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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

REPLY COMMENTS TO THE FCC'S SECOND FURTHER NOTICE OF PROPOSED RULEMAKING IN THE MATTER OF IMPLEMENTATION OF THE LOCAL COMPETITION PROVISIONS IN THE TELECOMMUNICATIONS ACT OF 1996 CC DOCKET NO. 96-98

Submitted by Strategic Policy Research Inc.

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I. INTRODUCTION

In our Comments,[1] we demonstrated that widespread competition for a wide spectrum of local services is technically feasible and economically viable without the use of certain previously prescribed unbundled network elements ("UNEs") — specifically local switching and shared transport. If "competition" is the standard, the offering of these unbundled elements should not be required since our analysis conclusively demonstrates that they are not "necessary" for competition and that effective competition would not be "impaired" if they were unavailable. On the contrary, overly broad prescription of UNEs would have the perverse effect of substituting arbitrage for competition in production.

AT&T and its experts argue that "competition," as that term is usually defined and generally understood by economists, is not the proper criterion for judging whether the supply of particular UNEs should be required. Instead, their proposed criterion is whether the UNEs would benefit *competitors*. They have also leveled a number of criticisms of our empirical model in an effort to call its results and implications into question. Additionally, they have attempted to make a case for mandating the provision of switching and other shared network elements. In this Reply, we address these various arguments of AT&T.

II. THE ISSUE OF APPROPRIATE STANDARDS

From an economic perspective, the issue of defining and applying appropriate standards for the offer of UNEs entails identification and assessment of the social costs and benefits as well as the administrative costs of particular requirements. It was precisely the failure to engage in this type of process that elicited the Supreme Court's criticism of the Commission's unbundling policy in the first instance.

There is, of course, a general economic presumption in favor of "one's right to keep one's creations to oneself." If one does not "own" one's property and cannot prevent others from using it, incentives to save and invest will be severely attenuated.

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[1] *See* Strategic Policy Research, Inc., *Response to the FCC's Second Further Notice of Proposed Rulemaking In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996* (May 25, 1999).

We understand that the legal standard in this case may differ from the legal standard applicable to the provision of essential facilities. Nevertheless, much of the scholarly literature on essential facilities is directly relevant. The so-called "essential facilities" doctrine refers to a set of circumstances where, it is at least claimed, economic welfare will be enhanced by granting some exception to the general rule of private property.[2] Legal commentary on the essential facilities doctrine has emphasized the need for limiting principles:

> Perhaps the greatest danger in recognizing an essential facility doctrine is that judges will freely attach the label of 'essential facility' to any asset that confers a competitive advantage upon its owner and will compel access. Among other harmful consequences, indiscriminately forcing access to broadly defined categories of essential facilities can seriously reduce incentives to create, maintain and improve such assets.[3]

Indeed, as the FCC well knows, the telecommunications regulatory authority in the United Kingdom (OFTEL) has viewed U.S.-style unbundling requirements as antithetical to promotion of competition on precisely these grounds. OFTEL's view is that were use of the incumbent's (BT's) facilities made too easy, incentives to undertake provision of facilities-based competitive network supply would be counterproductively attenuated and the government's competitive and regulatory policy objectives thereby undermined.

Tellingly, at least one facilities-based competitor in the U.S. has made similar arguments in this proceeding. Focal Communications, in its Comments, advocates that:

> The Commission should make advancement of facilities-based competitive investment its primary principle for giving effect to the Supreme Court's remand, and it should apply this principle by declaring that unbundled switching will not be available in

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[2]Professor Phillip Areeda has characterized the essential facilities doctrine as "an epithet in need of limiting principles" and as "so-called" because "most Supreme Court cases invoked in support do not speak of it and can be explained without reference to it. Indeed the cases support the doctrine only by implication and in highly qualified ways." *See* "Essential Facilities: An Epithet In Need Of Limiting Principles," *Antitrust Law Journal* (Vol. 58, 1990).

[3]*See* William E. Kovacic, "Essential Economics and Essential Facilities: The Federal Courts and the Development of Antitrust Principles Governing Transmission Access in the Electric Utility Industry," Advanced Workshop in Regulation and Public Utility Economics (Monterey, California, July 5-9, 1989).

> areas where competitors have demonstrated the ready availability of switching through self-provision.[4]

In his *Antitrust Law Journal* article, Professor Phillip Areeda has argued that that "there is no general duty to share" and that "compulsory access, if it exists at all, is and should be very exceptional." He concludes that "a single firm's facility...is 'essential' only when it is both critical to the plaintiff's competitive vitality and the plaintiff is essential for competition in the marketplace."[5] We have demonstrated in our previous comments that on both counts there is no basis for requiring unbundling of switching and shared transport. In particular, we have shown that an entrant could earn a very high return without using these UNEs and that prospective rewards are so large as likely to engender substantial competitive entry.

AT&T's position is that the relevant criteria for judging whether unbundling of a particular element should be required is whether absence of the unbundled element will affect a competitive local exchange carrier's ("CLEC's") costs or effectiveness.[6] AT&T's position is that if an entrant actually has to produce a competitive service in order to compete and production of such service is more difficult than arbitrage, then unbundling is required. Thus, to use AT&T's examples, if facilities-based competition entails actual ordering and installation of a switch that takes time and requires effort to ensure seamless integration, AT&T is entitled to an unbundled switch offering (rebundled with other network elements). If there are scale economies that must be foregone or a competitive switch cannot be collocated and there are advantages of collocation, AT&T is entitled to an unbundled switch offering.

The fact that a competitor actually has to produce a service offering in order to compete cannot be taken seriously as a justification for unbundling. To do so would undermine the realization of the statutory objective which is to produce the reality of competition, not merely the form; that is, competition in production and not just arbitrage. No doubt it would be easier for AT&T simply to resell BellSouth's productive capabilities at discounted rates, but that

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[4] *See Comments of Focal Communications* (May 26, 1999), at. 1. Professor Areeda warns that "We have to be very wary about examining the decisions of each [firm] in our economy, particularly when anything one has that another wants may be called an 'essential facility.'" *See also op cit.*

[5] *Op cit.*

[6] *See Affidavit of Hubbard, Lehr and Willig*, Exhibit C to *AT&T Comments*.

would undermine real, facilities-based competition — the import of Focal's Comments. Precisely because it is more difficult to deploy and operate one's own facilities is the reason there need to be adequate rewards for so doing. Subversion of such efforts via misconceived and unwarranted unbundling requirements is counterproductive to real competition.

In our view, the appropriate tests for competitive necessity and impairment of competition should focus on whether lack of a specific UNE would render an efficient competitor (that supplies substantial value-added other than arbitrage) unable to compete. The application of our model of a CLEC operation in Atlanta demonstrates that there is virtually no chance that an efficient competitor in that market could fail to succeed on account of a lack of unbundled switching and transport elements. To the contrary, the returns that may be reasonably anticipated on the basis of the operation we describe are so large as virtually to guarantee success, assuming competence and otherwise effective operations.

III. TELCOMP©

In our previous filing, we described and utilized Telcomp©, a computer model of a CLEC operation. Telcomp© relies heavily on factual information concerning the area in which the competitor is assumed to operate — including existing prices of UNEs, wire-center sizes and locations, and current traffic volumes and revenues. We ran the model for the Atlanta LATA, which is by no means atypical of LATAs in the U.S.

Telcomp© assumes a serving network architecture that does not utilize UNEs for switching or shared transport. We demonstrated that notwithstanding the absence of those UNEs, a CLEC can provide a broad range of telecommunications services to both business and residential customers and make substantial profits. We concluded that:

(1) Access to shared network elements such as switching and shared transport is not necessary to enable competition.

(2) The failure to provide such shared network elements certainly does not impair the ability of the competitor to provide a broad spectrum of local services. To the contrary, the competitor is better able to provide such services than if it used

these elements, since by controlling the switching element it is in a far better position to innovate.

(3) These network elements are certainly not "essential facilities" as these are normally understood under antitrust law.

IV. REPLY TO KLICK AND PITKIN

John C. Klick and Brian F. Pitkin ("KP"), filing on behalf of AT&T,[7] extensively criticized the Telcomp© Model. We find that most of their criticisms either are analytical errors or reflect a misunderstanding of the model. We believe, however, that a few of their criticisms have some merit; and we have modified Telcomp© to respond to those criticisms. The model changes significantly reduce the profitability of the modeled CLEC, but the CLEC remains highly profitable. Consequently, we maintain our conclusion that an efficient competitor can operate very profitably without UNEs for switching or shared transport.

A. Synergies with Long Distance

Telcomp© gives the model user the option of having the modeled CLEC provide both local and interLATA services. We observed that by providing both types of services, the CLEC could enjoy substantial synergies.

KP argue (¶ 17) that our supposition of synergies is a "*flawed* assumption" [emphasis in original]. It is astounding to see this argument in an AT&T filing. AT&T's entire business strategy in recent months has focused on exploiting synergies between the provision of local and interLATA services. In particular, AT&T has been making enormous investments to acquire cable television properties with the plan of using them to provide packages of local *and* long-distance services. AT&T already provides such packages through its current CLEC operations and its wireless operations.

[7] *See Affidavit of John C. Klick and Brian F. Pitkin on Behalf of AT&T Corp.*, Exhibit D, May 26, 1999.

Joint provision of local and long-distance services creates some technical economies of scope. In particular, the two types of services can share switching and transmission facilities and be billed together. These economies are certainly significant.[8]

However, the greatest synergies between local and long-distance services are in marketing. Customers strongly prefer one-stop shopping and prefer to purchase packages of multiple telecommunications services. Our own research of business customers in Pennsylvania and Illinois, as well as Illinois residential customers, indicates strong preferences for bundling. For example, almost 70 percent of Bell Atlantic-Pennsylvania business customers surveyed found it convenient to purchase packages of telecommunications services, apart from cost savings.

From 54 to 59 percent of Ameritech Illinois business customers said that their selections of a local service provider would be favorably influenced by the packaging of services to include long distance, Internet or wireless along with local service. About 48 percent of Illinois Ameritech residential customers in downstate exchanges where Ameritech faces local competition said that they would be favorably influenced by such packaging.[9]

Notwithstanding this evidence, KP may be unconvinced of the synergies of providing local and long-distance services. However, Michael C. Armstrong, the chief executive officer of AT&T, clearly *is* convinced. Upon announcing AT&T's acquisition of TCG as a foundation for its local service endeavors, Mr. Armstrong said: "This is a great match with powerful financial and strategic synergies for both companies" which would enable AT&T/TCG "to provide businesses with the any-distance services they want."[10] Mr. Armstrong further cited expected synergies associated with combining AT&T's long-distance SONET rings and those

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[8]Because of these economies of scope, an interLATA carrier may quite possibly be able to self-provide some switching and transmission services at less cost than the independent local exchange company's ("ILEC's") total element long-run incremental cost ("TELRIC") (notwithstanding KP's assertion to the contrary at ¶ 30).

[9] Other researchers have found similar results. Price Waterhouse Coopers' survey of residential customers indicated that a majority of consumers prefer to purchase multiple services or a bundle of services from a single company on a single bill. *See* "Price Waterhouse Communications Preferences Survey," at http://www.pwcglobal.com/extweb/ncsurves.nsf.../AC55A4C9FB405798852566E0050A5B, obtained April 19, 1999.

[10]"AT&T and TCG to Merge; TCG to Become Core of AT&T's Local Services Unit," AT&T Press Release, January 8, 1998.

of the TCG network to enable the company to provide "nationwide end-to-end connectivity from customer premises to customer premises."[11]

Mr. Armstrong's objective is to market the simplicity of its bundles in this complex high-tech era of telecommunications. Under AT&T's proposed bundled packaging, "The only choice consumers have to make is AT&T," according to Mr. Armstrong.[12] In fact, AT&T has the marketing advantage in a bundled world. AT&T was selected most often as the preferred carrier to provide local and long-distance bundled, when consumers were asked.[13]

On the issue of synergies between local and long-distance, we believe that Mr. Armstrong has got it right and KP have got it wrong.

In the Telcomp© Model, we envision that a CLEC may obtain substantial incremental interLATA revenues from its customers of local services. Since telecommunications customers generally prefer one-stop shopping, they are likely to be attracted by packages of local and long-distance services, which *only* the CLEC can offer its local customers.[14] For a CLEC with a small share of the interLATA market, virtually all of its interLATA revenues are incremental. For AT&T, only part of the interLATA revenues from CLEC customers will be incremental; *i.e.*, over and above the interLATA revenues it would have gotten in any event.

KP (¶ 23) attempt to rebut this point by observing that Regional Bell Operating Companies ("RBOCs") might enter the interLATA market. Actually, RBOC entry would have the opposite effect to that envisioned by KP. For example, if AT&T lost market share as a result of RBOC entry, it would have *more* incentive to provide local service. It could then offer

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[11]"Chairman Unveils Plans to 'Future-Proof' AT&T Network," AT&T Press Release, January 26, 1998.

[12]J. Sandberg, "She's Baaack!" *Newsweek*, February 15, 1999, at http://newsweek.com/nw-srv/printed/us/bz/bz1017_1.htm.

[13]The Yankee Group found in its survey of U.S. households, that, of the 66 percent of respondents who preferred local and long-distance provided by one carrier, AT&T was most often selected as the preferred provider *vis-à-vis* the regional ILEC (Regional Bell Companies and GTE), MCI and Sprint. "Yankee Group Survey Finds AT&T is Top Choice for Consumers Interested in a Single Communications Provider," Yankee Group Press Release, January 20, 1998.

[14]KP (¶ 23) appear to misunderstand this point when they cite the possibility of entry by many CLECs. Regardless of how many CLECs enter, each one is the only supplier that can offer one-stop shopping to its own local customers.

one-stop shopping to its local customers and thereby attempt to recover some of its lost inter-LATA revenues. Formally, under these circumstances, more of the interLATA revenues of AT&T's local customers would be incremental; *i.e.*, over and above what AT&T could get in any event.

In reality, CLECs generally offer interLATA, as well as local, services. At least 40 of the CLECs certified in Georgia offer interLATA, as well as local services. Some CLECs (*e.g.*, Level 3 and Winstar) have embarked on very ambitious programs to build end-to-end nation-wide networks to complement their local entry plans. Winstar's business plan includes expansion into 110 domestic and international markets by 2004.[15] Level 3 has issued $2 billion in bonds to pay for a nationwide fiber network.[16]

These CLECs clearly perceive the synergies between the provision of local and interLATA services. On this issue, we believe that the CLECs have got it right, and KP have got it wrong.

In our Telcomp© runs, we estimate that a CLEC which provides both local and inter-LATA services could earn a return of 114 percent per year. A CLEC which provides only local service could earn 77 percent per year.[17] The above discussion indicates that the higher return (114 percent per year) is more relevant for assessing the profitability of CLEC entry. Nevertheless, the lower return (77 percent per year from offering only local services) is far more than adequate to cover the CLEC's cost of capital, including a generous return for risk.

B. Future Revenues

Telcomp© assumes that prices remain constant in real terms. KP (¶. 20) argue:

> . . . if the entry that the TM [Telcomp© Model] touts as profitable becomes a reality, a more competitive environment will be

[15] "Winstar Reports Fourth Quarter and Year-End Results," Winstar Press Release, March 4, 1999.

[16] R. King, "Too Much Long Distance," *Fortune*, March 15, 1999, at http://pathfinder.com/fortune (obtained June 3, 1999).

[17] These results come from the scenario of serving all 10 deciles of business customers and the top 3 deciles of residential customers. *See* discussion in Section C below.

> created. This will force rates to track underlying costs more closely — driving down the prices that BellSouth could charge and, in turn, the revenues that CLECs might earn. . . .

We do not dispute this point. Clearly, a situation in which CLECs can earn returns of 77 to 114 percent per year is not a competitive equilibrium. Such high potential returns are likely to attract entry and BellSouth will (if permitted by regulators) make some competitive response. Equilibrium will be reached when competitors' returns decline so that further entry is not profitable and BellSouth does not have the incentive and/or is not permitted to make further competitive responses.[18]

The point of our analysis is that, with current prices and *without* UNEs for switching and shared transport, this competitive process can get started. There are substantial incentives for CLECs to enter the market under these circumstances. These incentives will persist until cumulative entry substantially drives down the expected rates of return toward competitive levels.

A key consideration here is that the ILEC will not have the incentive and ability to make competitive responses that would preclude competition. In particular:

- Acquiescing to sizable competitive losses is likely to be less unprofitable for the ILEC than lowering retail prices to *all* (vulnerable) customers to preclude competition — for the same reasons that it has always been less unprofitable for AT&T to acquiesce to competitive losses than to price so as preclude competition in the interLATA market.;

- Antitrust laws prohibit the ILEC from pricing so as to prevent efficient competitors from operating profitably;

- Regulatory procedures will delay any competitive responses by the ILEC; and

- Even in the long term, regulators may limit the ILEC's competitive responses so as to allow some inefficient, as well as efficient, competitors to operate profitably.

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[18] KP (¶ 24) are certainly correct in stating that competition will drive rates toward TELRIC. However, price could stop declining, perhaps well above (the ILEC's) TELRIC, if no additional competitors were willing to enter.

Put another way, our Telcomp© analysis envisions a world in which UNEs for switching and shared transport are not offered. If KP say that under these circumstances, many competitors will enter and prices will be driven substantially downward, they have conceded our basic point. That is, UNEs for switching and shared transport are not necessary to engender a vigorously competitive market.

C. Fraction of Market Served

Telcomp© gives the user the option of having the CLEC focus on serving only a subset of the business and residential markets. In particular, the user may specify that the CLEC will serve only the top n deciles of either group, where $n < 10$.

We envision that a CLEC would implement this strategy through strategic pricing. For example, the CLEC could have a high monthly charge — perhaps higher than the ILEC's — but low rates for access and toll services. By choosing an appropriate rate structure, the CLEC can target the desired groups of customers.

This type of strategic pricing is certainly not unusual. Indeed, interLATA carriers routinely offer volume discounts of various types in order to target high-revenue users. CLECs can be expected to price in a similar manner. It seems inconceivable that a CLEC would market so that it was as likely to get customers in the lowest residential decile as in the highest residential decile.

In previous filings we have shown results for the case in which the CLEC does not target any particular group of customers (no strategic pricing) and the case in which it targets all business customers plus the top three deciles of residential customers. We observed that absolute profits are lower in the case in which the CLEC does not target any particular group of customers.

KP mischaracterize this finding. They assert:

> Importantly, the TM recognizes that CLECs could *not* [emphasis in original] use the above described network architecture to serve profitably the *majority* [emphasis in original] of the residential market. Even if one accepts *all* [emphasis in original] of the gross overstatements of potential profitability inherent in the

> model, the TM finds that only if CLECs were successful at surgically 'targeting' the highest revenue deciles of customers (and affirmatively *denying* [emphasis in original] service to any less attractive customers) can a positive profitability story be generated. Thus, even taken on its own flawed terms, the TM demonstrates that the modeled network architecture would *preclude* [emphasis in original] competition for more than 50 percent of the Georgia market.

In reality, and notwithstanding KP overly *enthusiastic* rhetoric, the unprofitability of serving the lower residential deciles derives primarily from the structure of retail prices — not from the absence of UNEs for switching and shared transport. Under the current price structure, access and toll services are far more lucrative than local services. Thus, high-revenue customers, who use more access and toll services, are more profitable to serve. The availability of UNEs for switching and shared transport would not alter this fundamental fact — especially since switching and interoffice transport account for a relatively small part of total costs of a CLEC. (Loops, whether self-provided or purchased as UNEs, are the predominant cost.) Even if UNEs for switching and shared transport are available, it is virtually certain that CLECs will initially focus on serving high-revenue customers.

D. Development of Competition

KP (¶¶ 26-30) argue that the lack of local competition in Atlanta is evidence that our results are incorrect. That is a *non sequitur* to a premise which is, itself, faulty.

First of all, there are over 85 CLECs currently certified to operate in Georgia. Of these, 17 are facilities-based.[19] Over 20 additional certificates may be issued, pending Commission review. It is clear that many firms view local telecommunications competition in Georgia as an attractive business opportunity.

To be sure, AT&T and MCI have been slow to enter local markets. We believe that the primary reasons are as follows:

[19] Some CLECs provide service through both their own facilities and through resale. This information is based on SPR's analysis of certificates issued by the Georgia Public Service Commission and posted on the PSC website. Our estimates are conservative, as we have not exhausted the data on the website.

- They believe that by not entering local markets rapidly, they can delay the entry of RBOCS into the interLATA market;

- They believe that by not entering local markets rapidly, they will have more leverage to negotiate favorable terms for UNEs.

KP observe that many competitors have pursued strategies that differ from the one modeled in Telcomp©. We do not dispute that fact. Our goal in Telcomp© is to describe one entry strategy by which an efficient competitor can operate profitably without UNEs for switching and shared transport. It is quite possible that for some carriers, other entry strategies may be even more profitable. In this regard, AT&T has spent $90 billion in the last year to acquire cable companies in order to use their facilities for access to residential customers. Meanwhile, MCI Worldcom's business strategy is to focus on business customers and Internet services.[20]

Nevertheless, at least one carrier operating in Georgia appears to be pursuing a strategy that resembles the one in Telcomp©. Allegiance Telecom relies on neither shared transport nor switching from ILECs. Allegiance describes its plan of network deployment in its first quarter 1999 10Q before the SEC. Allegiance refers to its plan as "smart build" and sees smart build as an alternative to *deploying its own local network completely*. Under smart build, Allegiance deploys its own switch and leases other network elements from the ILECs. Allegiance specifically leases loops from ILECs and leases or physically collocates its own interoffice transmission equipment in ILEC central offices. Allegiance cites the following benefits of its smart build strategy:

- Accelerate market entry by nine to eighteen months through eliminating or at least deferring the need for city franchises, rights-of-way and building access;

- Reduce the initial capital expenditures in each market, allowing Allegiance to focus its initial capital resources on the critical areas of sales, marketing and operations support systems;

- Improve return on capital by generating revenue with a smaller capital investment;

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[20] *The New York Times*, June 8, 1999, at C13 — Marketplace.

- Defer capital expenditures for network assets to the time when revenue generated by customer demand is available to finance such expenditures; and

- Address attractive service areas selectively throughout target markets and not just in those areas where Allegiance owns network transmission facilities.

Allegiance appears to have no doubt that providing local and inter-LATA services in this way is a profitable business opportunity. In short, competitive activity in Georgia and elsewhere tends to confirm, and certainly does not refute, the results of the Telcomp© Model.

E. The Demographics of the Atlanta LATA Are Not Atypical

KP (¶¶ 34-35) argue that Atlanta is not representative. To be sure, Atlanta is a large city (though the LATA extends well beyond the Atlanta SMSA). But there are clearly many metropolitan areas in the nation, if not in BellSouth territory, which have greater populations and higher population densities than Atlanta. Indeed, according to 1996 census data, Atlanta was only eleventh among the metropolitan areas in the United States in terms of population. Thus it cannot be characterized as having "unusually high concentrations of customers." Even if the Atlanta LATA is not typical, it is certainly not an outlier in any demographic sense.

In any event, KP, in making their argument, concede an important point; *viz.*, the economics of CLEC competition differ in different geographic areas. It follows that nation-wide policies which mandate the provision of certain UNEs may be inappropriate (and run afoul of the Supreme Court's standards) in some geographic areas. A better approach therefore may be for each state to mandate that UNEs be offered in geographic areas where the state has determined that doing so is appropriate and conforms to the Supreme Court's standards.

F. Depreciation

Telcomp© estimates economic depreciation as a fixed fraction of net plant. KP (¶ 54) go so far as to call the method "incorrect." They contrast it with straight-line depreciation, which they embrace as *the* "correct" methodology. In justifying their judgment of correctness, they cite no economic theory or empirical evidence (or even indicate any awareness of the economic literature on depreciation). In reality, our method of estimating depreciation is widely used by economists. In particular, Robert M. Solow, in the development of the growth

model for which he won the Nobel Prize, used this very method,[21] which KP call incorrect. Many other economists have also used the same approach.[22]

KP's judgment of correctness is apparently solely based on the well-known observation that if depreciation is a fixed fraction of net plant, then plant of a particular vintage is never fully depreciated. The well-known response to this observation is that economic analysis generally deals with aggregate data, including plant of many vintages. On such aggregate data, estimating economic depreciation as a fixed fraction of net plant can be quite reasonable, even over an extended period of time.

The more fundamental issue is whether Telcomp© makes adequate allowance for economic depreciation. Most of the tangible investment in the model is in switching equipment. In the scenario with three residential deciles and ten business deciles, depreciation of switching investment over the five-year horizon is $4.1 million.

AT&T has sponsored, and KP have testified in support of, the HAI Model. The HAI Model recommends straight-line depreciation with a 16.66-year life for switching equipment in Georgia. If depreciation were applied according to this formula, depreciation expense over the 5-year horizon would be $2.1 million. Thus, Telcomp© allows for approximately twice as much depreciation as AT&T has recommended in other regulatory fora.[23]

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[21] Robert M. Solow, "A Contribution to the Theory of Economics," *Quarterly Journal of Economics 70* (February), 65-94.

[22]As further examples, *see* A. Ando, J. Hancock and G. Sawchuk, "Costs of Capital for the United States, Japan, and Canada: An Attempt at Measurement Based on Individual Company Records and Aggregate National Accounts Data," NBER Working Paper No. 5884, 1997 (calculates the user cost of capital using economic depreciation on the net stock of capital used in production); V. Chan, B. Chen and K. Cheung, "External economies in Taiwan's Manufacturing Industries," *Contemporary Economic Policy* 13 (4), October 1995, at 118-126 [estimate external economies in Taiwan's manufacturing industries using Caballero and Lyons' model in which depreciation is a fraction of net real fixed capital stock (R. Caballero and R. Lyons, "The Role of External Economies in U.S. Manufacturing," NBER Working Paper No. 3033, 1989)]. *See also* J. Moroney and C. Lovell, "The Relative Efficiencies of Market and Planned Economies," *Southern Economic Journal* 63 (4), April 1997, at 1084-1093 (in determining the efficiencies of market and planned economies, the authors make use of depreciation on the net fixed capital stock); and G. Otto and G. Voss, "Public Capital and Private Production in Australia," *Southern Economic Journal* 62 (3), January 1996, at 723-39 (in measuring public capital and private production in Australia, use depreciation as fraction of net capital).

[23]The HAI Model is designed to be applied to ILECs. Nevertheless, the appropriate rate of economic depreciation would be similar for CLECs. Economic depreciation of switching equipment primarily reflects the

(continued...)

G. Terminal Value

Telcomp© analyzes profitability by examining cash flows over a five-year horizon and then estimating the value of the firm at the end of the period. This procedure is very common. Indeed, it may be the most usual way to analyze profitability in business cases for new ventures.

The key issue in applying this procedure is *how* to estimate the value of the firm at the end of the period. Our procedure is to value the firm as the depreciated/amortized value of tangible and intangible investments. Depreciation and amortization in Telcomp© are estimates of *economic* depreciation and amortization. Thus, the depreciated/amortized value of investments equals our estimate of the economic value of the firm's assets.

If the CLEC market were perfectly contestable, the economic value of assets would approximately equal the economic value of the firm. In reality, the market is far from perfectly contestable. Consequently, the value of a successful firm, such as the one modeled in Telcomp©, could be worth far more than the economic value of its assets. Thus, we believe that our valuation of the firm at the end of the period is conservatively low.

KP (¶¶ 50-52) quarrel with this approach, but they offer no constructive alternative. One idea they discuss is to value the firm at the net salvage value of its assets. Needless to say, this method makes no sense for a successful enterprise. They also suggest the possibility of estimating discounted cash flows into the distant future. Unfortunately, in a rapidly changing industry (such as telecommunications), it is extremely difficult to estimate cash flows in the distant future with any precision. That is precisely the reason why business plans often have a five-year horizon — a fact of which KP seem to be unaware. Finally, KP observe, "If BellSouth successfully defends its markets, any CLEC capital would have value close to zero." True enough, but we have previously noted that BellSouth is unlikely either to have the

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(...continued)

economics of replacing embedded switches with new switches (modern equivalent assets). Those economics do not differ substantially between ILECs and CLECs, even though the firms, themselves, differ substantially.

incentive or to be permitted by regulators and antitrust authorities to fully defend its markets. Thus, the zero valuation of assets is simply not relevant.

H. Intangible Assets

The CLEC in Telcomp© incurs many non-recurring costs. These include:

- General start-up costs;
- Customer-acquisition costs; and
- Non-recurring charges for UNEs.

Expenditures such as these are usually treated as expenses on financial reports. Nevertheless, they provide enduring value to the CLEC.

- General start-up costs lead to establishment of an ongoing firm;
- Customer acquisition costs lead to obtaining a customer base; and
- Non-recurring charges entitle the CLEC thereafter to purchase UNEs for the amount of the recurring charges.

For these reasons, we treat the above expenditures as investments in intangible assets, which are amortized over time.

KP's criticism of this approach (¶ 53) is as follows:

> Almost certainly, any buyer of CLEC assets at the end of Year 5 will have to incur (or already will have incurred) the same SG&A expenditures. As a result, it is unlikely that an existing CLEC would be able to recover any portion of marketing and start-up expenditures made previously.

This argument is completely preposterous. Contrary to KP:

- A successful ongoing firm that has incurred start-up costs is worth more (to virtually any purchaser) than the economic value of the firm's tangible assets;
- A firm that has incurred customer-acquisition costs and acquired a customer base is worth more (to virtually any purchaser) than one without a customer base; and

- A CLEC that has paid non-recurring charges is worth more (to virtually any purchaser) than a CLEC that has not yet paid them and must do so in order to purchase UNEs.

How can one possibly argue that these considerations do not affect the economic or market value of the firm?

I. CLEC Discounts

KP (¶¶ 18-19) assert that Telcomp© assumes that the CLEC's prices will be the same as BellSouth's. They argue that contrariwise, the CLEC will "have to undercut the incumbent's retail price just to encourage customers to change carriers."

In reality, Telcomp© does *not* assume that the CLEC charges the same prices as BellSouth. As discussed in the Telcomp© documentation,[24] we assume that CLECs may, indeed, offer discounts. Such discounts are included in the fraction of revenues attributed to sales, general and administrative ("SG&A") expenses.[25]

Telecommunications carriers, including CLECs, can pursue a range of competitive strategies, many of which may be viable. At one extreme, they can attempt to be premium carriers, such as AT&T and MCI in the interLATA market. Such carriers expend substantial resources on marketing (*e.g.*, to advertise their brand name) and on customer service. However, because they have a reputation for premium service, they need not offer discounts. At the other extreme, a carrier may opt to expend substantially less on marketing and customer service but instead to offer significant discounts, relative to suppliers of premium services. In the CLEC market, AT&T and MCI may well attempt to establish themselves as premium carriers that offer better service than ILECs. AT&T and MCI's established brand names in the interLATA market will facilitate their doing so. Small carriers, on the other hand, are more likely to opt for a strategy of offering discounted services.

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[24] *Description of the Telcomp© Model Version 1.3, and Results of Its Application to the Atlanta LATA*, Table 1, Model Input Values (March 29, 1999), at 10.

[25] As discussed below, Telcomp© also includes SG&A expenses other than this percentage of revenue.

Telcomp© can be used to model either premium carriers or discount carriers. For a premium carrier, the entry for "SG&A" in Telcomp© entirely reflects actual expenses. For a discount carrier, actual expenses would be lower, but the entry for "SG&A" in Telcomp© would include the cost of the discounts that such a carrier would need to offer.

J. Sales, General and Administrative Expenses

KP assert (¶ 46) that Telcomp© assumes that SG&A expenses are 25 percent of revenues. They then argue (¶¶ 46-49) that actual CLECs operating in Georgia have incurred greater SG&A expenses.

As discussed in the previous section, the SG&A percentage in Telcomp© includes discounts, as well as actual expenses. Thus, for a CLEC that provides non-premium service, the proportion of revenues that would be applied to actual SG&A expenses would be significantly less than 25 percent.

However, the 25 percent of revenues are only part of SG&A expenses in the Telcomp© Model. Other SG&A expenses are as follows:

- We presume that the CLEC will have an initial installation charge to avoid excessive churn. We apply the entire revenues from that charge to customer-acquisition costs, *e.g.*, sales commissions.

- The model allows for additional customer-acquisition costs, whose default value is $25 for each new customer added (including new customers that replace customers lost to churn).

- Telcomp© embodies start-up expenses, whose default value is $500,000.[26] Part, perhaps most, of these expenses are SG&A.

With these additional categories of SG&A costs, Telcomp© properly recognizes (contrary to KP at ¶ 46) that *total* SG&A expenses for a small firm may be a higher fraction of revenues than for a large firm. We believe that the three above categories of expenses, *in*

[26] *NB.* These start-up expenses are apart from investments in real capital, payment of non-recurring charges for UNEs and customer-acquisition costs, all of which are modeled separately.

addition to the percentage of revenues, provide an adequate allowance for SG&A expenses for a CLEC.[27]

In any event, our goal in Telcomp© is to demonstrate that an *efficient* competitor can operate profitably (without UNEs for switching or shared transport). We do not seek to show that an *inefficient* competitor with excessive SG&A costs can necessarily operate profitably.

In this regard, we note that the RBOCs have SG&A costs of approximately 10 percent of revenues. Furthermore, early versions of the HAI model assumed even lower SG&A costs. HAI, with its sponsors AT&T and MCI, made the argument that the RBOC's actual costs embodied substantial inefficiencies. CLECs that have substantially higher SG&A costs than RBOCs are, almost by definition, not efficient at performing SG&A activities. Unless they have counterbalancing efficiencies (relative to ILECs) in other productive activities, their entry reduces economic efficiency. That is, their entry (under these circumstances) reduces the productivity of the telecommunications sector and makes the U.S. economy less competitive, relative to foreign rivals.

The default values of Telcomp© embody SG&A expenses that substantially exceed the efficient level of SG&A expenses; *viz.*, the RBOC level of 10 percent of revenues. Our results are therefore conservative in demonstrating that an *efficient* CLEC could operate profitably. The fact that some existing CLECs have still higher costs may simply reflect the fact that public policies have encouraged entry by inefficient competitors (and/or have not afforded sharp enough incentives for competitors to operate efficiently).

K. Internal Rate of Return

For each of our Telcomp© runs, we calculate the internal rate of return ("IRR"). KP (¶ 57) quarrel with the use of IRR. They correctly note that there may be multiple solutions to IRR for (anomolous) sequences of cash flows. **Mathematica** (the language in which Telcomp©

[27] KP question our reduction of SG&A costs in Version 1.3 of the model from 30 percent to 25 percent. This change was made at the time that we introduced the other categories of SG&A costs into the model. Since those other SG&A costs are now modeled separately, a smaller amount of SG&A costs are properly modeled proportional to revenues.

is written) finds all solutions for IRR. It turns out that the solutions shown above are the only real (and hence economically relevant) solutions.

KP propose the net present value ("NPV") method as an alternative to IRR. However, the use of NPV requires that the cost of capital be known. In reality, however, there is no consensus about this value. Under these circumstances, IRR is a useful concept (given that there is no problem of multiple solutions). IRR shows how high the cost of capital must be in order for investment in the CLEC to be unprofitable. For the cases that we analyzed, the answer is very large, indeed — much larger than any reasonable estimate of the cost of capital.

L. Data

KP (¶ 37) state that we have failed to realistically and reliably incorporate existing revenues and line counts in the Atlanta LATA. This is not true. The Atlanta runs used actual data (whose reliability we have no reason to doubt) provided by BellSouth for the Atlanta LATA. The line and revenue numbers which KP use to cast doubt on the Atlanta data were derived from a special study of all of Georgia and were used only to determine revenue distributions by business and residence decile. The absolute magnitudes of both the revenue and line numbers for all of Georgia resulting from that study do not comport with the Atlanta data and were not relied upon when running the model.

M. Costs and Revenues

KP (¶ 36) claim that we fail to provide a correlation between costs and revenues and have ignored the extra costs generated by high-revenue customers. In reality, Telcomp© includes only those revenues associated with the services that are provided using the network whose costs are calculated. Thus, revenues for services such as private line and inside wiring are excluded, as are the costs of providing such services.

The relationship between traffic and revenues is tenuous at best, and the amount of cost that is traffic-related is very small. The revenue differences are principally due to differences in access revenue, which is based on interLATA traffic volumes. The only significant cost which is traffic dependent is the cost of carrying terminating traffic, which is entirely

intraLATA, to the terminating ILEC switch. Therefore, there is little direct correlation between added costs and revenue differences.

The Telcomp© architecture assumes that loops are connected to the CLEC switch using dedicated interoffice facilities, which are not traffic dependent. (The loop concentration ratio is assumed to be a conservative 80/48 rather than the normal 96/48 to account for high-traffic lines.) The cost of the switch itself is assumed to depend primarily on the number of lines. The cost of the trunks carrying traffic back to the terminating ILEC switch is thus the only significant traffic-dependent cost. These costs represent only about 4 percent of the total network costs in networks designed to serve all customers. Focusing on high-revenue residential customers would raise these costs only slightly, since business usage is unchanged. Since the base is so small, the impact is minimal.

N. Taxes

Telcomp© does not take account of taxes. The rates of return that we cite are pre-tax returns and should be interpreted in that light. We note, however, that the CLECs' taxes are not likely to be sizable for several years because:

- All the expenditures which we treat as intangible investments can be expensed for tax purposes; and
- Switching investment can be depreciated for tax purposes using accelerated depreciation over a five-year life.

KP (¶ 56) criticize Telcomp© for not taking account of taxes. In reality, it is rather common for business plans for new ventures *not* to include a formal model of taxes – unless the venture is, itself, a tax shelter. The reason for this practice is that taxes for new ventures are usually not very important (for the reasons stated above).

O. Digital Subscriber Loops

KP (¶ 25) state that the model does not include broadband services that could be supported by DSL lines, and fails to account for extra analog-to-digital conversion. It is true that neither the costs nor the revenues associated with broadband services supported by DSL loops are included in Telcomp©, but this does not bear on the issue of switch UNEs. DSL

services cannot utilize the local switch in any event, because local switch ports are designed to carry only 64kb data streams. DSL loops must be connected to broadband interoffice facilities to find their way to a broadband switch, unless a broadband switch, packet switch or switch terminal is provided in the local wire center. Thus, the network architecture in Telcomp© is essentially the network architecture that would be used to support DSL-supported services in any event.

In addition, the only analog-to-digital conversions required in the Telcomp© architecture are where the analog loop interfaces with the digital interoffice facility — essentially two per connection. This is exactly the same number as is required in current telephone practice — in that case where the analog loop meets the local digital switch. Therefore, no additional service quality impairment is caused by the Telcomp© architecture.

P. Availability of Physical Collocation

KP (fn. 16) note that collocation space was not available in 10 of the 108 wire centers in the Atlanta LATA. This may be true, but in those cases the CLECs are entitled to gain access to the local loops and other facilities via virtual collocation, in which the physical arrangements are in buildings other than the wire center, with unit prices set to emulate the costs of physical collocation. This was not explicitly modeled, but it should have little or no effect on the overall collocation costs.

Q. DSX Frames

KP (¶ 59) claim that the assumption that DSX frames are used for DS-1 cross-connects is oversimplified, and in some cases the more sophisticated DCS will be used instead. If, by DCS, KP are referring to Digital Crossconnect Systems, they misapprehend how these systems are applied. DCS systems perform multiplexing, demultiplexing and rearrangement functions, and they exist as a provisioning aid in many central offices. They do not, however, eliminate the need for DSX frames, which are still required for physical access, testing and connection purposes. Although the ILEC may have DCS systems deployed in its network in various places, they do not affect the pricing or other arrangements associated with CLEC collocation or interconnection.

R. Specially Conditioned Loops

KP (¶ 60) question whether UNEs for specially conditioned loops are included in Telcomp©. The model incorporates only revenues associated with POTS services, which can be supported by ordinary analog loops. The other loop types mentioned are associated with various special data and other services. Neither the revenues nor the costs associated with these services have been included in Telcomp©.

S. Manual Ordering Operations

KP (¶ 60) also express concern that the costs of various manual ordering operations were not included. The non-recurring costs in Telcomp© assume that service orders will be electronically generated and forwarded to the ILEC. The relatively few orders that will have to be placed manually should not have a measurable effect on the overall costs.

T. Additional Signaling and Information Functions

KP (¶ 60) refer to a number of additional functions which they claim would be needed by a CLEC, but were not included in Telcomp©. We did not model these UNEs because their costs are small and many CLECs would not need all of them. For example, access to the ILEC CCS7 signaling system is certainly not required. The CLEC is perfectly capable of providing its own such system and, indeed, the interLATA carriers already have them. The only CCS7 issue is at the interface, and is part of call termination services, which washes out with equal reciprocal traffic. It is also not clear how many or which of the operator and information services referred to would be required, or whether the CLEC could charge its customers for the services. Finally, these charges would be on a per-call basis and likely to be incurred infrequently, so that the costs are certain to be small and have little effect on our overall results.

U. Ancillary Switch Costs

KP (¶ 67) question whether ancillary costs associated with switching equipment such as land, buildings and power are included. For modeling purposes, it is assumed that these costs are included in the switch cost.

V. Traffic Volumes

KP (¶ 55) question the origin of the traffic "volumes" used in the model, and expresses concern that during the model's evolution, these volumes were multiplied by two. The Traffic volumes are busy hour traffic levels derived from minutes of use ("MOU") data supplied by BellSouth for each wire center. The factor of two represents the correction of an early model error.

W. Lags and First-Year Construction

KP (¶¶ 39-45) argue that many capital expenditures may need to be made earlier than envisioned in Telcomp©. We believe that there is merit in this criticism, and we have therefore modified our model to better reflect the timing of capital expenditures. In our revised model, there are four different lags between the time capital expenditures are made and the time that revenues enabled by those capital expenditures come in:

Generally, equipment is purchased and installed so that demand can be met as it appears. Therefore, larger equipment units must be purchased further ahead. If, for example, demand is growing at the rate of 1,000 lines per month, then a unit that can serve 1,000 lines, purchased at the beginning of the month, will just exhaust at the end of the month, so the average lag will be two weeks. If a unit were twice the size, the average lag would be twice as great. Demand, however, is somewhat unpredictable, so some extra capacity must be built into the ordering process, increasing the effective lag. Finally, for ease of installation and simplicity of ordering, it is often convenient for a company to order equipment in bulk, increasing the effective lag still further. The same considerations apply to non-recurring costs for leased facilities. Based on all these considerations, we have made the following assumptions about the effective lags for various pieces of equipment.

1. Loop multiplexors and interoffice facilities. These units handle 24 to 80 lines each, which might represent two to twenty days' growth, depending on the wire center size. These would likely be grouped and ordered in bulk. We therefore have assumed an average lag of one month.

2. Variable switching investment. This consists of some additional switch frames and line cards, which are plug-ins. The frames serve several hundred lines or more, while the line cards would likely be purchased in bulk. We

conservatively assume an average lag of three months. We have not explicitly modeled interLATA investment, but, assuming the CLEC is either a reseller or already has an operational interLATA network, we assume the lags would be the same as for variable switching investment.

3. Collocation. This involves a complex set of non-recurring charges, including application fees, POT bays, cross-connects and DSX frames in the collocated space. The lags for these vary, but we have assumed that an entire DSX frame would be installed before any service was turned up using it (although they can actually be grown in smaller modules). We thus conservatively assume an average lag of six months.

4. Fixed switching investment (for new switches) and start-up expenditures involve the longest lags. Switch purchases involve a number of payments, including initial deposit, progress payments, and final payment on delivery. Start-up expenditures also occur at many different times, both before and after revenues begin to accrue. We assume an average lag of 9 months.

5. Loops are assumed to be provided upon demand, and non-recurring charges paid on delivery. Loops cannot be ordered in bulk or ordered ahead because the particular loop to be assigned to the CLEC is also identified with a particular customer.

6. Customer acquisition costs (*e.g.*, sales commissions) are assumed to be paid coincident with receipt of revenues.

KP (¶ 43) also argue that in Telcomp©, investments in the first year of operation are underestimated, because they are based on midyear, rather than end-of-year, values. We believe that point is correct and have modified the model to increase the amount of investment in the first year.

Introducing the above changes in the model significantly reduces the internal rates of return. Nevertheless, returns are still far more than ample to cover capital costs and attract entry. Returns are as follows:

- CLEC serves all 10 business deciles and 3 residential deciles and provides inter-LATA, as well as local services: IRR = 114 percent per year.

- CLEC serves all 10 business deciles and 3 residential deciles and provides local services only: IRR = 77 percent per year.

- CLEC serves all 10 business deciles and all 10 residential deciles and provides local services only: IRR = 39 percent per year.[28]

X. KP's Model Runs

KP (¶¶ 70-71) make some Telcomp© runs that (allegedly) indicate inadequate profitability for the CLEC. KP's results derive from their use of inappropriate model inputs. In particular:

- KP make runs assuming that switches are located at all five of AT&T's points of presence in the Atlanta LATA. Having five switches makes no sense if the CLEC is run as an independent operation. In that case, each of the switches would have far less than optimal scale. Having five switches might be reasonable if AT&T integrated its local and interLATA operations. In that case, however, a substantial part of the fixed costs of the switches would be properly attributable to interLATA — not CLEC — operations.

- KP arbitrarily increase our estimates of depreciation, which are already approximately twice what is assumed in the HAI Model (which is sponsored by AT&T and has been supported by KP).

- KP make "adjustments" for lags. They do not, however, describe the nature of these adjustments other than to say that they are "conservative estimates."

- KP use estimates of SG&A costs that are far too large to represent an efficient firm.

In addition, KP assume that the CLEC does not use targeted marketing and does not offer interLATA, as well as local services. As discussed above, targeted marketing and the provision of interLATA services both offer opportunities to substantially increase the profitability of the CLEC. For all these reasons, the KP runs do not refute our conclusion that an efficient CLEC can operate profitably without UNEs for switching or shared transport.

[28] We will undertake within the next week to upload the revised model to our Web site.

Y. Model Changes

KP (¶31) state that Telcomp© has been in a constant state of flux and is therefore difficult to review. In reality, the model has not changed during the entire comment period in this proceeding. Thus, KP have had adequate opportunity to review the model.

We do not, however, apologize for making model changes. Our goal in developing Telcomp© has been to make the model public and then improve it by responding to valid criticisms and comments. Our previous changes were made in response to criticisms and comments that we received at the winter NARUC meetings and from the FCC Staff in *ex parte* meetings. We believe that these changes improved the model. We are further modifying (and we believe improving) the model in response to criticisms of KP.

In any event, criticism of model changes is ironic in an AT&T filing. AT&T has sponsored the HAI Model, which has undergone vast (and seemingly continual) changes in its few years of existence.

V. REPLY TO PFAU

C. Michael Pfau has filed an affidavit in support of AT&T which purports to show that switch UNEs are essential to the development of local competition. His showing is very detailed and attempts to demonstrate that without UNEs, provision of competitive local service will be:

- Too expensive, although not by much. He argues that if switched UNEs are not provided, the CLEC will incur increased costs of $150 per line, which translates roughly to monthly costs of about $4.00 per month, to offset additional monthly costs of a UNE platform including switching of $2.50 per month (in New York).

- Too difficult and complex. The necessary "hot cuts" are argued to be so onerous and complex as to be virtually unworkable.

- Too slow. Lead times for purchasing switches and arranging for collocated space would delay service offerings for many months, if not years.

- Too difficult to plan. Since the CLEC must provision without much customer traffic information, it would be impossible to plan for an economical network.

All of these detailed arguments are designed to establish the need for a UNE platform ("UNE-P") which includes both the local loop and all switching functions, without need for collocation. Service provision would then be accomplished by means of the "recent change" function, with no need for any wiring changes. He then goes on to say, however, that this by itself would not be sufficient. The ILEC, according to Pfau, would also need access to shared transport, signaling networks, data base access and tandem switching — in short *all* of the functions required to provide local service. With such an arrangement, it is not even clear why "recent change" would need to be invoked, since no network changes at all would be required to transfer service from ILEC to CLEC. The customer would retain his or her telephone number and service mix, and the line would remain connected to the same switch termination. All that would be required would be a change in billing procedures — the ILEC would bill the CLEC and the CLEC would bill the customer — and possibly some modifications in trouble reporting and service change arrangements.

Thus the bottom line of Pfau's argument is that the type of network disaggregation associated with the concept of UNEs is unworkable. He proposes that the only means of providing competitive service is for the CLEC to resell the ILEC's services, but at UNE prices. He argues that arbitrage, not competition, is what should be implemented.

Of course, there are difficulties associated with the provision of UNEs, which is one of the reasons why the provision of unnecessary UNEs should not be mandated. To argue, however, that such disaggregation is impossible is to fly in the face of the intent of the Telecom Act of 1996 and experience in previous disaggregations.

Pfau's arguments on behalf of AT&T are all too redolent of the arguments made by AT&T prior to the Bell System breakup. At that time, prior to agreeing to divest the telephone companies, AT&T argued long and loud that breaking up the unitary national network was unthinkable. It would cost billions of dollars, cause great service disruption and slow the pace of innovation in telecommunications. Indeed, at divestiture there were problems, but they were resolved and the nation moved to a better telecommunications system. Similarly, restricting competitive entry to resale only (whether by that name or another) is unnecessary from an

economic or operational point of view, and will so constrain the opportunities for innovation on the part of competitors that the game may not be worth the candle.

VI. CONCLUSION

The most efficacious criterion for determining whether to mandate the provision of a particular UNE is whether an efficient competitor (that supplies substantial value-added, apart from arbitrage) needs that UNE to operate profitably. In our previous comments, we used our Telcomp© Model to demonstrate that an efficient CLEC could operate very profitably without UNEs for switching or shared transport. We concluded that provision of UNEs for switching and shared transport should not be mandated.

Hubbard, Lehr and Willig, filing on behalf of AT&T, propose a standard, which amounts to whether the UNE would benefit *competitors* – not whether mandating the provision of the UNE would benefit *competition*. Their proposed standard is overly broad and would have the perverse effect of substituting arbitrage for competition in production.

By our count, AT&T's experts Klick and Pitkin have offered more than two dozen criticisms of our model. In this reply we have addressed each of the points raised by AT&T. We find that most of AT&T's experts' criticisms lack any merit and merely derive from analytical errors on their part as well as a variety of misconceptions, misunderstandings and mischaracterizations of the model. In the few instances where we think our critics have raised legitimate points, we have modified the Telcomp© model specifically to address those concerns. These modifications do not, however, alter our conclusion that an efficient competitor could profitably provide a broad range of telecommunications services without UNEs for switching or shared transport.

With respect to Pfau's affidavit (on behalf of AT&T) concerning the need for switching and other shared network elements, his argument is actually that these and other UNEs *cannot* be provided separately. Although it contains a great many detailed assumptions, the resultant conclusion is simply a reprise of AT&T's ancient, long discredited views about the inviolability of the national network, now transferred to the local exchange networks of the ILECs. On this view, real competition is impossible and the proper goal for regulation is to supply AT&T with

maximal opportunities for profitable resale arbitrage. If the Commission were to pursue that tack, there would be little scope for genuinely competitive enterprise (a fact recognized by facilities-based CLECs) and little opportunity for the operation of an authentically competitive process to discover the identities of the most efficient suppliers.

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CERTIFICATE OF SERVICE

I hereby certify that I have this 10th day of June, 1999 served the following parties to this action with a copy of the foregoing **REPLY COMMENTS** by hand delivery (as indicated by ***) or by placing a true and correct copy of the same in the United States Mail, postage prepaid, addressed to the parties shown on the listing below.

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