

calling zones. Those zones bear no direct relationship to traditional wireline local calling areas. We can expect new LSCs to do the same, seeking competitive advantage through how they design their "local exchange" product.

Ultimately, the problem becomes one of how "local exchange service" is to be defined. Yet the conventional view generally does not even recognize this as an issue. Perhaps that is because the issue is so complicated and raises so many difficult implications. Admittedly, there generally is a common understanding of the concept in a monopoly world -- a concept based around the zone in which the LEC chooses (with regulatory approval) to offer non-usage-sensitive service rather than per-call toll. ^{13/} But in a competitive world, it becomes far less clear where such lines will be drawn, and how much involvement regulators will retain in that process. As the next section demonstrates, it will become increasingly important to wrestle with these issues.

II. Reconciliation as a Potential Consequence of Local Exchange Competition

The preceding section demonstrates that the conventional view of local competition is flawed in two major respects: That view ignores the fact that (a) new entrants will focus on end user customers rather than IXCs, and (b) those new entrants are not required to respect traditional market definitions. As a result, the conventional view's assumption that local competition will simply increase existing supply diversity is also flawed. It is more likely that local competition could lead to reconcentration of the telecommunications marketplace, at least absent adequate market safeguards.

The "Multi-Bottleneck" Dilemma

It is generally assumed that local competition will eliminate the local exchange bottleneck of the LECs. However, the reality is that exchange competition simply substitutes a "multi-bottleneck" for the "single bottleneck" of today. Indeed, local competition is unlikely to substantially reduce access rates for IXCs at all ^{14/}.

^{13/} Most of the "common understanding" of the exchange concept today arises because these boundaries were inherited from prior generations of regulators and LEC managements. These boundaries, of course, are as vulnerable to contemporary challenge as any new boundary proposed in a competitive world. The inconsistencies between the MFJ's concept of "exchange" (i.e., local and intraLATA toll) and the traditional concept of "local exchange service" are a demonstration of the complexities to come in defining the responsibilities of carriers in a world of local "exchange" competition.

^{14/} We are not overlooking the opportunity for IXCs to avoid interoffice LEC transport through substitution of their own dedicated circuits or those of another vendor. But as we have shown, such circuits are a relatively small element of overall local network revenues. Again, we estimate that roughly 90% of RBOC switched access revenues depend upon control of the subscriber's loop.

This fact arises because local competition does not create any competitive pressure to bring down access prices. Exchange competition only means that end user customers in some locations now will have a choice as to who will be their local loop provider: the traditional LEC, a cable company, or perhaps some other vendor. But long distance and information services companies who need access to a customer's loop still will face a bottleneck. They still will have to deal with the LSC selected by the customer -- whoever that LSC may be, and recognizing that a customer may switch LSCs from time to time. They will require access to a specific customer loop in order to sell services to that customer. And they will require access to all customer loops in order to terminate a customer's communications anywhere in the "exchange" area.

This multi-bottleneck dilemma creates an entirely new and more complicated set of competitive problems than exists today. In the traditional "single bottleneck" world regulation focused almost entirely on the price that the monopoly LEC charged others for the use of its network. Regulation became more difficult as long distance competition began, because then LECs had an incentive to use their bottlenecks in an anticompetitive fashion. In fact, the problem became so serious that the radical step of divestiture was necessary in order for long distance competition to take root.

The multi-bottleneck dilemma exacerbates this problem for two reasons. First, and most obviously, long distance companies and other service vendors now will face potentially unreasonable prices from several bottleneck LSCs rather than just one. Regulators will be expected to ensure that the toll to the information highway is not set at excessive levels, no matter who the LSC gatekeeper may be for a given customer location. Again, local exchange competition itself does not create meaningful competitive pressure to bring down the access costs of IXCs. Once a LSC has sold a customer a local loop (in competition with any other LSC), it can then exploit the loop against third parties who require access to it. 15/

Second, the multi-bottleneck also complicates discrimination issues that already have been so difficult to address in a monopoly world. For example, one of the most important -- but least-recognized -- benefits of fiber optic technology is its ability to spur large increases in supplier diversity. The national "information highway" is a shared resource carrying the traffic of all users together; all users collectively contribute to total economies of scale. Furthermore, the incremental cost to increase capacity is trivial. These facts mean that both small users and large ones impose substantially the same costs on the network. The liberating consequence for diversity would be that the

15/ As a related matter, we note that the multi-bottleneck will create new administrative costs for long distance companies and others who now will have to have separate interconnection and billing arrangements with every LSC. We assume that new clearinghouses will develop to address this problem, as well as such issues as network reconfiguration when a customer changes LSCs.

network, properly priced, should be more available than ever to small entrepreneurs who want to offer new services in competition with the telecom giants of today.

In a monopoly environment LECs had no particular reason to discriminate in favor of large users (such as AT&T), so they were more likely to recover common network costs equally from all network users. In a fiber optic world, those common costs are a much larger percentage of total LEC cost than in the past. With "competitive" entry, however, LECs have sought pricing flexibility so that they can impose a lower proportion of those costs on those carrier customers in the best position to avoid them. As a result, the largest users such as AT&T (but not smaller users) have been able to obtain access rates closer to incremental cost.

This discrimination problem will increase in a world of full exchange competition. Yet the implications for diversity and customer choice are disturbing if LSCs (whether LECs or cable companies or new entrants) tend to charge large incumbent customers a lower fee to use the shared resource of the information highway than others.

The "Full Service" Dilemma

Discrimination issues will take on an even more serious cast because of the erosion of the line between exchange services and long distance (and information) products. Here it is critical to note that the term "local service carrier" is in many ways a misnomer -- even leaving aside the problem of defining local service that is discussed above. In the future we expect LSCs to offer a full range of bundled products in competition with stand-alone long distance companies and information service providers. As a result, those LSCs will have a strong incentive to favor themselves, and use their bottleneck control in an anticompetitive fashion.

We fully recognize that today the MFJ imposes limits on the ability of the RBOCs to offer interLATA services. We also recognize that LEC bundling and related discrimination may be constrained somewhat by other regulatory rules. ^{16/} Of course, the effectiveness of such rules is a matter of great debate. Our major point here, however, is that these rules never were intended to provide a coherent framework of protection to long distance and information vendors in the context of local exchange competition.

^{16/} For example, LEC discrimination could be limited by relevant equal access rules, the FCC's ONA and "comparably efficient interconnection rules" applicable when LECs offer information services in competition with those of other companies, and the FCC's rules limiting LEC bundling of telecommunications services and equipment. Other relevant regulatory provisions include the FCC's "video dialtone" rules governing LEC provision of television, and access rules applicable to cable television operators. A discussion of the relative effectiveness of these rules would go far beyond the scope of this paper.

In particular, most of these rules would not apply to the new LSC entrants. Assuming that the MFJ restrictions will remain in place for at least several years, discrimination by new LSCs in favor of themselves may be the most imminent market problem. This trend can reasonably be derived from the factors noted above. We have demonstrated that for local competition to succeed, it must establish itself with the end user. To attract subscribers, we expect new LSCs to offer a full range of bundled products, thereby exploiting the weaknesses of incumbent LECs and IXCs. ^{17/} Perhaps just as importantly, the subscriber's selection of a local telephone company is likely to be a more difficult decision than selection of a toll carrier. ^{18/} If so, then any entrant that could convince a subscriber to choose its local service should have little difficulty winning the subscriber's long distance traffic. We can easily imagine, for example, a cable company offering free long distance minutes when customers buy movies, or similar bundled marketing packages.

All of this may be stating the obvious because such bundling opportunities are consistent with the "convergence" trends so much in the news today. Yet the result would be to create serious discrimination dangers because LSCs will have strong incentives to favor their own long distance services, and to deny other vendors reasonable access to customer loops. As these "full service companies" ("FSCs") expand in the market, long distance carriers could well experience the same difficulties competing with those FSCs in the overall toll market as they do competing with the LEC for intraLATA toll today. ^{19/} Information service companies could face the same difficulty competing with the FSC's own information products.

Reconcentration: A Possible Outcome

Left unchecked, these conditions could well lead to significant reconcentration of the telecommunications industry. We believe that it is unreasonable

^{17/} Metropolitan Fiber Systems already has begun to implement this strategy in some locations.

^{18/} Customers are likely to be more risk averse in choosing a local service provider than an IXC, even leaving aside that long distance competition has by now become a familiar concept. The local exchange is the path for both emergency calls to the police and fire department, and routine but important calls to most friends, family, and business associates. It also is worth noting that in the early days of long distance competition customers were able to experiment with new entrants without dropping AT&T service by dialing access codes (and such code calling continues today). But local service competition will not provide this "security blanket" -- customers will have only one local loop. Thus, if a new LSC can overcome these hurdles, it should have relatively little difficulty selling long distance in addition to local service.

^{19/} For example, IXCs will be dependent upon the FSC for access to the subscriber, and will be subject to the same access-toll price squeeze that can be found in the intraLATA market. The recent trend has been for local telephone companies to reduce toll rates towards (and to) the level of access charges. This pricing strategy reduces or eliminates the profitability of toll service for any competitor while allowing the LEC to receive the profits in access rates. This same strategy would be available to a FSC with respect to access to its subscriber base.

to expect a multiplicity of facilities-based access connections to the customer premise. Certainly the established LEC will be one. Perhaps the cable company will be another. In some locations a power company, CAP or interexchange carrier may construct loop facilities. ^{20/} One empirical question, however, is how many LSCs will compete for end user business in a given local area, thus making up the "multi-bottleneck" in that zone. We suggest that for the foreseeable future the answer will be very few, probably a maximum of two or three in most locales, ^{21/} and that only the LEC will offer ubiquitous facilities-based service.

We also suggest that in a world where LSCs act as full service companies, stand-alone long distance carriers will face two strategic alternatives -- at least absent adequate market safeguards. First, IXCs can serve niche markets with products that are not offered by the "full service carriers," or in geographic areas consistently overlooked by intense competition. Or second, they can form alliances with LSCs, thereby at least preserving access to the customer base of their LSC partners. If we are correct that generally only two or three facilities-based LSCs will compete in a given area, then it would follow that only two or three "full-service" alliances would emerge from the consolidation of local and long distance services.

This reconcentration of local and long distance service would have profound consequences for the telecommunications industry. For example, it is difficult to see how AT&T could structure relationships with enough LSCs to preserve its current 65% share of the switched services market. AT&T would require affiliation with 65% of the nation's

^{20/} This paper assumes that for the foreseeable future wireless service will not be a direct substitute for wireline. For reasons of cost, service quality, and customer habit, we expect end users to continue to use wireline access for the large majority of their voice, data and video communications. We foresee eventual convergence of the wireline loops so that customers may no longer need to obtain cable television separately from telephony (though the speed with which this is likely to occur is a subject we do not address here). This convergence, however, would simply increase the dependence of stand-alone long distance and information companies on access to that single loop.

We emphasize that we are in no way underestimating the potential of wireless technology to meet potentially enormous customer demand for new mobile services. Quite the contrary. But it is useful to note that the twin dilemmas of the "multi-bottleneck" and the "full service LSC" are equally present there. An end user will choose only one vendor for its wireless "loop." All other vendors will require access to that loop to reach the mobile end user. And discrimination becomes a serious danger when that wireless provider competes with stand-alone vendors in, for example, the long distance market. The same pressures toward reconcentration that we address above in the context of the wireline market help explain the AT&T-McCaw and MCI-Nextel transactions in the mobile services market.

^{21/} Assuming favorable conditions, we do not rule out that greater pockets of competition may develop for the most desirable customer locations. Conversely, we are skeptical that facilities-based competition will come soon to more rural areas no matter how quickly it comes to the rest of the country. Again, however, we want to reemphasize that this paper assumes that conditions will develop that enable a carrier to offer local exchange service in competition with the incumbent LEC in the first place. Accepting this assumption is not intended to diminish the very real barriers to this competition, barriers that have barely begun to be tested by new entrants.

local loops, which presumably is not possible. In this sense local competition could be particularly threatening to that carrier. 22/

The implications of the multi-bottleneck would be played out in other markets as well. Information services would be just as captive to the LSCs as any other stand-alone vendor. One could imagine each of the few "full-service companies" offering its own on-line data service, or its own video service, and imposing discriminatory charges to stand-alone service vendors who want to compete to serve the LSC's particular captive base of customers. The vertical integration that has developed in the cable television market is perhaps a telling predictor of future diversity dangers. Just as video program services have tended to find it necessary to align with major cable operators to achieve adequate carriage opportunities, so non-video services could face similar pressures to align with one or the other of the "full service" LSCs in an area.

In summary, we fear that the following dynamic could unfold:

- * CAPs enter and quickly recognize the limited opportunity present in the IXC access market. As a result, their focus rapidly turns to providing service directly to end users.
- * Competition for the end user does not honor traditional divisions between local and long distance. Once committed to a strategy of end user connectivity, entrants compete as full-service providers, effectively erasing conventional boundaries. MFJ restraints on RBOCs fall in time.
- * Interexchange carriers see no appreciable reduction in the market power of access providers despite competition for the end user. Once an end user has selected between the incumbent LEC and the entrant, its choice will then be a monopoly as far as other providers are concerned.
- * As customers turn to FSCs, the viability of "stand-alone" providers diminishes. IXCs thus seek mergers and strategic alliances to reintegrate local and long distance services. Similar concentration appears in the information services industry.

22/ It is unclear what steps AT&T would take to retain its current position in a reconcentrated market. Its acquisition of McCaw does not appear immediately relevant because, as we note above, wireless access is unlikely to be an effective substitute for wireline access within the foreseeable future. Presumably AT&T would not attempt to merge with one or more RBOCs, yet without such a reversal of divestiture AT&T's options may be limited.

- * Absent appropriate regulatory policies, the number of surviving providers collapses to reflect the economic characteristics of the least competitive submarket: local exchange service.
- * Reconciliation results in fewer choices for consumers, less price competition, lower service quality, and reduced opportunities for entrepreneurs to bring innovative new services to market.

This reconcentration scenario contradicts one of the central policy objectives supporting local competition: increased diversity among providers. ^{23/} We believe that regulation will have a changing role to assure that robust retail competition is not sacrificed to achieve more limited local competition. This leads us to the final topic of this paper, a preliminary suggestion of some general regulatory principles that must accompany local competition to protect diversity and customer choice. In particular, we suggest that attention turn to the development of a "resellable" local exchange product that can easily be offered by retail competitors (such as long distance companies and information providers) so that they may also compete in a fully reintegrated market.

III. Regulatory Responses to Advance Diversity

The vision of a transparent fiber highway with a multiplicity of services and providers is a bold and important development that should be pursued. But the current debate is missing the key issue: how to protect diversity from falling victim to the very real threat of reconcentration discussed above. We do not yet have the answers. However, we have identified several regulatory principles that should be considered as the debate progresses.

Principle One: Equal Access Obligations Should Extend to All Access Providers

First, local competition rules should protect the ability of long distance and information services companies to reach their potential customers to sell them stand-alone products, and to terminate their communications ubiquitously throughout the local service area. This principle may seem obvious from the discussion above, particularly because it is generally consistent with the regulation that has applied in a monopoly "single bottleneck" world. The principle recognizes that the "multi-bottleneck" scenario

^{23/} The scenario certainly contradicts the basis for the divestiture of AT&T in the first place. Divestiture posited that by separating the local and long distance industries, the degree of concentration in the local market (then a monopoly) would not preclude development of a less concentrated structure for long distance and other services. But just as divestiture held the promise of encouraging supplier diversity, recombination can be expected to have the opposite effect: a concentration among long distance providers to match the number of local carriers, and similar trends in related information markets.

is only marginally preferable to today's dependence on a single access connection because the market power of the access provider is only superficially diminished.

We believe regulatory policies still will be needed in a "multi-bottleneck" market structure to assure that the access provider role does not contaminate downstream markets. Maintaining a robustly competitive market for telecom services requires open access to local networks, even when there is more than one LSC. It is useful to equate new LSCs with independent telephone companies, for that analogy makes clear why ongoing regulation will be necessary. To serve customers today, an IXC must purchase originating access from each of the LECs in its target market area, as well as terminating access from all LECs nationwide. Local competition only creates opportunities for new "independent" LSCs to join the existing LECs, further subdividing control of the nation's loops. IXCs therefore will have even more access vendors to deal with to reach the same overall customer base. But the need for regulation of all LSC access, including the loops of new "independent" entrants, remains unchanged.

The "independent telephone company" analogy is appropriate because new LSCs themselves are calling for the same rights of interconnection with established LECs that the LECs new share among each other. But if new LSCs are to be allowed into the LEC club and given such rights, they must also bear the responsibilities that come with being an exchange carrier. From the perspective of the nation's diversity goals, the most important of those responsibilities is to provide reasonable and non-discriminatory access to other vendors.

To date, however, virtually no serious attention has been paid to the question of how entrant local loops should be regulated to ensure that other telecom service providers have access to their customers. We also are concerned that failure to regulate new LSCs adequately may lead to premature deregulation of the LECs themselves. Any regulation uniquely applicable to the LEC may be perceived as "unfair" and ultimately evaporate, reinforcing a trend towards industry consolidation and diversity loss. 24/

We note that LSCs themselves will require equal access rules to ensure that they can interconnect with each other. It is obvious that LSCs will need access to the incumbent LEC. To the extent equal access has received any attention in the context of local competition, the focus has been here. But it also is a fact that in the future the LEC may need access to LSC loops, and certainly LSCs will need access to the loops of each other. Thus, resolution of the equal access issue is fundamental to both the development of local competition, and the protection of a diverse industry dependent on access to the loops of all LSCs.

24/ LECs, of course, already are calling for their own deregulation based on the spectre of local competition.

It will be a challenge to think through these problems and design a regulatory structure that protects continuing access opportunities for retail long distance and information service companies in a meaningful way. We believe that it may not be satisfactory simply to extend the rules currently applicable to LECs to all LSCs (though even that is not currently under discussion). Our message here is that local competition will create entirely new and more complicated market problems. New rules for both LECs and other LSCs may be needed. The lesson of divestiture (and perhaps the cable industry) suggests that structural remedies also may be necessary. For example, it may also be appropriate for LSCs to sell their facilities-based local loops and other services at wholesale rates, separately from their retail end user services, particularly if those retail services involve bundling of local and other services as we predict.

We are aware that pending legislation such as the Markey-Fields Bill in the House of Representatives and the Hollings Bill in the Senate contain provisions on equal access, and that some of those provisions would apply to new LSCs as well as the LECs. However, we would suggest that those provisions do not adequately address the full implications of the "multi-bottleneck" world to come, or the new discrimination problems that will arise as LSCs ignore current market lines and become "full service companies." In particular, we are troubled by suggestions that LSCs, including LECs, should be deregulated as local competition develops. This position ignores market realities. 25/

Our goal here is not ambitious because we do not purport to have the best answers regarding how equal access can be assured with the least possible dependence on regulatory oversight. We only want to encourage the debate to begin -- and for that debate to recognize that reconcentration will occur without adequate equal access rules applicable to all carriers who share the "multi-bottleneck" through their control of local loop facilities.

***Principle Two: Local Service Should Be Available
for Resale on a "Wholesale" Basis***

Second, and more important, local competition rules must protect the ability of non-LSCs to offer their own bundled full service packages easily in competition with the LSCs. Indeed, we view this principle as central to the future competitiveness of the telecommunications industry itself.

25/ We leave for another time the question of when consumers will face sufficient competition for their local loop business to justify deregulation of the pricing of those loops. This will depend on many factors, including how the market power of LECs is constrained while local competition develops, and how oligopolistic a local market develops. But these questions are completely irrelevant to the question of when it would be appropriate to deregulate the rates and terms that all LSCs charge other competing vendors for access to their customer loops. Such deregulation will be inconsistent with diversity goals for the foreseeable future.

We have explained why facilities-based local competition (if it occurs at all) is likely to be highly concentrated with only a few providers. Further, we expect LSCs to offer bundled local and long distance products that will ultimately lead to a recombination of these submarkets. In that case, the key to continuing diversity is making sure that other vendors (such as long distance companies) also can offer bundled "local" and "long distance" service products. Put simply, in a world where the relevant market is all telecommunications, diversity depends on the ability of many firms to resell bottleneck local network service on the same bundled basis as the LSCs themselves.

This principle comes with an equally important corollary: local service must be "bundle-friendly" for resale. By this we mean that LSCs should be required to offer a wholesale local service product that can be easily grafted on to the retail service of a stand-alone vendor. Logically, each LSC also should be required to reflect those same wholesale prices in its own bundled service products as a check on discrimination.

We recognize that this proposal departs from the conventional view. Many have suggested that the path to increased local competition calls for more unbundling of the incumbent LEC's network into its component piece parts. However, while this approach has merit from the perspective of a company wishing to be a facilities-based local service provider, it holds far less attraction to any company that simply wants to use the local service of a LSC to offer its own full-service telecommunications product. Because there will be far more of the latter than the former, diversity objectives require at least as much emphasis on establishing the appropriate conditions for local resale as for facilities entry.

Here an analogy to the early stages of long distance competition is apt. Such competition was possible, as much as anything, because the FCC required AT&T to make its WATS product available for resale. New entrants thus effectively had a wholesale-type product that they could easily sell in competition with AT&T, substituting their own network facilities (or resold AT&T circuits) over time if they chose and where it was efficient to do so.

We would expect LSCs to offer one form of resale to each other. Specifically, a LSC will offer a "terminating product" so that its local subscribers will be able to receive communications from the subscribers of every other LSC. We expect that the mutual dependence of facilities-based LSCs will assure that acceptable traffic exchange agreements are ultimately adopted (although regulatory oversight will probably be necessary at first).

However, the "bundle-friendly" product we call for here would take a different form and serve a different purpose. We envision an end-to-end wholesale product provided by each LSC that would be transparent to the end user when part of a bundled service offered by (what is today known as) the interexchange carrier. The introduction of such a product would allow multiple service providers of virtually any

size (including, of course, new entrants) to compete in a recombined local/long distance market -- without having to first align with a LSC, or engage in costly engineering and network design to even partially provide local service on its own. 26/

Again, we do not purport to have a precise solution as to how LECs and other future LSCs should best structure their "bundle-friendly" wholesale products. Our purpose here is only to emphasize the importance of resale to future telecommunications diversity, and to encourage further debate on the specifics. 27/

***Principle Three: Volume Discounts Are
The Inherent Enemy of Diversity***

Our third principle recognizes that the ability of the public to use the "information highway" ultimately depends upon how local access to the highway is priced. If the tolls are set too high, usage will be artificially depressed. However, diversity considerations teach us that price discrimination is a more serious problem than the absolute level of rates.

As discussed above, fiber-based telecommunications exhibits a production cost characteristic that is decidedly unique: high construction costs with virtually no variable component. 28/ This cost structure could lead to declining usage prices that facilitate an explosion of new "marginal" uses that collectively transform our lives. 29/ Or, pricing systems could be adopted that provide low cost transmission to only the favored large customers (and strategic partners) of the LSC, while new entrants and new services face much higher prices.

26/ The ONA unbundling approach, which forces competitors to "piece together" networks to offer services, is too costly and complicated for the purpose we describe here. We acknowledge that an LSC entrant is likely to need this approach as it configures its own local network. But exclusive reliance on an unbundling mechanism will impose its own barrier to entry if every market participant must design a network at the local level in order to offer its services.

27/ All local providers could be required to offer an underlying local service that can be transparently bundled by other companies. Under this approach, regulation would focus on the terms under which the local product could be combined with other services, and on price discrimination problems.

28/ The only technology with comparable cost characteristics is hydroelectric generation. Even here, however, there can only be so much rain, while the electronic capability of fiber transmission systems increases every year.

29/ For instance, the impact of electricity on our lifestyle is probably due less to the core applications of heating and cooling than to its "marginal" uses (lighting, toasters, irons, stereos, televisions, hair dryers, pencil sharpeners and so on). Similarly, fiber transmission technologies will reduce the cost of core telecommunications applications (voice transmission) and make economic such new "marginal" uses as home shopping, banking, on-line interactive video challenges between adolescents miles distant from one another, etc. By the end of this decade, we expect the cumulative advances from all these "little new services" could vastly overshadow the network's role in voice transmission.

The information rich, diverse network that sits at the core of most policy visions of this industry cannot be realized unless all service providers enjoy access to the network. This much is understood. What is ignored is the pricing implication of this vision which presupposes that each provider enjoys economic access at non-discriminatory prices.

We foresee a world where LSCs have incentives to favor their own services most of all, and secondarily to favor large incumbent users of network services. Such price discrimination could come to be a permanent barrier to entry by new telecommunications companies offering innovative and more efficient services. For example, a long distance company will not necessarily benefit from its own network efficiency if it suffers an artificial penalty at the access level. And a small information company will not gain an independent foothold in the market, no matter how desirable its product, if a large company can distribute a similar product at far less cost due to access-related discrimination.

The natural tendency of access providers will be to introduce substantial volume discounting strategies into their pricing because they have low variable costs and the need to recover their investment. Thus, while the network is intrinsically shared and each user should face the same economically determined price, strong incentives exist for discrimination. These volume discounts, however, are effective barriers to entry because they place new entrants at a competitive disadvantage with incumbents with traffic, and they reward the large at the expense of the small.

The problem created by such pricing goes to the heart of the "information highway." An information diverse environment will not evolve simply from the boardrooms of a few large carriers. The history of the American economy demonstrates time and time again that innovation is the province of the entrepreneur. For the full benefit of the information highway to be realized, artificial barriers that needlessly disadvantage the small entrepreneurial firm must be prevented.

It is simply not possible to reconcile the diversity goal with pricing systems designed to encourage concentration. Recognizing that the incumbent provider will dominate the market and establish pricing strategies, regulators must confront this dilemma directly, and regulate network prices to guard against discrimination. Structural remedies ultimately may be the least intrusive means of assuring this result.

Conclusion

There is a school yard system that relies on a bat to decide issues of importance (who chooses first, which team is home). Under this system, opponents sequentially place their hands over one another until one reaches the end.

We believe that a similar process is underway in the telecommunications industry, with the end user located at the "end of the bat." Local competition will bring competition closer to this source, but in doing so, we expect that the prevailing industry boundaries and structure will be significantly disrupted. The end result could be a substantially less competitive industry as its organization becomes dominated by competitive conditions at the local level.

We believe that such an outcome is inconsistent with the nation's avowed goal to increase the competitiveness of the industry and encourage greater diversity in products, suppliers and prices. Yet until the public debate recognizes the probability of concentration, and of recombination of the local and long distance markets, a serious discussion of the measures needed to protect diversity will not occur. In our view, diversity will survive local competition only in combination with other policies intended to facilitate access, resale and non-discrimination. We encourage an active national debate over the scope of those policies.

CERTIFICATE OF SERVICE

**I hereby certify that copies of "Reply Comments of LDDS WorldCom"
were hand delivered this 6th day of February, 1996, addressed to the following:**

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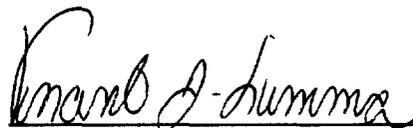
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