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Putting the Horse before the Cart: *The History and Future of the UNE Platform*

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I. Introduction

The search for an attractive business model in the new telecommunications environment becomes more challenging every day. Prices are declining in virtually all segments of the telecommunications industry, capital expenditure requirements continue unabated in the growth sectors while capital availability withers, and the uncertainty over the viability of existing business models, once thought unshakable, grows daily. With the exception of the Bell monopolists, no company has escaped the harsh reality of the telecommunications revolution. The financial health of the interexchange carriers, the financial champions of competitive telecommunications, is on the decline, with sluggish revenue growth and less than successful ventures into the monopolized local market. The Bell monopolies, which once feared the backlash of the 1996 Telecommunications Act, are experiencing rising profits, strong consumer franchises, sufficient access to capital markets to extend their communications service business and stabilized market shares. For investors, they represent a safe haven.

To the unskilled eye, it appears as if the competition envisioned by the authors of the Telecommunications Act of 1996 for residential and small business markets was not much more than a dream – an unrealized and unrealizable nirvana. In truth, the key to a successful revolution in telecommunications markets has recently become available. This key is the UNE Platform ("UNEP"), and investors have yet to realize its potential for competing carriers to build strong local franchises with which they can compete against the Bell monopoly.

The purpose of this white paper is to provide a brief background of UNEP, to outline the opportunities the platform creates, to show how the economics of the platform will lead to its success amidst myriad failures in the telecommunications industry and to address the ongoing regulatory and legal issues related to the platform's implementation and administration. This analysis provides background and a rationale for the opportunities made possible by UNEP and a clarification as to how competitive carriers that rely on UNEP, such as Z-Tel Technologies, Inc., are considerably different than the traditional competitive local exchange carriers ("CLEC").

II. What is UNEP?

UNEP allows for the purchase of a specific group of unbundled elements from the incumbent local exchange carrier ("ILEC"). These elements include the local loop, a network interface device ("NID") where the local loop terminates at the customer's premise, a switch port that connects the local loop to the ILEC's switch, the switching functionality of the ILEC's switch including unbundled local switching and switch features such as Caller ID and the transport of telephone calls between ILEC switches for local or intraLATA calls or to an interexchange carriers' point-of-presence for interLATA long distance calls.[1] These elements, whether purchased from the ILEC or self-provisioned, are all necessary to provide basic, local exchange telecommunications service, or POTS (plain old telephone service), to a residential or small business customer.

Two other models companies rely on to provide POTS to residential and small business customers are UNE-Loop and Resale. UNE-Loop requires the CLEC to purchase an unbundled local loop and cross connect from the ILEC. The cross connect is a facility that connects the local loop to the CLEC's equipment co-located within the ILEC's central office. The CLEC then self-provisions all switching and transport service or purchases such services from a carrier other than the ILEC (if another carrier is available). Resale is a re-branded ILEC local POTS service. The differences between UNEP and these other two methods of serving residential and small business consumers are discussed further later in the text.

III. Why Is UNEP Needed?

In most sectors of the United States economy, businesses are free to enter and exit at will; only the invisible hand of the market economy governs decisions regarding price and quality. The telecommunications sector is altogether another story. This sector has been marked by pervasive regulation and monopoly since the turn of the 20th Century. A chink in the armor was revealed in 1948, when a

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[1] Verizon describes UNE-Platform as follows: "The UNE voice grade POTS Platform is a combination, with no collocation arrangement required at the serving end office, of an unbundled 2 wire analog loop and an analog line port which provides unbundled local switching at the end office, subject to the limitations noted below. The unbundled local switching is combined with shared transport, which offers routing to other Bell Atlantic central offices, tandems, IXC Point of Presence (POPs), 911 hubs, Bell Atlantic Operator/DA tandems (optional), and Bell Atlantic signaling and STP ports through shared interoffice facilities (http://www.bellatlantic.com/wholesale/html/handbooks/clec/volume_3/c3s2_11.htm).

simple device (the Hush-a-Phone), not much more than a plastic cup attached to a telephone receiver, would set in motion the slow demise of monopoly in the telecommunications industry.

The *Hush-a-Phone Decision* in 1956, the *Above 890 Decision* in 1959, and the *Carterphone Decision* in 1968 eventually would lead to an opening of terminal equipment and private line markets to competition. The first serious blows to the telephone monopoly were delivered.[2] In 1982, the antitrust suit brought against AT&T culminated in to the divestiture of the Bell monopoly. In conjunction with a number of decisions by the FCC, including the ENFIA tariff, the foundation for full-fledged competition in the long distance market was in place. In 1980, a long distance call was considered a luxury good. Today, a conversation lasting a half-hour can be purchased for about the same price as a gallon of gas.[3]

Competitive revolution in the telecommunications industry is driven by two somewhat dependent factors: a) technological innovation and b) economies of scale, and c) the secular increase in demand for telecommunications services.[4] These same influences are responsible for the monopoly in telecommunications markets, and any changes in these conditions could also be responsible for the monopoly's demise. While regulatory and antitrust agencies often play a crucial role in the development of competition, for the most part, the actions of these agencies are responses to the changing economic conditions that test the monopoly paradigm.

New technologies, such as fiber optics, allow carriers to deliver enormous quantities of voice and data traffic at very low costs. Nevertheless, placing fiber

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[2] For a thorough discussion of *Hush-a-Phone* and *Carterphone* decisions, see Gerald W. Brock, *The Telecommunications Industry: The Dynamics of Market Structure* (Harvard University Press 1981), Ch. 9. For a history and compelling analysis of competition and regulation in the telecommunications industry, see Walter G. Bolter et al., *Telecommunications Policy for the 1980's: The Transition to Competition* (Prentice Hall 1984). Also, see Philip L. Cantelon, *The History of MCI: The Early Years* (Heritage Press 1993).

[3] For empirical evidence on the competitiveness of the long distance industry, see, e.g., Michael R. Ward, "Product Substitutability and Competition in Long-Distance Telecommunication," *Economic Inquiry*, Volume 37, Issue 4, pp. 657-677 (1999); George S. Ford, Flow-through and Competition in the IMTS Market, Phoenix Center Policy Paper No. 7 (September 2000), www.phoenix-center.org; R. Carter Hill and T. Randolph Beard, *A Statistical Analysis of the Flow Through of Switched Access Charge Reductions to Residential Long Distance Rates*, Unpublished Manuscript (www.egroupassociates.com), May 1999.

[4] Economies of scale are the consequence of fixed costs, which in the telecommunications industry typically include sunk costs. Sunk costs are those costs that once incurred are irrecoverable.

optic cables in trenches and conduit and deploying the equipment necessary to activate these circuits is expensive. Unless large quantities of traffic can be delivered over the facilities, the economics of fiber optics are weak, even if better than the prior technologies. For long distance carriers who interconnect with the local exchange network at the trunk side of the switch (either end-office or tandem), the traffic already is aggregated for the interexchange carrier so that the economies of scale and density offered by the fiber facilities can be realized. The large customer bases of the largest interexchange carriers and the long distance resellers makes the deployment of capital-intensive long distance network profitable for multiple carriers.

The fiber optic example shows that even when new technologies are cheaper than the old, deploying a telecommunications network is still expensive. If a carrier deploys a network but fails to generate a large customer base or a large quantity of traffic to deliver over that network, the carrier forgoes economies of scale, and, because the margins on service are insufficient to cover the fixed costs of network deployment, moves quickly toward bankruptcy.

One way to achieve economies of scale is to provide service to large businesses. Deploying network facilities to a single location or to a group of proximate locations is relatively inexpensive compared to the cost of deploying network facilities to individual households or small businesses. Furthermore, large businesses generate considerable amounts of voice and data traffic. Thus, recouping the investment required to serve a few businesses that consume considerable amounts of service is much easier than recouping the investment required to serve a broad base of residential and small business consumers, whose consumption relative to facilities costs is relatively low. It is no surprise, therefore, that large businesses are the first to reap the benefits of the new competitive paradigm in local exchange markets.

The capital expenditures required to serve a large-business equivalent number of residential and small business lines are relatively large compared to the investment required to provide telecommunications service to large business customers. There are over 200 million phone lines, almost 100 million of which are lines serving residential customers, spread among 25,000 central offices across the United States. The average residential customer spends about $60 per month on local and long distance telecommunications service, rather than the hundreds and thousands of dollars spent by large businesses each month. When passing the 1996 Telecommunications Act, Congress recognized that no competitive carrier could afford to replicate the facilities of the ILEC for all 25,000 end offices with a revenue expectation of about $60 per month. In fact,

duplicating the loop and switching plant for even a single end office, in nearly every case, is an unprofitable endeavor.

The solution Congress employed to resolve the seemingly poor economics of providing competitive service to residential consumers and small businesses addressed this problem. First, Congress directed the FCC (in the Telecommunications Act of 1996) to determine which parts of the telecommunications network could not be replicated due to technological constraints and considerable economies of scale. Second, the Act FCC directed the FCC to make those elements available to competitive carriers on terms and conditions that ensure symmetry between the incumbent monopolist, who "owns" the facility, and the competitive entrant who uses it. The FCC's effort to produce symmetry culminated in the establishment of the Total Element Long Run Incremental Cost ("TELRIC") standard – the standard with which the price of these elements must comply.

The TELRIC standard allows the CLEC to share the economies of scale available to the incumbent monopolists, at least with respect to the underlying facilities required to provide telephone service. Analogous to the TELRIC standard are the rates charged for carrying long distance traffic of a CLEC that does not own or operate interexchange facilities. A highly competitive market for interexchange facilities allows the CLEC to mimic the costs of the largest interexchange carrier simply by purchasing a large carrier's capacity. Indeed, the TELRIC standard attempts to do for local exchange carriers what competition does for interexchange carriers.

IV. A Brief Regulatory and Legal History of UNEP

In the *First Report and Order* (released August 8, 1996), the FCC declared that CLECs could not only acquire "unbundled" elements at TELRIC rates, but also could acquire such elements in combinations. One such combination consists of a local loop, a switch port, unbundled switching and the transport of calls between switches and to an interexchange carrier point-of-presence. This combination of elements, as noted above, is the UNE Platform. Of course, CLECs cannot provide service without having its own billing and provisioning systems, marketing and customer service efforts and so forth.

Recognizing the threat UNEP posed to the local exchange monopoly, the incumbent Bell monopolists quickly responded with numerous legal challenges to the FCC's *First Report and Order* (*Iowa Utils. Bd. v. FCC*, 120 F.3d 753). In 1997, the 8th Circuit Court of the United States stayed the pricing standard and element

combination portions of the FCC's *First Report and Order* 120 F.3d 800 On appeal, the Supreme Court supported the FCC's authority, but asked the FCC to clarify a number of its rules. *AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366 (1999).* A second legal attack by the incumbent monopolists, again in the 8th Circuit, would challenge the FCC's TELRIC standard and the requirement of ILEC's to provide "new combinations," or combinations of elements that were not already combined.[5] *Iowa Utils. Bd. v. FCC,* 219 F.3d 744 *(18, 2000)*. The 8th Circuit vacated the portions of the FCC's TELRIC standard and its requirement to provide "new combinations." A Supreme Court ruling on the 8th Circuit's decision is expected this term.

With many of the regulatory rules for UNEP tied up in Court battles, some parts of the CLEC industry focused almost exclusively on serving large business customers and providing services unscathed by the legal attacks on the FCC's pro-competitive rulings. There was little, if any, residential competition through 1998 and a MCI-Worldcom study, cited in the FCC's *Third Report and Order*, reported that none was likely unless UNEP was implemented. UNE-Loop and Resale were available for CLECs wanting to service the residential and small business consumer, but neither method of entry offered a compelling business case. Perhaps most critical to the failure of the Resale model is that for companies such as Z-Tel, whose business plan involves the deployment of advanced, intelligent services to the public switched telephone network, Resale offered no technical integration point.

The pro-competitive leanings of a few state regulatory commissions, armed with the "carrot" of Section 271 of the Telecommunications Act and their own state laws, would bring UNEP out of its litigation-induced coma. In early 1998, Bell Atlantic reached an agreement with the New York Public Service Commission ("NYPSC") to offer the first commercially available UNEP service at attractive rates. In return, the NYPSC would support Bell Atlantic's 271 application to the FCC. Other states followed shortly thereafter. Southwestern Bell would begin to offer UNEP at attractive rates and apply for 271 relief with the FCC in April of 2000. In short order, hundreds of thousands of residential and small business consumers, in those two states alone, would be purchasing the services of CLECs

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[5] The interpretation of "new combinations" varies. Some ILECs interpret a new POTS line, say for a newly built home, as being a "new combination." Other parties, including the 9th Circuit Court, in *U S WEST Communications, Inc. v. MFS Intelenet, Inc.* (*193* F.3d 112, 1121 (1999)), disagrees and defines "new" as "ordinarily combined."

provided using UNEP. Competition, in a few markets, was becoming a reality for all consumers.[6]

With the successes in New York and Texas, where hundreds of thousands of customers are provided competitive telephone service over UNEP, the pace of state action on UNEP, and competitive matters in general, has increased substantially, allowing Z-Tel to add a number of states to its service-area portfolio. Z-Tel currently operates in over 17 states and hopes to continue to expand its service-area portfolio.

V. UNEP and its Alternatives

UNEP is but one method of entry into the residential and small business telecommunications market. UNEP is also the only method that makes financial sense today. The differences between UNEP and these alternative methods of entry are discussed in this section.

1. RESALE

UNEP is often confused with Resale and is sometimes described as "Resale at a bigger discount." This pejorative association of UNEP with Resale is the invention of the ILECs in an effort to stifle the development of UNEP, which has long been recognized as the best hope for competition for residential consumers and small businesses in the local exchange market.

UNEP vastly differs from Resale. First, the cost standards used to establish the Resale discount and UNE rates are radically different. Resale is a top down approach with discounts taken from Bell retail price lists. The discounts are

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[6] UNEP can be used to provide service to residential consumers and small businesses with fewer than four access lines inside the Top 50 MSAs. For business customers outside of these largest 50 MSAs, there is no restriction on UNEP. This restriction for the top 50 MSAs is set forth in the FCC's *UNE Remand Order*: "Notwithstanding the incumbent LEC's general duty to unbundle local circuit switching, an incumbent LEC shall not be required to unbundle local circuit switching for requesting telecommunications carriers when the requesting telecommunications carrier serves end-users with four or more voice grade (DS0) equivalent or more lines, provided that the incumbent LEC provides nondiscriminatory access to combinations of unbundled loops and transport (also known as the "Enhanced Extended Link") throughout Density Zone 1, and the incumbent LEC's local circuit switches are located in: (i) The top 50 Metropolitan Statistical Areas as set forth in Appendix B of the *Third Report and Order and Fourth Further Notice of Proposed Rulemaking* in CC Docket No. 96-98, and (ii) In Density Zone 1, as defined in § 69.123 of this chapter on January 1, 1999." *49 CFR § 51.319(c)(2)*.

intended to remove from retail rates those costs that are avoided by the ILEC when it does not provide the "retail" service. Conversely, the cost standard for UNEP is TELRIC. The purpose of the TELRIC standard is to mimic the rates that would occur if a competitive market existed for local exchange facilities.

Second, Resale does not allow for the integration of outside technologies with the existing public switched network. Resale is nothing more than a billing arrangement between the reseller and the ILEC. UNEP, in contrast, offers the competing carrier the ability to configure services in the most economical fashion and integrate its own network intelligence into the public switched network of the ILEC. UNEP is the "smart" build for the residential communications market. UNEP allows the carrier to create special services through the programming of the carrier's switching facilities. The ability to integrate new services into POTS allows Z-Tel to offer advanced communications services by intercepting certain types of traffic and redirecting it to Z-Tel's "smart nodes" for processing, thus differentiating its service.

Third, facilities-based competition, which is typically viewed as being more "real" than competition based on unbundled elements or Resale, is considerably less likely to occur absent UNEP. Clearly, the expectation of a total duplication of the ILEC's network is unrealistic. If a CLEC begins as a reseller, but decides that it prefers to self provision some element of the network (e.g., voice mail), then that CLEC must migrate immediately to UNE-Loop and provision all elements of the network except for the loop. Without UNEP, there can be no middle ground with respect to network deployment. This point is decidedly relevant for Z-Tel, a company that self-provisions a number of enhanced features including voicemail.

Fourth, if UNEP was just "Resale at a bigger discount," then we should observe no Resale at all. Yet, we do.[7] No rational businessman would accept the insignificant discounts and exclusions on access revenue if the UNEP alternative were identical in all respects except for costs.

2. UNE-Loop

With UNE-Loop, the CLEC purchases from the ILEC an unbundled local loop and cross connect. All other services, including switching and transport, are self-

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[7] In December 2000, the FCC released the *Trends in Telephone Service* report that showed resale was used twice as much as unbundled elements (about 5.7 million to 3 million lines (http://www.fcc.gov/Bureaus/Common_Carrier/News_Releases/2000/nrcc0063.txt).

provisioned. The capital costs required to self-provision these elements of basic telephone service are considerable. An MCI-Worldom study showed that a breakeven point of approximately 5,000 lines per end office was required to justify the requisite investment by a UNE-Loop CLEC to service residential subscribers (even high density end offices service about 37,500 lines on average).[8] For a single CLEC to achieve an average penetration rate of 15% in an end-office is unlikely. The fact that this penetration rate was required just to break even shows why UNE-Loop is not a sensible entry strategy. UNEP, as the FCC recognized, was essential to the development of competition in the residential and small business market.

One important disadvantage of UNE-Loop relative to UNEP involves marketing efficiencies. There is no question that economies of scale are extremely relevant for network deployment, but often ignored are the economies of scale present in advertising and marketing efforts. UNEP, unlike UNE-Loop, allows for direct marketing across service areas or states without special regard to end office deployments. Furthermore, the potential customer base for UNEP is considerably larger, per dollar of investment, than for UNE-Loop. For consumer applications, this is a critical distinction between UNE-Loop and UNEP.

The experience in the long distance industry illustrates clearly the intensity of advertising and marketing required to compete successfully in telecommunications markets. If such expenditures are restricted to those households served by wire centers in which the CLEC has deployed facilities, achieving economies of scale will be difficult and the financing of facilities and marketing efforts will impede the success of the CLEC. The history of competition in the long distance industry also affirms the importance of UNEP in the process of network deployment. Through Resale arrangements with AT&T and ordered by the FCC, MCI appeared to consumers to operate a ubiquitous network. As the traffic carried by MCI increased, the economics of deploying its own network became favorable. Notably, MCI did not adopt a "build it and they will come" business plan. If the company had done so, it likely would have exhausted its capital before reaching an adequate scale of operation. Rather, MCI acquired a customer base and the requisite traffic sufficient to warrant the deployment of facilities.[9] This exact problem, the inability to fund operations until the scale of operation is sufficient to generate adequate cash flow, is the cancer killing a significant part of the CLEC industry.

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[8] See the *Third Report and Order* (Docket No. 96-98, November 5, 1999), ¶263.

[9] In contrast, the incumbent monopolist AT&T was given decades of monopoly to justify its facilities deployment.

The unfavorable economics of UNE-Loop does not imply the long-term absence of facilities based competition in residential and small business markets. Indeed, even today, some UNEP CLECs, such as Z-Tel, already deploy facilities. While the economics of widespread facilities deployment is unfavorable today, UNEP, to a large extent, is an entry strategy. Eventually, the increasing size of the CLEC customer base will alter favorably the economics of facilities deployment. Even if a single CLEC cannot achieve a scale of operation sufficient to justify facilities deployment, the aggregate of many small CLECs may justify the entrant of one or more facilities-based carriers that will serve as a "carriers' carrier" for the local market. This sequence of customer acquisition to facilities deployment was and is observed in the long distance industry. There is good reason to suspect a similar sequence in the local market. If CLECs can acquire 30-40% of the residential and small business local exchange market, and therefore migrate a large part of the market to alternative facilities quickly, the economics of facilities-based entry are significantly improved. In other words, the UNEP CLECs put the horse before the cart and man the field before the 'field of dreams' is built.

As an example, consider Z-Tel's experience in New York. There are 169 end offices in the New York City metropolitan and surrounding areas (LATA 132). Despite being the densest market in the United States, only 40 end offices located in business districts had CLEC equipment installed by the end of 1999 and there was little if any residential competition. Z-Tel entered the New York City market late in the 3rd quarter of 1999 and has now obtained over 100,000 paying customers generating almost $100 million in annualized revenue and $40 million in "store" profits. In New York, Z-Tel currently services more than 1,000 customers in each of over 30 end offices. At these penetration levels, facilities deployment becomes a meaningful consideration. The ability to migrate quickly an existing customer base to facilities reduces substantially the risk of facility deployment.

VI. The Fallacy of Margins

When large capital investments are made, achieving economies of scale requires a CLEC to sell large quantities of service. While facilities deployment may reduce the marginal cost of service, the margin of revenue over marginal cost must be sufficient to cover the fixed costs of network deployment. Thus, a simple comparison of margins between facilities-based and UNEP CLECs is misleading. The margins on a bundled service offering, such as Z-Tel's Home Edition Service, are approximately 39% per customer (on average). Facilities-based carriers may realize margins in the 60% range. However, a UNEP carrier does not bear the burden of enormous capital expenditures, unused network facilities, or limited

market accessibility as do facilities-based carriers. Thus, while the incremental profitability of a facilities-based carrier may be higher, the margins are realized on customers drawn from a limited potential market and are dissipated quickly by the heavy burden of the required capital expenditures.

A simple numerical example illustrates the point. Assume a facilities-based CLEC, called CLEC A, spends $10,000 to deploy network and $1,000 to acquire customers. The marginal cost for this CLEC is $1 per unit. Alternately, CLEC B uses unbundled elements to provide the same service as CLEC A at a marginal cost of $2 and spends the same $1,000 to acquire customers. Assume the retail price of the service sold by both CLEC A and B, as well as the ILEC, is $3. The margin for CLEC A is 66% (= 2/3) and for CLEC B is 33% (= 1/3). Does this imply that facilities deployment is a better business decision? It depends. CLEC A needs to acquire 5,500 customers just to break even, while CLEC B needs to acquire only 1,000 customers. In other words, CLEC A needs to acquire customers at a rate 550% greater than CLEC B to reach profitability. If we include the fact that the potential market for CLEC A will be restricted to areas where facilities have been deployed, the expected success of CLEC A looks even more dismal relative to CLEC B. As observed in the "real world" of CLECs, CLEC A will likely have to borrow another $1,000, at least, to acquire more customers in an effort to reach the break even level of service. Of course, by borrowing the additional $1,000 (or $2,000, $3,000, or more), CLEC A digs an even deeper hole for itself. Eventually, the money will dry up and CLEC A has a few thousand customers, nice facilities, and debts it cannot repay. In the current financial climate, where short-term profitability is king, this timing of returns is unmatched in importance.

VII. The Complexities of Market Entry

For all CLECs, initial market entry is rich on challenges, including provisioning, customer support, and regulatory requirements. Calling areas, multiple calling plans, ISP access numbers, and the explosion in area codes requires a substantial investment in customer support activities and market research. In some cases, customers may be lost because the unique character and peculiarities of each market were not fully understood prior to entry.

For most CLECs, customer acquisition is based on direct marketing, such as telemarketing or direct mail. When a customer is acquired, the CLEC must then send a request to the ILEC to authorize and initiate a line migration. This process is unique to each state and the systems in place to handle such migrations are

neither totally mature nor fully documented. The timing of customer transfers is a continuing issue.

VIII. Open Questions about UNEP

There are a number of open questions about the present and future of UNEP, from the adoption of UNEP by incumbent carriers such as AT&T and MCI-WorldCom to the regulatory and legal foundations of this efficient method of entry into the local exchange. Divergent views about UNEP within the CLEC community itself serves to confuse the matter further. Some of these open issues are covered briefly below.

1. THE LEGALITY OF TELRIC

Investors took note last year when the 8th Circuit agreed with the ILECs that the use of TELRIC pricing by the FCC was overreaching and required an alternative approach. The Supreme Court has granted *certiorari* to the appeal and the Court is expected to rule sometime this term.

While the 8th Circuit's decision is often interpreted as a rejection of the TELRIC standard, in truth, only particular elements of the pricing standard are under question. In particular, while the Court did not reject the "forward looking" element of the cost standard (perhaps the most important of element of TELRIC), the Court did state that "forward looking" did not imply that rates should be based on hypothetical network architectures. This very issue is debated in every state proceeding where rates are determined and the "hypothetical network" argument, at least in its extreme form, nearly always is rejected. In addition, there is good reason to believe that the 8th Circuit's decision does not restrict a state commission from using the TELRIC standard if it chooses to do so. Thus, it is unclear whether or not the 8th Circuit's decision will have any meaningful impact on UNE rates.

Even in the unlikely case that an embedded cost standard was established, it is not clear that embedded costs would be any higher than forward looking costs. The treatment of depreciation of the ILECs' plant would be key to the determination of the relative costs of an embedded versus a forward-looking cost standard. Further, the 8th Circuit decision is interpreted by some to imply that UNE rates should be based on a pure incremental cost standard, rather than a

total element cost standard.[10] If this interpretation is valid, then UNE rates will decline substantially since incremental cost, which does not include the fixed costs of providing an element, is always below average incremental cost (which is what a TELRIC model computes).

2. THE FCC AND STATE COMMISSIONS

There has been active discussion as to whether the UNEP offering could be expanded to small and mid-size business that have more than three lines and are located in the top 50 MSA's. Given the recent administration change at the FCC, it is unclear whether or not the availability of UNEP in the small and mid-size business market will be expanded. Additionally, there may be reluctance by the FCC to continue to mandate third party oversight of the provisioning process and instead require the participants to negotiate directly or escalate complaints to the state commissions earlier in the process. In the present and future, it appears as if most of the action with respect to competition will occur at the state level, with service level agreements, performance monitoring, recurring and non-recurring charges, and operational issues taking the lead.

IX. Z-Tel: Driving to Free Cash Flow

Investors increasingly view the ability of CLECs, indeed all firms, to attain free-cash flow within a reasonable time frame as an important investment yardstick. While this focus is peculiar in an industry where sizable capital costs typically are required, Z-Tel's financial situation is untainted by the present short-term focus of investors. Z-Tel expects to achieve breakeven results on a monthly basis during 2001 and to report positive EBITDA thereafter.

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[10] The Court stated: "The new entrant competitor, in effect, piggybacks on the ILEC's existing facilities and equipment. It is the cost to the ILEC of providing that ride on those facilities that the statute permits the ILEC to recoup (8th Circuit Decision, p. 8)." This statement can be interpreted easily in terms of a pure incremental cost standard. The difference between a purely incremental cost and TELRIC standard is as follows. Let F be the fixed overhead of the ILEC unrelated to the provision of any specific element, f is the fixed cost related to the relevant element, c is the marginal cost of the element, and q is the (forecast) quantity of the element. For the incremental cost standard, the price of the element is c. Under the TELRIC standard, the price of the element is $c + f/q + xF$, where x is some percentage allocation factor of the fixed overhead F to each element.

Other points of interest about Z-Tel include:

Geography as an Important Intellectual Property Asset: Now that Z-Tel has fully opened a large percentage of the country and established core service sets in each state, the opportunity arises to develop service configurations (we believe City of America is just one) that successfully address large market segments. In terms of addressable market, Z-Tel is now the largest local phone company.

Provisioning May Not be a Limiting Constraint: In 2000, Z-Tel, with the help of Accenture, built internal systems and developed electronic bonding capabilities to facilitate the transfer of customers from the ILEC to Z-Tel. Developing these systems was a labor-intensive process. While investors are familiar with the successes of electronic bonding initiatives with Allegiance and other facilities-based carriers, the availability of UNEP electronic bonding has been very limited. Z-Tel is reporting productivity improvements of more than 200% using electronic bonding, with much faster transfer times (e.g., the next business day in California) and improved accuracy. These system improvements may allow for multiple service configurations and lower acquisition costs, as well as facilitate higher volumes.

Network Based Voice Recognition: Z-Tel's use of voice recognition, when layered upon its core intellectual property (address book, inbox, communities, real time communications, integrated communications), creates a unique user experience that truly simplifies communications while providing services unmatched by any competitor. While other carriers may offer selected voice recognition modules, Z-Tel expects to be the only carrier that allows a user to pick up his or her home phone and say "Call Mom", or "What's the weather in Boston?". New voice recognition services such as *TellMe* and *BeVocal* indicate the expectations of investors about voice recognition on a dial around basis. Z-Tel feels that voice recognition technology is even more compelling when matched with the convenience of your local phone service.

Development of New Subscriber Income Opportunities: Z-Tel's rapidly expanding subscriber base and the Z-Tel technology platform allow for innovative service offerings including financial services, insurance, "instant connections" to local merchants, and other fee income opportunities to be developed by Z-Tel. Not only can such additions further differentiate a Z-Line from a phone line but they it also offers new fee income opportunities for Z-Tel.

Small Business: While not certain, the UNEP regulatory model is expected to be extended by the FCC to encourage more competition in the small business area. The falling price of T-1 circuits and the expansion of DSL availability also

provide other access strategies for potential expansion. Z-Tel expects its wide geographic footprint and expanded services portfolio to be particularly attractive to distributed enterprises.

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This document contains forward-looking statements that are based upon current expectations and involve a number of risks and uncertainties. In order for Z-Tel to utilize the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, you are hereby cautioned, and Z-Tel hereby notes, that these statements may be affected by the risk that favorable growth and financial trends may not continue, the risk that the Company will be unable to efficiently and successfully enter new markets, the risk that the Company's existing financing will not be sufficient to fund anticipated growth and that additional financing may not be available on favorable terms or at all, the risk that further state expansion may not be achieved, the risk that the Company's electronic bonding (EDI) initiative will not be successfully implemented in the expected time frame or at all, the risk that the Company will not be able to obtain the expected increases in activation speed, accuracy, efficiencies and economies of scale, customer satisfaction levels, leverage, cash flow, and scalability, and the expected decreases in its churn rate, costs and other expenses, from the implementation of its EDI initiative, the risk that the Company's City of America™ program will not be implemented in intended service areas in the time frame expected or at all, the risk that the enhanced services and other services described herein, including speech recognition technology, under development by the Company will not be implemented in the time frame expected or at all, the risk that actual financial and subscriber results for the Fourth Quarter of 2000, which are preliminary and subject to audit, as well as the Company's guidance regarding future financial results, will be different from that anticipated, and the risk that the Company's future results may be affected by the same or similar factors that caused a negative impact in the Fourth Quarter of 2000, as well as the risk factors described in detail in Z-Tel's 1999 Annual Report on Form 10-K, filed March 28, 2000; and in Z-Tel's other filings with the Securities and Exchange Commission. Z-Tel undertakes no obligation to update or revise any such forward-looking statements.

Factor	UNEP Model	Business CLEC	Comments
Coverage	Can sell to any residential account and businesses* with three lines or less in service	Any potential customer but most often business customers	A UNEP provider can sell in end office locations without installing equipment of any kind, unlike business CLECs that generally must first install equipment in end offices
Cost to Open New Markets	Filing of tariff, pricing plans, and approval by PSC required	Same as Z-Tel but must also install equipment in end offices and arrange for extensive fixed price network facilities	A UNEP provider's costs are absorbed into its general and administrative costs
Marketing Approaches	Direct response models ranging from $20 to $150 per customer	Professional Sales organization	Quick recapture of upfront expenditures by UNEP provider
Revenues	$60 or more per average subscriber per month	Absent reciprocal compensation, business usage of local and long distance services not substantially higher per line or actually even lower	Consumer long distance is a difficult business not only due to margins but mostly due to low per subscriber revenues ($14 per month is often cited as an industry average)
Sales Growth	UNEP business model highly scalable for sales growth	Many CLECs are scaling back market sizes, focusing on dropping cash burn.	No real physical limitation to sales growth
Gross Margin	35 to 45% of revenues	Can approach 70% but sharply higher interest costs, depreciation, and principal repayment makes free cash flow a multi-year effort	UNEP carriers have no unused network capacity so gross margin is really a network operating margin after depreciation and amortization
Capital Expenditures	Focused on support systems, intellectual property	Industry experts often cite $2,000 or more per line installed	Economics similar to a transaction based business with strong margins after hitting breakeven point
EBITDA Expansion	Requires leveraging of sales, general, and administrative costs	Same	UNEP provider's EBITDA, however, is almost equal to free cash flow
Competition	Real barriers to entry are intangibles, support systems, and intellectual property but attractive price points and margins allow for attack brand strategy	Capital adequacy, data strategies, availability of reciprocal compensation, and sales force efficiency are top concerns of most CLECs	Bell companies estimate that they will lose 25% market share in the consumer space within the next three years. MCI WorldCom and to a lesser extent AT&T focus on UNEP strategies; however, Z-Tel as a pure play