investment costs. For example, as we show in more detail below, the Hatfield model uses much lower switch investment costs.[52]

The Commission's latest statistics show that just under 170 million switched access lines were in service at the end of 1998.[53] Thus, even if CLECs were to duplicate the entire switching capacity of all ILECs using switches serving 25,000 lines (a conservative assumption, given modern switch capacity), the investment cost using the Joint Board estimates would be less than $20 billion – approximately one-third of AT&T's estimate.[54]

Note however that, as WorldCom affiant Bryant acknowledges, a CLEC would not duplicate 100% of the ILECs' switching capacity.[55] First, CLECs would not capture 100% of the local exchange market, neither individually nor collectively. AT&T, for example, aims for a 30% share of residential local service by 2005 in the markets where it is active.[56] Analysts commonly estimate that CLECs will serve 35-45 million access lines nationwide by 2007,[57] which represents 21% to 26% of existing U.S. access lines.

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52 See *infra* at Figure 5.

53 See Federal Communications Commission, Preliminary Statistics Of Communications Common Carriers, 1998 ed., at p.22, Table 2.4, "Switched Access Lines By Type Of Technology For Reporting Local Exchange Carriers," reporting 167,981,836 switched access lines in the U.S. (excluding Puerto Rico), as of December 31, 1998.

54 Calculated as (170,000,000/25,000 x $150,000) + (170,000,000 x $110) = $19.7 billion. Total U.S. access lines from Federal Communications Commission, Preliminary Statistics Of Communications Common Carriers, 1998 ed., at p.22, Table 2.4.

55 *Bryant Affidavit*, p. 14.

56 See "Broadband Telephony Illustrative Overview of Customer Penetration Possibilities," in AT&T Proposal for the Acquisition of MediaOne, Investment Community Briefing, April 23, 1999, at p.7. Available from http://www.att.com/ir/ppt/att_metronet.ppt. Note that AT&T's target residential penetration has been increased in the four months since the announcement of the joint venture with

To show that required CLEC investment in switching capacity is not "extraordinary," for this analysis we conservatively assume that CLECs collectively achieve a market share of 30% of existing lines within two years.[58] That is, we assume that CLECs will gain market share far faster than expected by industry analysts. We note that this assumption implies that the ILEC market share erodes at more than twice the rate at which AT&T lost presubscribed lines after the 1984 divestiture.[59] Even with this generous assumption, the switching investment required to serve these access lines would still be under $6 billion if entrants were starting today from a blank slate.[60] With a more realistic assumption that CLECs will win only 20% of the access lines in two years, this amount decreases to $4 billion.

Thus, AT&T is overstating the magnitude of the "necessary extraordinary investment" in switching by at least ten-fold. In reality, the required investment in

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Time Warner. See "Principal Economic Terms," in Communications Joint Venture Between AT&T and Time Warner, Investment Community Briefing, February 1, 1999, at p.5, detailing a minimum guaranteed penetration rate of 25% in each market. Available online from http://www.att.com/ir/ppt/990201_timew.ppt.

57 "The data carriers: Initiating coverage of the CLEC industry," Initiating Coverage, *PaineWebber*, July 27, 1998, p. 7.

58 Our time horizon is two years from the most recent data available in the record on switching deployment (See Huber and Leo *UNE Fact Report*, based on LERG data from March 1999), i.e., March 2001. This approach follows the recommendations in the *Aron and Harris Affidavit*, and is consistent with the two-year horizon proposed my MCI WorldCom affiant Kwoka, with the Commission's approach in the MCI WorldCom merger, and with the Department of Justice guidelines. See *MCI WorldCom Report & Order*, CC Docket No. 97-211, September 14, 1998, at ¶¶ 36, 101, 105, 114, 151; and Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, Rev. 1992.

59 The earliest available statistics from the FCC indicate that AT&T's share of presubscribed lines was 83.7% at December 1987. Assuming that all lines in December 1983 were presubscribed to AT&T, the rate of AT&T's loss of line share is four percentage points per annum. See Long Distance Market Shares, Q4, 1994, Industry Analysis Division, FCC, March 1995, at Table 4.

60 Calculated as (30% x 170,000,000/25,000 x $150,000) + (30% x 170,000,000 x $110) = $5.9 billion.

switching capacity is significantly smaller; CLECs have already made large investments in local switching. By adding modular capacity to existing CLEC switches, CLECs can us these switches to offer widespread service to most customers, contrary to AT&T's claims.[61] Huber and Leo estimate that CLECs had deployed 724 local exchange switches in 320 cities as of March 1999.[62]

Huber and Leo's estimate does not include toll and wireless switches that may have local exchange capabilities – for example, certain switches can support a mix of local, wireless,[63] and long-distance traffic.[64] Nor do these estimates include any of the new generations of packet switches, such as frame relay and ATM switches, or IP routers or switches. As Huber and Leo point out, "long-distance carriers, ISPs, and CLECs – not ILECs – are the major buyers and operators of packet switches." According to one estimate, CLECs had deployed 874 data switches as of December 1998,[65] while, by comparison, the LERG reports that the BOCs and GTE have deployed 663 packet

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61 AT&T comments at p. 90.

62 See Huber and Leo at I-1.

63 See Huber and Leo at I-31, "All of the major switches in the marketplace today are likewise capable of handling both wireline and wireless communications. Many of the switches that wireless carriers are using are indeed the same switch types that CLECs are using – for example, the Lucent 5ESS, Nortel DMS 100, and Ericsson AXE-10," citing miscellaneous Lucent, Nortel, Ericsson and Alcatel product information.

64 See Huber and Leo at I-31, "Switches like Nortel's DMS-500 and Lucent's 5ESS are now routinely configured to support both local and long-distance services. In January 1997, AT&T introduced its 'Digital Link Service,' which uses its installed base of 4ESS switches to offer a bundle of local and long distance services," citing K. Cholewka, *Versatility for Class 4 Switch*, Telephony, Jan. 19, 1998, and J. Dix and D. Rohde, *AT&T Plots Invasion of Baby Bell Turf*, Network World, July 8, 1996, at 1 (quoting Harry Bennett, vice president and general manager of AT&T s local services division).

65 See "1999 CLEC Report," New Paradigm Resource Group, at Ch. 6, pp. 15-16, cited in Huber and Leo at I-33, who point out that both the 1999 CLEC Report and the LERG vastly understate the number of competitive packet switches, as they both omit switches operated by ISPs or Internet backbone providers.

switches – an especially telling statistic when one considers the relative number of lines served.[66] Frost & Sullivan report that IXCs/CLECs dominate packet communications such as ATM and frame relay, with an estimated collective 92% share in 1997.[67] With the continuing advances in packet-switched telephony, such as IP telephony and conferencing, data networks stand poised to capture voice traffic from the traditional circuit-switched PSTN. AT&T has already announced that it does not plan to make new significant investments in circuit-switched equipment, and that it will invest in packet-switched equipment instead.[68] Therefore, this Commission should be mindful that our analysis, which is based on local circuit-based switches alone, understates the competitive availability of switching.

Assuming conservatively that CLECs will load their switches with 50,000 lines, the 724 deployed CLEC switches translate to a potential capacity based on deployed switches of 36 million lines, equivalent to more than 20% of all U.S. access lines.[69] Therefore, CLECs could market local exchange service to the *entire* U.S. population, even if as many as one in six "customers" take the service. In other words, CLECs have

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66 See Huber and Leo Report at I-33.

67 See Frost & Sullivan, U.S. markets for ATM, Frame Relay, SMDS and X.25 Public Data Services, at p. 1-5 Mountain View, CA, 1998, at p. 2-3.

68 See AT&T Corp. Form 10-K, filed with the SEC, Mar. 19, 1999: "while AT&T will continue to have both circuit and packet switching and transmission technologies for some time, no more significant future capital expenditures are scheduled for circuit switching."

69 Calculated as (50,000 x 724 ÷ 170,000,000 = 21.3%).

switches in place *today* that could be used to serve approximately 33% of the entire U.S. residential local market or 64% of the entire U.S. business local market.[70]

The investment required to upgrade switches hardly seems extraordinary in the light of the fact that "[AT&T CEO] Michael Armstrong had no trouble rounding up $116 billion to bet on cable."[71] In particular, AT&T has recently requested its banks to arrange a $30 billion credit facility, and Goldman Sachs and Chase have each committed to provide $5 billion credit facility to AT&T.[72] In fact, CLECs' capital expenditure is large even relative to that of individual ILECs. AT&T's capital expenditure is 1998 was approximately $8 billion.[73] The second largest CLEC, MCI WorldCom, is making commensurate investments – MCI WorldCom's 1998 capital expenditure was $5.4 billion, of which at least $1 billion focused on the local exchange, while its 1999 capital budget is $6.6 billion, of which $1 billion is earmarked for local service.[74] Ameritech's capital expenditure in wireline networks for 1998 was only $2 billion, most of which was concentrated in construction of and reinforcement of outside plant.[75] Therefore, one

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70 The Preliminary Statistics Of Communications Common Carriers reports 109.5 million residential switched access lines and 56.6 million business switched access lines in the U.S. in 1998, at p.22, Table 2.4.

71 See "A Two-Front War," *supra*.

72 See "Summary of Financing," in AT&T Proposal for the Acquisition of MediaOne, Investment Community Briefing, April 23, 1999, at p.9.

73 See Consolidated Statement of Cash Flows, AT&T 1998 Annual Report, detailing capital expenditures of $7.9, $7.6, and $6.8 billion in 1998, 1997, and 1996 respectively, available online at http://www.att.com/ar-1998/review/fs_csf.html.

74 See MCI WorldCom Form 10-K, filed March 30, 1999 at p. 42.

75 See Ameritech Corp., Annual Report, (SEC form 10-K), filed March 31, 1999: "Two-thirds of our 1998 capital expenditures were made to expand and upgrade our local landline network to meet the demand for data, custom calling and private line services and to comply with regulatory requirements. Growth in capital spending also was driven by our deployment of digital cellular network and by

might expect that the large CLECs would be able to extract better price and delivery terms than Ameritech from switch vendors.

Not only do analysts expect CLEC investment to continue in full force, but they also estimate that CLECs will be investing more than ILECs:

> "ILEC portion of telecom wireline capital spending declined from 58% of total in 1995 ($18 billion versus $32 billion) to 52% in 1996, 47% in 1997, 44% in 1998 and 40% in 1999."[76]

> "We estimate that the new entrants will represent 15% to 20% of total capital spending in 1999. The universe includes the following: new long-distance carriers like Qwest, Level 3, Wiltel, IXC, Frontier, and Enron; new global carriers like Global Crossing and Oxygen, and an upgraded Concert; major cable operators upgrading networks; more than 25 CLECs located in North America; and select Internet service providers."[77]

The pattern of existing switch deployment proves that switch deployment cannot be as difficult as it is claimed by AT&T and other commenters. In our initial (Aron-Harris) affidavit, we analyzed existing switch deployment in Ameritech's territory.[78] We report a condensed version of those findings in Table 2 below, which summarizes the

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continued construction of our cable TV network. Capital expenditures were $3.0 billion in 1998. ... We anticipate capital spending to be about $3.0 billion for 1999."

We continued to modernize the landline communications network throughout 1998. By year end, we served 89% of our customer access lines with digital switching and fiber optics now reach within two miles of 95% of the customers in our region.

76 In the Loop: January 13, 1999", Credit Suisse First Boston, January 1999, p. 40.

77 Kenneth M. Leon, "Telecom Equipment 1999: Outlook and Trends," ABN*Amro, December, 1998, p. 16.

78 See Affidavit of Debra J. Aron and Robert G. Harris, attached to Ameritech's initial comments, May 1999.

switch deployment of all CLECs in Ameritech territory, plus detail on the two largest CLECs, MCI WorldCom and AT&T, and a medium-sized regional CLEC, McLeod.

Table 2
Estimated CLEC Switch Deployment, Capacity and Addressable Market
Ameritech Territory, March 1999

	MCI WorldCom	AT&T	McLeod	All CLECs
Switches Deployed Currently[79]	23	15	13	112
Wire Centers With Collocation[80]	100	96	149	320
Rate Centers Served[81]	175	287	114	392
Distance to Served Rate Center (miles)[82]				
Average	14	27	26	20
Maximum	55	84	75	84
Addressable Switched Access Lines (millions)				
By Deployed Switches[83]	11.6	12.4	9.0	17.4
By Collocated Equipment[84]	6.9	8.0	6.6	14.7
Both Switches and Collocation[85]	6.8	8.0	6.4	14.4
Addressable Switched Access Lines (as a proportion of total Ameritech lines)				
By Deployed Switches	57%	61%	44%	85%
By Collocated Equipment	34%	39%	32%	72%
Both Switches and Collocation	33%	39%	31%	70%

These data show that the CLECs in Ameritech's territory have already achieved a very substantial presence, and have switches and collocation in place that can serve a

79 Local switches with an assignment to a rate center containing at least one Ameritech wire center, as recorded in the March 1999 edition of Telcordia Technologies' (formerly Bellcore) Local Exchange & Routing Guide (LERG), supplemented by data on local switches with end office interconnection arrangements with Ameritech as of March 1999.

80 Count of wire centers with collocation by named company as of March 1999. Last column represents count of wire centers with collocation by at least one CLEC. Derived from internal Ameritech data on collocation locations. Ameritech projects that 1,275 individual collocation arrangements will be place by year end 1999.

81 Total number of rate centers that are "assigned" in LERG to the local switches of the relevant CLECs.

82 Average and maximum aerial distances between the CLEC's switch(es) and the rate centers that are assigned to it in LERG, computed on the basis of the V&H locations recorded in LERG for the switches and the rate centers.

83 Total amount of switched access lines in Ameritech wire centers located in rate centers that have an assignment to at least one of the relevant CLEC's local switches.

84 Total amount of switched access lines in Ameritech wire centers located in rate centers that have at least one collocation arrangement by the relevant CLEC.

85 Total amount of switched access lines in Ameritech wire centers located in rate centers that have both (1) an assignment to at least one of the relevant CLEC's local switches; AND (2) at least one collocation arrangement by the relevant CLEC.

potential market that far exceeds their likely market shares. Applying our previous conservative assumption that CLECs will load their switches with 50,000 lines, we see that the *existing* CLEC switches in the Ameritech region have the potential switch and collocation capacity required to serve (for the purposes of this analysis) a collective market share of about 30% of existing lines,[86] which is a far higher market share than that commonly projected by industry analysts.[87]

CLEC switch deployment continues at a rapid rate. Huber and Leo estimate that CLECs added about 350 local switches in 1998 alone – roughly one a day.[88] At this run rate, CLECs will have switches in place by the end of 1999 that could be loaded to handle a capacity equivalent to 30% of all access lines.[89] It will not be necessary, therefore, for CLECs to place new switches to handle their switching needs over the next several years. They only need to add modular switch capacity as the their market shares increase. It follows that switching capacity does not constrain CLEC entry, and therefore the lack of unbundled local switching cannot constitute impairment.

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86 The potential share of Ameritech access lines that could be served by the existing CLEC switches using a conservative switch loading of 50,000 lines is calculated as (50,000 x 112 ÷ 20,500,000) = 27%.

87 "The data carriers: Initiating coverage of the CLEC industry," Initiating Coverage, *PaineWebber*, July 27, 1998, p. 7, projects that CLECs will serve 35-45 million access lines by 2007, which equates to 21% to 26% of existing U.S. access lines.

88 See Huber and Leo, Figure 1 at I-2.

89 ALTS reports that CLECs had 667 switches by the end of 1998. See ALTS Press Release, The Telecommunications Act of 1996: Progress After Three Years, Jan. 21, 1999. At current deployment rates, this would imply 1,017 local switches by the end of 1999. Using a conservative switch size of 50,000 lines, this results in a capacity equal to 30% of all U.S. access lines. Calculated as (50,000 x 1,017 ÷ 170,000,000) = 30%.

B. Factors Facilitating Switch Deployment

Switch vendors have striven to speed switch deployment times. For example, Huber and Leo report that Lucent has developed "prefab central offices" specifically to reduce installation times for CLECs,[90] that Lucent estimates that "the entire process, from prefab to the deployment of service, takes 40 days,"[91] and that e.spire claims that its typical switch installation takes "'[n]o longer than 28 weeks' from the time a competitive provider places an order with its switch vendor to the time the switch is turned up."[92]

Smaller CLECs are able to deploy switches with equal ease. In Chicago, Corecomm, a relatively new CLEC, reports that it was a able to turn up its Nortel DMS-500 switch, capable of handling local, toll, and data traffic, in 30 weeks from the time of demolition of pre-existing buildings on the site to the powering of the switch.[93]

Equipment manufacturers are a major source of finance to the CLEC industry. Analysts note that "[w]hen Wall Street runs the other way, CLECs increasingly turn to equipment suppliers for funding. Financing deals were becoming more evident in late

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90 See Huber and Leo at I-30, citing Breakaway Strategies, "Prefab COs Speed Market Entry," Insight, Fall-Winter 1998, at 9 (quoting Michael A. Sternberg, president and CEO, KMC Telecom: "Lucent has taken central office technology out of the traditional commercial office space and paced it for transport into four modular, concrete buildings, each measuring 11 feet by 26 feet and weighing 42 tons.").

91 Id.

92 See Huber and Leo at I-30, citing "ACSI Refines Switch Deployment Game Plan," Switching Strategies for C-LECs, Sept. 1997, available online at www.clec.com/latest/switch/switchindex.cfm (quoting Mark Fuller, vice president of switch services management, ACSI).

93 Corecomm reports the following deployment schedule: 6/1/98 - demolition begins; 6/14/98-construction begins; 8/10/98 - DMS 500 delivered; 9/1/98 - MDF installation; 9/10/98 – power systems installation; 12/29/98 – DMS 500 powers up. See "CLEC Host Connection," available on-line at <http://www.megsinet-clec.com/switch/switch.html>.

1998 and are expected to continue this year."[94] The terms are very attractive. For example:

> "[WinStar] CEO Rouhana said in an interview with Dow Jones that the pact [with Lucent] made WinStar "full funded to free cash flow" and that the company now has the financing in place to increase its roll-out to 50 cities in the US and another 50 overseas. [Up to the point of the Lucent pact], we were the only CLEC not to tap vendor financing in any meaningful way."[95]

Vendor financing is now going beyond the capital cost of the switch itself, and often includes financing for the engineering, deployment and testing expenses. In some cases, vendor financing goes further, stretching to cover emergency short-term fund shortfalls. Huber and Leo report that, according to the CEO of Star Telecom, a newer CLEC, "one vendor was offering me 125 percent financing, so every time I needed to make payroll, I bought a switch."[96]

Financing from traditional sources is also amply available:

> "Investors and equipment providers are crawling out of the woodwork to fund start-ups and finance new equipment purchases. During a single week in May, CLECs announced $1.1 billion in new debt and equity offerings."[97]

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94 P. Brown, Telecom Act Turns Three, tele.com., Jan. 25, 1999.

95 Craig Karmin, "Winstar-Lucent Pact: CEO Says Fully Funded to 100 Cities," Dow Jones News Service, 10/22/98.

96 See "Handled Improperly, IPOs Can Hurt, Not Help, CLECs Are Warned," Communications Today, Feb. 20, 1998 (quoting Chris Edgecomb, CEO of Star Telecom), cited in Huber and Leo Report, I-31.

97 John Nitzke, David Goodtree, Mark Goldberg, Brian Schmidt, "Local Loop Up For Grabs," Forrester Research, Vol. 2 No. 12, May, 1998, p. 6.

Although some of the CLECs' claims regarding cost disadvantages in switching may indeed exist, the consensus of the investment community is that ownership of switching assets enhances the viability of CLECs, when the comparative advantages and disadvantages of self-provisioned switching are considered. Financial analysts have concluded that facilities-based CLECs stand to enjoy greater market success than carriers leasing portions of an incumbent's network or reselling incumbent's services:

> "Although many CLECs will ultimately migrate to facilities, we believe it is important to distinguish between companies that have a larger portion of revenues on-net versus off-net (resale). These companies will likely have an easier time managing toward EBITDA breakeven."[98]

> "Considering our outlook on pricing, expectations for market share growth among the CLECs, and the need to offer the highest reliability and customer service possible, we believe the CLECs are best served in the long term by owning local facilities."[99]

When one considers that these comments were made *before* the Commission's wide-ranging unbundling rules were overturned earlier this year, it becomes quite apparent that some elements previously unbundled are clearly not critical to competition. By any definition of the term, a carrier that chooses to build facilities even when an unbundled element is available could not be impaired without access to that element.

We previously showed in Table 1 that AT&T and MCI were willing to pay significant premiums for CLECs like TCG, MFS, and Brooks Fiber relative to their then-current revenues or earnings, compared to established ILECs. This wave of investor

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98 "CLECs: A New Paradigm," Telecommunications Industry Overview, *Morgan Stanley Dean Witter*, July 15, 1998, p. 5.

99 "The data carriers: Initiating coverage of the CLEC industry," Initiating Coverage, *PaineWebber*, July

enthusiasm shows little signs of abating, and demonstrates that CLECs will have little if any difficulty in raising funds to purchase a switch – especially when the financial community looks favorably on investments in new facilities.

One must conclude that the enormous investment in local facilities by CLECs, both through organic investment and acquisitions, must be intended to be profitable. It appears that both AT&T or MCI WorldCom continue to enjoy the faith of the capital markets, and that therefore investors continue to believe that entry in local exchange services using competitive facilities will continue to remain both viable and profitable. Therefore, it is highly unlikely that lack of access to unbundled local switching or the UNE-P will impair the ability of facilities-based CLECs to compete with ILECs.

C. CLECs Are Not At A Net Cost Disadvantage When Providing Switching

We have already shown theoretically that even if a CLEC is at a cost disadvantage, this does not necessarily mean that the competitor is impaired. The analysis of whether CLECs are at some overall disadvantage vis-a-vis ILECs must be conducted empirically, using facts and figures instead of unsubstantiated assertions. We have shown that the evidence from actual market entry indicates that CLECs' competitive offerings are unlikely to be impaired by the lack of unbundled local switching, and that CLEC executives, equipment suppliers, and assumedly rational investors all believe that facilities-based CLECs have promising if not compelling business cases. This can be

27, 1998, p. 22.

seen as a top-down analysis. We now turn to a bottom-up analysis of the claimed yet utterly unsubstantiated "CLEC cost disadvantages."[100]

MCI WorldCom's affiant Mark Bryant attempts to show that "network elements will be very costly for a new entrant relative to the costs experienced by the ILEC."[101] Bryant's analysis is utterly flawed due to two serious errors. First, his fundamental assumption that the CLECs will completely overbuild the ILEC network is "unrealistic" by his own admission.[102] Second, and more pernicious, Bryant recognizes that CLECs do not build the same kind of networks as the ILECs, yet fails to take this into account when estimating relative CLEC and ILEC costs.

Bryant uses the Hatfield model for all the cost analyses in his affidavit. The Hatfield model, however, does not attempt to estimate the *actual* costs that either a CLEC or an ILEC may incur in the development of a telecommunications network. Instead, the Hatfield model attempts to estimate the costs of re-building today's entire telecommunications network from scratch with the most recent technology, yet maintaining the existing locations of equipment.

The pattern of existing ILEC switch deployment is based on old technology, both in switch size and location. Dramatic reductions in transport costs through fiber optic transport and improvements in both digital line carrier and switch technology have

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100 See AT&T Comments at pp. 93-98 for a description of the purported CLEC cost disadvantages that is generally lacking in empirical data.

101 See *Bryant Affidavit* at ¶3, p.2.

102 See *Bryant Affidavit* at ¶32, p.14.

resulted in a change in the trade-off between transport and switching.[103] As a result, CLECs can employ a much more efficient architecture than the ILECs' "inefficient" and "antiquated" architecture.

This flaw skews the comparison in two ways. First, it fails to account for any additional costs that are incurred when developing a network over time. An ILEC network embodies the available technology and serves the demand patterns prevailing at the time it was built. As a result, an ILEC network that is efficiently built over time (that is, a dynamically optimal network) is likely to be less cost-efficient than a replica that would be built now from scratch. Second, a CLEC would not build a network using the same network topography as an ILEC. A CLEC would take advantage of the relative changes in the cost of transport relative to switching, as well as the existing infrastructure of the ILEC and other CLECs, a privilege not available to the ILEC. This Commission in its First Report and Order has recognized this important fact that Bryant ignored.

> "Moreover, [the forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent LEC's current wire center locations] encourages facilities-based competition to the extent that *new entrants, by designing more efficient network configurations, are able to provide the service at a lower cost than the incumbent LEC.*" [emphasis added][104]

As a result, the Bryant cost calculations apparently do not take into account that CLECs, in deploying their networks, are able to take advantage of new remote and digital line carrier technology that allows them to haul line-side traffic long distances and

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103 See Huber and Leo Report at I-23.

104 See FCC First Report and Order in the Implementation of the Local Competition Provisions of the Telecom Act of 1996, August 8, 1996, at ¶685.

concentrate their switching in few centers. As documented by Huber and Leo in their report, AT&T maintains that when used with a digital loop carrier, a single switch can readily serve customers within a 125-mile radius.[105] Bryant fails to incorporate this fact in his analysis, even though his employer, MCI WorldCom, is using switches in Springfield, Mich. to serve Port Huron, Mich., approximately 55 miles away.[106] Likewise, AT&T extends service 84 miles from its Indianapolis, Ind. switch to Fowler, Ind.,[107] and McLeod serves Peoria, Ill., from a switch located 62 miles away in Springfield, Ill..[108] In their UNE Fact Report, Huber and Leo note additional instances of CLECs serving localities using switches as far as 190 miles away.[109]

Because the Hatfield model places switches at each ILEC wire center, it greatly overstates the number of switches that CLECs will install in constructing their own networks. By overstating the number of switches, Bryant understates the number of lines per switch, and therefore, overstates the switching cost. Analysis using HAI 5.0a demonstrates the folly inherent in Bryant's estimates of CLEC switching costs in New

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105 See Huber and Leo Report at I-23.

106 LERG reports that WorldCom serves the Port Huron, Mi. rate center from its Southfield, Mi. local switch (CLLI code SFLDMIQJDS0).

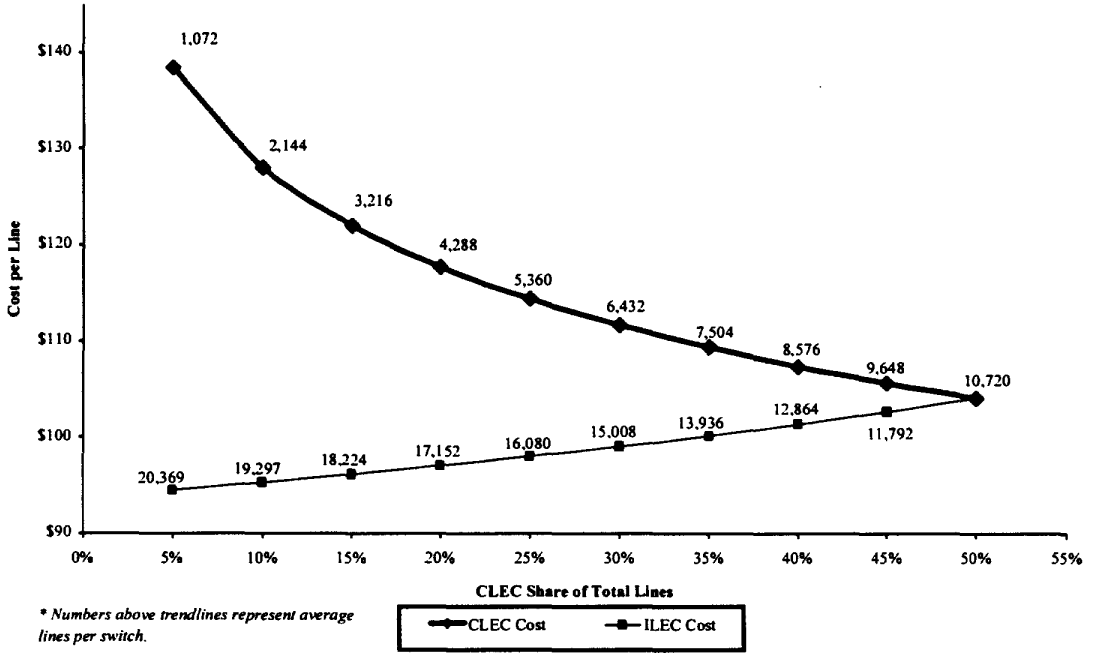
107 LERG reports that AT&T serves the Fowler, In. rate center from its Indianapolis, In. local switch (CLLI code IPLTINMADS1).

108 LERG reports that McLeod serves the Peoria, Il. rate center from its Springfield, Il. local switch (CLLI code SPFDILGIDS0).

109 See Huber and Leo report that "ITC Deltacom uses a switch in Birmingham, Alabama to serve Huntsville (90 miles) and Montgomery (84 miles), and a switch in Columbia, South Carolina to serve Greenville (100 miles) and Charleston, Charlotte, North Carolina (85 miles), and Atlanta, Georgia. (190 miles). Focal Communications uses a switch in downtown Chicago to serve Utica, Illinois (80 miles) and Morocco, Indiana (66 miles)." *UNE Fact Report* at I-23.

York,[110] summarized in Figure 4. Under Bryant's assumptions, a CLEC with 5% of the market would use more than 550 switches to serve about 600,000 lines, with an average switch size of approximately 1,100 lines per switch. This is absurd – even in second-tier metro areas, CLECs with 5% of the market can bring more than 20,000 lines to each switch.

Figure 4
Switching Costs Using HAI 5.0a in New York Telephone Territory
Using Bryant Methodology

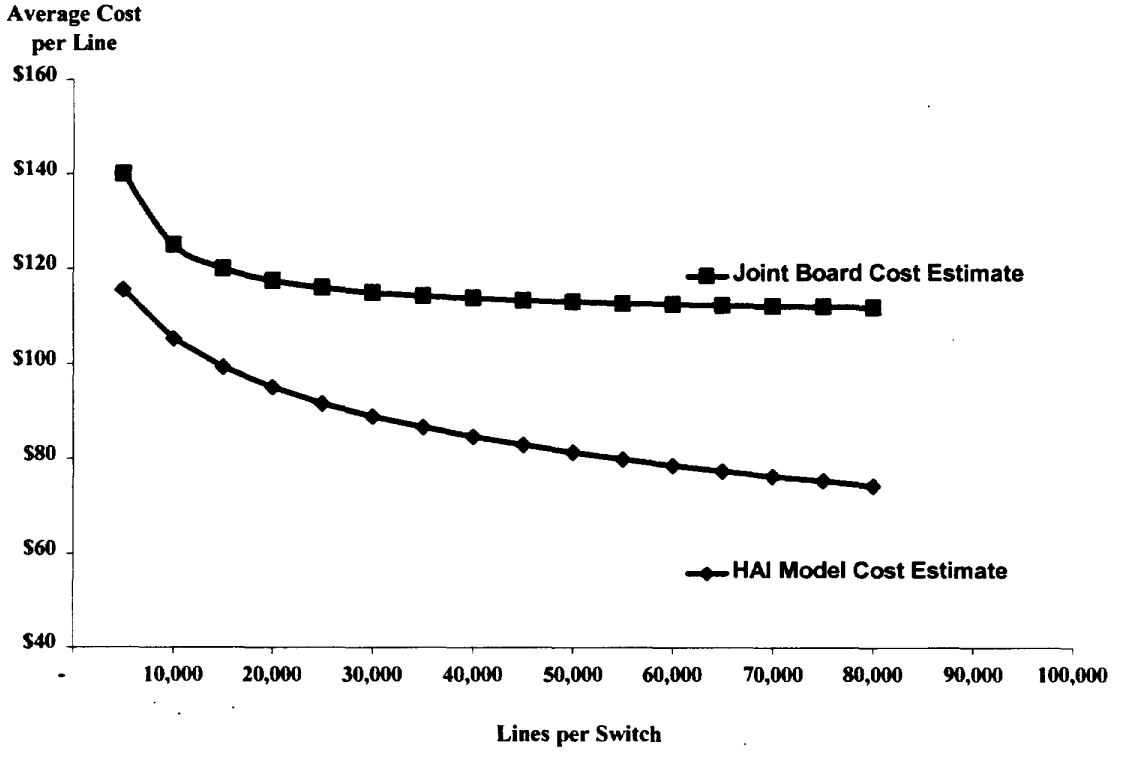


It is clear that in Bryant's switching cost analysis, the purported CLEC disadvantage comes from his assumed deployment of very small switches, with each switch serving an average of less than 12,000 lines, even at 50% market share. This is

110 Bryant cites HAI 5.1 as the basis for his computations. This version of the model is not available from the HAI website (as of June 8, 1999), therefore we used the most recent available version, HAI 5.0a, in our analysis.

implausible; to the contrary, as recognized by AT&T in its submission, and reported by Huber and LEO, CLECs routinely use digital loop carrier (DLC) to concentrate traffic at a few large switches and thus better use their capacity. This ability to concentrate traffic using DLC can rapidly lead to a cost advantage for the CLEC. In Bryant's analysis, the ILEC switch has an average line size of approximately 22,000 lines. From the chart below showing the economies of scale curve in switching, it is clear that any CLEC deploying switches with a line size above 22,000, (say, 30,000), would enjoy a switching cost advantage over the ILEC. Under either the Joint Board or the Hatfield Model's switching cost estimate, it is clear that switching economies of scale are more or less exhausted when a switch size of 50,000 lines is approached.

Figure 5
Economies of Scale in Switching



These twin flaws of (1) the unrealistic assumption that the CLEC would overbuild the entire ILEC network at once, and (2) the false assumption that CLECs would fail to take into account the most cost-effective technology permeate the entire analysis of the Bryant affidavit, and therefore the Commission should not place any reliance on any of its conclusions.

VIII. The Correct Way To Evaluate Impairment - The LECG Model

In our initial (Aron-Harris) affidavit, we demonstrated that impairment should be evaluated in terms of the viability of an efficient carrier's competitive offering with and without the element in question. Even if the Commission were to decide upon another standard, the central question remains how the *actual* cost structure of a CLEC would be affected by access to the proposed UNE or otherwise. This question of fact can be answered by explicitly analyzing the actual cost structure of a CLEC, including a model that builds a network consistent with the entrant's business plans. We draw the Commission's attention to the fact that the LECG model does so explicitly, while the Hatfield model is clearly inappropriate in this context.

A. Assumptions Of The LECG Model

The LECG model, whose conclusions were presented in Dr. Fitzsimmons' previous affidavit, represents an effort to rigorously model the costs and revenue opportunities of a facilities-based CLEC entering Ameritech's middle-tier markets that leases unbundled loops from Ameritech, while self-supplying its transport and switching. The model's design is realistic, as it uses a multiphase facilities-based approach and

contemplates the use of leasing transport (at tariffed rates) to reduce expenses. As documented in the initial Fitzsimmons affidavit, the model shows that under conservative assumptions CLECs can profitably enter and provide competitive local exchange service to both residential and business customers using self-supplied switching and transport in conjunction with unbundled ILEC loops. In fact, such entry is expected to be very profitable, and hence we conclude that in the cases examined by Dr. Fitzsimmons the CLEC cannot be impaired by the lack of access to either unbundled switching or the UNE-P.[111]

The LECG model has been constructed using a number of "conservative" assumptions, meaning that these assumptions tend to overestimate costs and understate revenues, with the result that local exchange entry is likely to be even more profitable than estimated in the model. Some of the conservative assumptions used by Dr. Fitzsimmons include:

- Use of Joint Board estimates for switching costs. Projected CLEC costs would be much lower if the HAI Model estimates were used (see Figure 5 above);
- A market share projection for large CLECs of 12% by year 10, which is substantially below both AT&T's and analysts' projections;[112]

[111] This interpretation is consistent with the Supreme Court's dictum: "An entrant whose anticipated annual profits from the proposed service are reduced from 100% of investment to 99% of investment has perhaps been 'impaired' in its ability to amass earnings, but has not ipso facto been 'impair[ed] . . . in its ability to provide the services it seeks to offer'; and it cannot realistically be said that the network element enabling it to raise its profits to 100% is 'necessary.'" See *AT&T v. Iowa Utilities Bd.*, 97–826, at 22.

[112] AT&T projects a telephony market share of 30% of residential by 2004 in markets it serves. See "AT&T Proposal for the Acquisition of MediaOne," AT&T analyst presentation, April 23, 1999. Merrill Lynch states that "[o]ur forecast of AT&T gaining 16% market share by 2003...is consistent with our long-held view concerning RBOCs and GTE." See Dan Reingold, "Telecom Services – Local," Merrill Lynch, Feb. 1, 1999.

- The CLEC is assumed to obtain only "average" customers, while both experience and common sense indicate that CLECs will target the largest and most profitable customers first;
- CLECs are expected to incur the cost of leasing loops, even in business districts where they have fiber networks and connections to customer locations and in residential areas where CLECs have CATV facilities that can be used to self-supply loops (many CLECs have extensive facilities in place with substantial spare capacity already in place, facilities which were deployed to provide services such as special access, long-distance, and packet-switched data); and
- CLECs are assumed to provide voice-grade local exchange service only, when in reality, CLECs are reaping substantial economies of scale by building networks that can simultaneously carry both local and long-distance, and both voice and high-speed data traffic.

B. Factual Analysis Of Purported CLEC Cost Disadvantages

While it is true that CLECs who combine self-supplied switching and transport need to backhaul this traffic to their switches, it is not an automatic conclusion that this results in a net cost disadvantage. Traffic aggregation enables CLECs to operate switches that are far more cost-efficient than those of ILECs. Recall that the median wire center of the major ILECs serves fewer than 5,000 lines and that 80% of ILEC wire centers serve fewer than 20,000 lines.[113] To the extent that a CLEC can deploy DLC to aggregate traffic and build one large switch instead of many small switches, the costs of the DLC equipment are offset in large part by the switching economies. In a specific case examined by Dr. Fitzsimmons, a CLEC in Indianapolis could successfully compete by using one to two large switches, in competition with the 27 switches used by Ameritech.

As CLECs will initially haul all their local voice traffic to a centrally located switch, generally handing it off to the ILEC for termination, and collect ILEC traffic for

[113] See Huber-Leo Report at Section II, at Figure 1, and Table 2, p.8. These values only include Ameritech, Bell Atlantic, BellSouth, GTE, SBC and US WEST. For the other smaller ILECs, the proportion of wire centers with less than 20,000 lines would certainly be far higher.

termination from an ILEC tandem, they do not need to invest in extensive interoffice transport networks, an investment that ILECs are required to make. As the CLECs do not need to offer collocation to competitors, and their local transport and switching networks are less complex (far fewer nodes) than those of the ILECs, CLECs can make do with less complicated, and thus cheaper, infrastructure and equipment management systems than those of the ILECs.

Commenters are wrong in claiming that the costs of taking unbundled ILEC loops to the CLEC's collocation space "are so high that they preclude a rational CLEC from attempting to enter the local market on a broad, mass market basis using its own switches."[114] First, we have demonstrated that large CLECs (AT&T, MCI WorldCom) and smaller CLECs alike (McLeod, Focal), presumably headed by rational executives and backed by rational investors, have indeed deployed large number of switches and are using them to provide local service across broad geographical areas.[115]

Second, the fact that CLECs have collocated at many ILEC central offices, and continue to collocate at additional offices, indicates that collocation charges cannot be the deterrent that they are claimed to be. The FCC's *Local Competition Report* finds that CLECs had operational collocation arrangements in some 5000 wire centers as of mid-year 1998.[116] Collocation activity is particularly intense in the Ameritech region, where

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114 See AT&T Comments at p.94. Also see MCI WorldCom comments at p. 25.

115 See supra at Table 1.

116 See Local Competition, FCC Industry Analysis Division, December 1988 at 6, hereinafter *Local Competition Report.*

30% of wire centers have collocation.[117] Industry analyst report that Covad, Northpoint, and Rhythms NetConnection collectively had more than 820 collocations installed as of March 1999, and that these three CLECs plan to increase the number of collocations to more than 3,500 by year-end 2000.[118]

Third, the LECG model indicates that CLEC entry using unbundled loops in conjunction with self-supplied loops and transport is expected to be highly profitable. Dr. Fitzsimmons' analysis fully considers both the recurring and non-recurring costs of obtaining collocation and of unbundling loops. We therefore find that collocation costs do not preclude CLECs from entering the local market on a broad basis using their own switches.

Collocation costs and other non-recurring CLEC expenses should not be considered a barrier to entry. MCI WorldCom has previously claimed that "a barrier to entry is properly defined as a cost that new entrants incur that prior entrants did not incur."[119] ILECs have incurred a substantial cost to construct central offices, and incur a cost in connecting new customers' loops to their switches. Additionally, by leasing collocation space, CLECs are avoiding the substantial investment and associated risk in land, buildings and equipment space that ILECs have already incurred, especially given that ILECs like Ameritech are required to act as supplier of last resort to both end users and to the CLECs that are entering the market. In reality, CLECs collocation expenses

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117 See Huber and Leo, *UNE Fact Report*, Table 2, p. II-8.

118 See Jack Grubman, "xDSL: Breaking the Local Loop Bottleneck," Salomon Smith Barney, April 9, 1999, at p.2.

119 See *MCI WorldCom Joint Reply* at p. 71.

are a fraction of the costs already incurred by the incumbents. Collocation charges therefore do not meet MCI WorldCom's definition of barriers to entry.

Rather than representing a roadblock to entry, the ability to lease collocation space as needed with little financial risk from the ILEC is both a strategic and cost advantage, and thus aids entry. These expenditures are legitimate costs of entry that do not impair the CLECs' ability to enter profitably. This is revealed by the fact that the cost of collocation and other "assemblage" charges do not make CLEC business cases unprofitable. CLECs continue to invest in hundreds of new switches and thousands of collocation spaces in wire centers. The LECG model includes all of these expenses, and finds that CLECs' abilities to profitably offer competitive local exchange service are not impaired.

In summary, CLECs have many cost advantages with respect to ILECs. When coupled with their abilities to lease loops, aggregate traffic, and provide local exchange service overlaid on networks to provide access, long-distance and packet services, these cost advantages offset the additional costs that CLECs incur to backhaul the traffic from ILEC central offices. The LECG Entry Model fully considers the costs to a CLEC of combining UNE loops in conjunction with self-supplied transport and switching.[120] The LECG model also accounts for the investment costs associated with CLEC deployment of next generation digital loop carrier (NGDLC) equipment at the ILEC central office

[120] The LECG model includes, *inter alia*, the non-recurring costs for service orders and line connection of a UNE loop. Non-recurring charges are based on state tariffed Ameritech rates (Ohio: $43.90 per line cut-over; Indiana: $47.23 per line cut-over), see *Fitzsimmons Affidavit* at Attachment WLF-3.

associated with equipment.[121] The LECG model shows that CLEC entry using unbundled loops in connection with self-supplied switching and transport is still viable in the locales we have examined, even though it uses "upfront investment costs" which are more conservative (higher) than those cited by AT&T.[122]

We therefore find that lack of access to either the UNE-P or ULS does not impair CLEC expansion. CLEC costs to collocate and backhaul traffic are more than offset by the myriad other market advantages they possess. Our conclusions are consistent with the observed actions of the IXCs, which have expended enormous sums of money to acquire switching capacity by purchasing CLECs with deployed switching capacity. The enormous acquisition premiums paid by IXCs for CLECs indicate that the facilities-based entry model is indeed expected to be highly profitable.

IX. Lack Of UNE-P Will Not Impair Widespread Entry

Access to the UNE-P is no panacea for the extension of competitive local service to residential consumers. At best, access to the UNE-P will reduce costs of CLEC service for higher-usage residential consumers. The claim by CLECs such as AT&T that the UNE-P is needed to provide widespread competitive local service is merely a decoy. In reality, the request for the UNE-P will primarily boost the already-high margin in the provision of competitive local service to high-volume business customers.

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121 The LECG model estimates that CLEC NGDLC investment costs will amount on average to $119 per line served, quite similar to AT&T's estimate of NGDLC costs of $117 per line. See AT&T Comments, p. 97.

122 AT&T claims that "an upfront investment of over $150 per line" which the ILEC does not incur "would put CLECs at a prohibitive cost disadvantage." See AT&T Comments, pp. 92, 97. The LECG model uses slightly higher values.

As many industry analysts recognize, "the real issue regarding local service is the historical treatment of consumer prices versus business prices. Consumer phone service is subsidized by more expense business phone service. This often-overlooked reality is at the root of the problem regarding residential competition."[123] In particular, end-user prices are below even the forward-looking costs of providing that service. Consequently, the wholesale cost of providing competitive service through the UNE-P is often above the cost of providing that service through total service resale. Use of the UNE-P for residential competition is not advantageous for serving lower-volume residential consumers. The availability of UNE-P, therefore, does not materially improve the prospects of residential competition for a large percentage of residential consumers in Ameritech's territory.

This exposes AT&T's claim that UNE-P is needed for CLECs to compete for residential customers as a self-serving sleight of hand. In fact, AT&T's stated objective is to seek the UNE-P to enhance its margins on high-volume consumers, and not the extension of competitive alternatives to residential consumers:

> "We're going to go into a high density, low UNE price zone. We're going to buy all the elements, recombine them to make global service out of the elements, and assume that we're doing this to a consumer that buys $25 of long-distance service and $5 of local toll service per month....Our cost of goods on that [UNE-P] platform is $16.03, slightly *above* the TSR cost. But our revenue is $33.50, [including] the $3.50 subscriber line charge and the $10 dollars worth of access which was otherwise being paid to the local carrier."[124] [emphasis added]

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123 See "Residential CLECs: Consumers on Hold," Yankee Group, November 1998, p. 7.

124 Remarks of John. A. Zeglis, AT&T Investment Community Meeting, Basking Ridge, N.J., March 3, 1997, at p. 5.

Mr. Zeglis's remarks clarify the motive for the UNE-P: instead of lowering the CLEC's costs of service, access to the UNE-P would allow it to fatten its margins on high-volume customers by cream-skimming the access charges and subscriber line charges which are designed to support universal service. By AT&T's own calculations, the 20 million of AT&T's low-volume consumers who spent $7 or less per month[125] would not be offered competitive local service through the UNE-P. Indeed, AT&T is taking action to reduce its competitive offerings to this segment by "stop[ping] retention programs, telemarketing, and checks,"[126] and the imposition of minimum monthly charges.

Industry analysts believe that MCI WorldCom is even less enthusiastic about offering widespread competitive local phone service, their representations to this Commission notwithstanding:

> "MCI WorldCom, by now, is far less dependent on residential customers, and so it has not had to respond to the Bell threat as has AT&T. As MCI discussed its investment plans at the meeting, the focus was not on household telephone service but on Internet and overseas expansion.
>
> "Before acquiring MCI, WorldCom served hardly any residential customers, and none of the top former WorldCom executives seem particularly enthusiastic about consumer markets now. They have that luxury largely because they have UUNet, the No. 1 Internet service provider, which mostly serves businesses and other Internet service providers. ... MCI WorldCom may one day propose a broad plan to offer communications bundles to consumers."[127]

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125 See "AT&T Corp., Analyst Meeting & 4Q: From Honeymoon to Real World," Merrill Lynch, 29 January 1998, at p.3.

126 Id.

127 See Seth Schiesel, "Market Place: Notes on corporate culture and possibilities as MCI WorldCom meets two years after its creation.," *New York Times*, June 7, 1999.

In conclusion, the publicly stated strategies of the two largest CLECs demonstrate that they are not serious about offering widespread local exchange service, especially to the large proportion of residential consumers with low toll usage. Therefore, making the UNE-P available would not improve the prospects for local service competition for these low-volume consumers. Conversely, access to the UNE-P would improve margins on consumers who can already be served profitably by CLECs without the UNE-P. Consequently, lack of access to the UNE-P would not impair CLECs' ability to offer "widespread" competitive local exchange service.

X. Contrary To Opposing Parties' Assertions, Resale Does Represent A Viable Retail Strategy

Some parties argue that resale is not a viable entry strategy in that it does not offer a sufficient margin to compete profitably for local service.[128] These arguments are incorrect for a number of reasons, and are shown to be so by the actions of existing CLECs. First, resale competition is a means by which carriers can offer bundled local, intraLATA, and interLATA services, perhaps bundled with cellular, paging, and Internet services as well. Consumers often prefer that their telecommunications services be provided by one supplier under one bill, all else being equal. This effect is sometimes called the preference for "one-stop-shopping." Numerous customer surveys confirm that business and residential customers desire the ability to purchase most, or all, of their telecommunications services from one provider. MTA-EMCI, a telecommunications

[128] Comments of Qwest Communications Corp., In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, pp. 51-52; Affidavit of C. Michael Pfau, on Behalf of AT&T Corp., In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, p.2.

industry consulting firm, conducted a market research study that indicates that a total of 67% of respondents would purchase two or three services bundled together, even when they derive no pricing advantages from the purchase of bundled services.[129] Only 19% chose unbundled products.[130] A PNR study reports that 87% of small businesses and 72% of consumers surveyed would prefer to purchase all of their telecommunications services from one provider, and the majority of this group would choose their current long distance carrier to be their lone supplier.[131]

The value of resale in this scenario is that it paves the way for bundled offerings without requiring a carrier to make investments in network infrastructure. It is likely that there will be significant demand for bundled products, even if the competitor offers no better customer service or retailing services than does the incumbent, simply because of the demand for one-stop-shopping. Looked at from the provider's perspective, the profitability of a bundling strategy depends on the overall return to the component services and the price that the market will bear for the bundle, and not on the profitability of local resale as a stand-alone service. Hence, even an entrant that is less efficient than Ameritech in retailing can potentially make a profit under the avoided-cost-discount wholesale pricing rule by reselling Ameritech's local service in a bundle of other

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129 "Branding & Bundling Telecommunications Services: Telephony, Video & Internet Access," *MTA-EMCI*, Washington, D.C., MTA-EMCI, August 1996, p. 142. The study assumed that the price of a bundled service offering was simply the sum of the prices of its components. It did not consider discounted pricing on bundle components.

130 "Branding & Bundling Telecommunications Services: Telephony, Video & Internet Access," *MTA-EMCI*, Washington, D.C., MTA-EMCI, August 1996, p. 147.

131 "J.D. Power and Associates Analysis Reveals: Long Distance Carriers Prime for Local and Long Distance Telephone Market Share," *J.D. Power and Associates News & Information Release*, February 27, 1997.

telecommunications services. The reasons are that: 1) a bundled offering may be able to bear a higher retail price in the market than the sum of the stand-alone services (because of the extra value consumers ascribe to one-stop-shopping); 2) there is the potential for profitability from other components of the bundle, such as long distance and vertical features; and 3) when retailing a bundled service, the retailing costs can be shared among all products in the bundle, resulting in economies of scope.

Separate and apart from the use of local service as part of a service bundling strategy, an efficient entrant can make a profit on local resale alone. The fact that Congress established the avoided cost discount approach means it wanted to encourage only efficient resale entry, not inefficient entry or maximal entry. In fact, if an entrant cannot viably enter on the basis of resold local service, it is likely the case that it cannot beat the avoided cost of the incumbent firm. To overcome that inability with excessive unbundling would impose private and social costs associated with unbundling in the name of promoting inefficient entry.

The fact that AT&T decided early last year to withdraw from resale-based competition in certain residential markets, or that any particular carrier has found resale to be unattractive, is not a reflection on the resale strategy but rather is a reflection on those carriers. AT&T has admitted that it has a bloated overhead, and we have already indicated that resale is, by design, a strategy that will only work for efficient carriers. Some carriers are in fact actively providing resale in Ameritech's markets. Data from Illinois emphasize this point. Several companies, such as Frontier, WinStar Communications, Cimco Communications, and One Stop Communications are reselling

local service in Illinois. In fact, as of March 31, 1999, Frontier "expanded its coverage to 32 states plus Washington D.C. for local resale."[132]

The LECG model described in Dr. Fitzsimmons' initial affidavit demonstrates that resale enhances the viability of a facilities-based entry strategy by permitting the CLEC to amass customers in advance of its facilities cutover. Importantly and counterintuitively, the model shows that resale enhances the profitability of the business case *even if the resale itself is a negative profit operation.* Even if the resale is unprofitable, the advantage of having an established customer base sooner rather than later increases the profitability of the facilities build-out; and it increases the profitability by more than the losses incurred with resale. Hence, resale increases the long-run discounted profits of the CLEC by serving as an entry vehicle, which is its role. Indeed, both CLECs and the Commission have recognized this as a benefit of the resale of local service. The Commission stated in its First Report and Order that "resale will be an important entry strategy both in the short term for many new entrants as they build out their own facilities and for small businesses that cannot afford to compete in the local exchange market by purchasing unbundled elements or by building their own networks."[133] Even if it had a positive cost to the entrant, it would be an investment well worth making in order to build a customer base and establish the entrant early on in the

132 Item 2, "Management's Discussion of Results of Operations and Analysis of Financial Condition," Frontier Corporation Form 10-Q, filed at the United States Securities and Exchange Commission, for the quarterly period ending March 31, 1999.

133 First Report and Order, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket Nos. 96-98 and 95-185, August 1996, ¶ 32.

competitive process. Indeed, one industry analyst observed, "CLECs emphasizing a resale strategy have argued – that resale is a good way to build market share fast."[134]

CLECs are no more "entitled" to earn positive profits immediately than is any entrant into any market. It is quite common throughout the economy for entrants not to earn positive cash-flow profits for their first several years; this is not an "impairment" and it does not forestall entry.

The IXCs are attacking resale for the simple strategic reason that they want the same functionality but for a lower price, in the form of the UNE-P. But that is not the purpose of the unbundling requirements, which require that unbundled network elements pass the necessary and impair tests. Resale is often more profitable than UNE-P, particularly for "mass market" (residential) customers. The IXCs' claim that the UNE-P is necessary for mass market entry is deceptive and is not supported by the facts. Importantly, to ignore the tests and allow the platform service to be available on an unbundled basis would be contrary to the purposes of the Act, the Court remand and sound economics. It is just bad public policy.

Finally, we point out that MCI witness Dr. Kwoka correctly argues that the Commission should discount "self-serving claims." We agree whole-heartedly. We point out, however, that Dr. Kwoka is incorrect in his assertion that "the incumbent always has a greater incentive to deter entry than the entrant does to persist in its effort to enter. This follows from the fact that the entrant is protecting monopoly profits..."[135] In

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134 Engerbretson, Joan, "Deciphering Unbundling Data," Telephony, January 14, 1999.

135 Declaration of John E. Kwoka, on Behalf of MCI WorldCom, Inc., In the Matter of Implementation of

fact, as much recent economic research has shown, just the reverse effect may be the case. The incumbent is protecting the *difference* between its "monopoly" profits and the profits it would earn in the oligopoly equilibrium with entry. The entrant is seeking the difference between the oligopoly profits it would earn in the market and the profits it would earn if it stayed out (namely, zero). The latter (the entrant's incentives) may well be greater than the former (the incumbent's incentives). A company such as MCI, for example, stands to earn not only the profits from local service, but the profits from a bundled offering of local, long distance, and other services. That is likely to be a large entry incentive indeed, and could well result in many self-serving claims of impairment by entrants. We encourage the Commission to recognize the self-serving nature of the IXCs' proposed "impair standards."

XI. Conclusions

In our reply affidavit we have focused on two critical points. First, we address how those who urge excessive unbundling both misinterpret the law, to their own benefit, and would have the Commission misapply the necessary and impair tests established by the Act. In recommending these deficient approaches, these parties would not meet the purposes of the Act nor would they satisfy the remand of the Supreme Court. The approach recommended in our initial affidavits would achieve both of these ends and would truly bring about the results that the Commission is seeking.

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the Local Competition Provisions in the Telecommunications Act of 1996 and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Dockets Nos. 96-98 and 95-185, May 1999, p.14.

We also show in this reply affidavit that the unsupported assertions by some parties that switching must be unbundled are wrong and, where any purported evidence is cited, that too is replete with error. The analysis of these parties is not supported by economic theory, does not withstand analytical scrutiny and is clearly inconsistent with factual observations from the marketplace.

We urge the Commission not to be mislead by the vacuous arguments presented by other parties but to adopt an approach to unbundling that will foster the goals of the Act, efficient and effective competition, and will not result in unnecessary and costly actions. We believe that the approach set forth in our initial affidavit will serve the Commission and the public interest. Consequently, we recommend its adoption.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Debra J. Aron

Subscribed and sworn before me this 8th day of June, 1999

OFFICIAL SEAL
PAMELA Y MEANS
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES: 12/16/01

Notary Public

My commission expires: 12.16.01

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

William L. Fitzsimmons

Subscribed and sworn before me this 9th day of June, 1999

Notary Public

My commission expires: Dec 6, 2000

JACQUELINE O'NEILL
Commission # 1119125
Notary Public — California
Alameda County
My Comm. Expires Dec 6, 2000

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Robert G. Harris

Robert G. Harris

Subscribed and sworn before me this 9th day of June, 1999

Jacqueline O'Neill

Notary Public

My commission expires: 12/6/00

JACQUELINE O'NEILL
Commission # 1119125
Notary Public — California
Alameda County
My Comm. Expires Dec 6, 2000