switching costs are incurred (i.e., a combination of "per call" and "per minute" costs), and the manner by which those costs are traditionally recovered (predominately on a strictly "per minute of use" basis) is at odds.

Q. Please explain why the traditional process of cost recovery is somewhat at odds with the manner by which network usage costs are incurred.

A. As a general matter, network usage costs are recovered from end-users and amongst carriers on a per-minute-of-use basis. For every minute a circuit is open and a call is in progress, a unit of revenue is extracted from the customer. This "per-minute-of-use" process, however, is not completely consistent with the manner by which the network actually generates costs in accommodating network usage caused by the calling patterns of its customers. Within both BellCore's *Switching Cost information System* (*SCIS*) and other traditional models that measure switched usage,[11] costs are calculated on a per-minute-of-use basis. These per-minute-of-use costs are calculated using two fundamental categories of expenses: (1) *Setup Costs* and (2) *Duration Costs*. *Setup Costs* attempt to identify and capture the expenses associated with establishing a circuit within the network necessary to both route, and ultimately connect, the calling party with his/her called number.

[11] These are the types of cost models upon which the vast majority of incumbent local exchange carriers, including US West, rely to measure switched usage costs.

Duration Costs attempt to identify and capture the expenses that result from the circuit remaining open during the duration of a call. *Set-Up* costs, therefore, are by nature "per call" costs, meaning they are incurred only once per call. Duration costs, on the other hand, are incurred per unit of time for which the call remains established and are generally captured within a "minute of use."

Given the per-call and per-minute cost structure underlying switched usage, in order to arrive at average, per-minute-of-use costs, ILECs have traditionally "spread" *Setup Costs* over the duration of an average call. By spreading *Setup Costs* in this way, it is possible to arrive at an average per minute rate that can be reasonably applied to each minute a call is connected. The following equation generally captures the process by which this "spreading" is accomplished:

$$\frac{[\ \textit{Set-Up Costs} + (\text{Average length of call in minutes} \times \textit{Duration Cost} \text{ per minute})\ ]}{\text{Average length of call in minutes}}$$

Q. How do calls that exhibit longer than average holding times impact the methodology described above?

A. Obviously, calls that are longer than average recover *set-up* costs more than once,

depending upon their actual length, when the methodology described above is employed (this is easy to see by populating the equation above with an average holding time and then populating the equation with a holding time in excess of the average). Likewise, shorter than average calls fail to fully recover their set-up costs. ILEC's have continually argued that because Internet calls are longer than average, reciprocal compensation rates based upon the methodology explained above over-compensate carriers who carry a substantial number of Internet calls.

Q. Why do you liken US West's argument regarding call holding times for Internet bound traffic to the single-issue rate making discussion included earlier in your testimony?

A. US West has taken one particular characteristic of Internet bound traffic, i.e., that these calls tend to be longer in length, and has attempted to show that this single factor will make these calls less expensive to carry. This analysis ignores multiple issues. First, US West's criticism regarding the longer holding times of Internet bound calls is equally applicable to longer than average voice calls. A 29 minute voice call would experience the same cost per minute to carry as a 29 minute Internet bound call. Said another way, US West's point in this regard does not prove that Internet bound calling is cheaper to accommodate, it merely proves that longer calls are cheaper to carry on a per-minute-of-use basis than shorter calls (all else being equal).

Second, US West's analysis ignores a number of factors that would, if Internet bound calling was separated for cost analysis (an effort that would in my mind not be a productive pursuit), tend to generate increased costs compared to other types of traffic. Dr. Mercer addresses these points in his testimony.

Q. How could US West's and the Commission's concerns regarding over-recovery resulting from Internet calls that are longer than average be addressed?

A. These concerns could be addressed by adopting a reciprocal compensation structure that recognizes the shortcomings of the traditional "spreading" process whereby call *set-up* costs are recovered over an "average" length of call. Within such a structure, all *set-up* costs would be recovered in the first minute of use via a separate "first minute of usage charge." Likewise, each additional minute of use would then be recovered by a separate "additional minute of use charge." The first minute charge would recover all call set-up costs and one minute of duration costs. Each additional minute of use would recover costs associated only with duration (no set-up costs would be included). In this way, both long calls and short calls would recover both the setup and duration costs specific to their particular call length. US West's apparent concern regarding the over-recovery of costs associated with the somewhat longer duration of Internet-bound calling should, via this rate structure, be completely dispelled.

Q. Would this new rate structure apply to both voice and data calls?

A. This new rate structure should apply to all calls that are subject to reciprocal compensation. As I described before, there is no difference between the costs generated by a 29 minute data call versus a 29 minute voice call (all else being equal). Hence, a 29 minute voice call generates the same discrepancy between the costs that are incurred and those that are recovered via a traditional "spreading" process as do Internet bound calls. Hence, this alternative would address such issues for *all* calls of longer than average (and shorter than average) duration. Both voice and data calls.

Q. How could the Commission arrive at a rate pursuant to the option you've described above?

A. The Commission could direct the parties to return to the cost studies supporting US West's current reciprocal compensation rates and identify the "set-up" and "duration" costs that are included in that study (prior to being "averaged" via the process described above). These costs would then serve as the "first minute" (i.e., the set-up costs) and the "additional minute" (the duration costs) charges. I am informed that ICG would be willing to work with US West and the Commission (or its Staff) in an effort to arrive at reasonable rates in this regard.

Q. Does this conclude your testimony?

A. Yes, it does.