Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Unbundled Access to Network Elements	)	WC Docket No. 04-313
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338

ALPHEUS COMMUNICATIONS, L.P.
JOINT DECLARATION OF
ELEUTERIO (TEO) GALVAN JR. AND FRANCISCO MAELLA

We, Eleuterio (Teo) Galvan Jr. and Francisco Maella, pursuant to 28 U.S.C. § 1746, declare as follows:

1. We each are over 21 years of age and competent to give this Declaration. We both know the information set forth in this Declaration to be correct as a matter of our personal knowledge and as a result of our positions with Alpheus Communications, L.P. ("Alpheus").

2. I, Teo Galvan, as Vice President OSP Engineering and Construction, oversee the engineering department that is responsible for designing and building Alpheus' fiber optic network. I am presently responsible for the oversight of a staff of engineering managers and Alpheus' outside engineering contractors. Together, my staff and I are responsible for the design and construction of fiber optic network projects for Alpheus. Before joining Alpheus in 2000, I was employed by Southwestern Bell Telephone Company ("SWBT"), now SBC-Texas, in various fiber optic engineering and outside plant

capacities since 1978. I presently have over twenty-six years of experience in the telecommunications industry.

3. I, Francisco Maella, have the primary responsibility within Alpheus to manage the network engineering, planning, provisioning and operations functions for Alpheus. Prior to joining Alpheus, I managed the Network Architecture and Design at Valiant Networks, Inc. where I was responsible for architecture, supplier selection and design of optical, data and voice networks for carrier customers and, prior to that, I was employed by Williams Communications Group as Senior Staff Manager and Chief Technologist of Data Technologies where I was responsible for the design, supplier selection, and deployment of ATM, Frame Relay and IP technologies. Prior to Williams, I was employed by MCI Worldcom where I held engineering positions with responsibilities that included the deployment of voice, data, and transport technologies.

4. We make this declaration in support of Alpheus' comments in WCB Docket No. 04-313 and 01-338. In this declaration we describe, among other things, the harm Alpheus will face if the FCC does not require incumbent local exchange carriers to provide unbundled access to dark fiber.

5. As we will explain in detail below, Alpheus' ability to compete in the wholesale telecommunications market will be dramatically weakened if the FCC does not continue to require ILECs to provide CLECs, such as Alpheus, with access to unbundled dark fiber where we are unable to economically deploy our own fiber, including pulling fiber through existing duct, or obtain alternative fiber from third parties. Because SBC has asserted that it will not offer to sell dark fiber to competitive entrants such as Alpheus at

any price after issuance of the Court's mandate, absent Commission unbundling rules, Alpheus faces the prospect of losing access to SBC's dark fiber completely. As explained below, access to unbundled dark fiber is a critical piece of the robust state-of-the-art-network Alpheus has constructed in Texas. Alpheus has invested considerable resources to deploy state-of-the-art transmission equipment to activate that dark fiber to serve its customers, including other telecommunications carriers and other large business customers that need significant bandwidth. Alpheus has no other source for the dark fiber it currently obtains from SBC because: (a) Alpheus cannot economically self-deploy fiber to replace its entire transport network; (b) dark fiber is not widely available from carriers other than SBC; and (c) SBC does not provide dark fiber except as an unbundled network element. More importantly, Alpheus' state-of-the-art network allows Alpheus to provide its customers with services not readily available from other sources including SBC. Without access to dark fiber, Alpheus' business is at risk, as are the businesses of the customers Alpheus serves. Such a major disruption to the Texas wholesale telecommunications market is counter to the pro-competitive purpose of the 1996 Act and is simply unwarranted.

I. ALPHEUS' NETWORK

6. Alpheus is a facilities-based CLEC operating in Texas. Alpheus is primarily a wholesale provider of telecommunications transport services to other carriers, and also serves medium and large business customers. (We use "transport" here in the generic sense, meaning the transmission of telecommunications signals from point to point; not in the technical sense used in past Commission orders). In other words, Alpheus' state-of-the-art fiber optic network provides and manages data pipes or pathways while providing

the intelligence that allows its customers to transmit substantial amounts of data at very high speeds. Alpheus has invested over $350 million in facilities and infrastructure to give competitive carriers in Texas an alternative to SBC's special access service.

7. Fiber optic cable is in essence the raw material of any fiber based telecommunications network. Dark fiber is simply the raw fiber strands in a cable that remain unused or dormant when other fiber strands in the same cable are activated. When carriers, especially ILECs, deploy fiber in the network, they typically install more than enough fiber strands to meet existing and forecasted need and spares to accommodate future growth. Fiber is typically deployed only in increments of 12 or 24 strands, so the deploying carrier will round up to the next full increment. SBC typically deploys its interoffice fiber in increments of 144/288 or higher. By deploying this spare fiber, the carrier avoids further construction costs and delays in the event it needs additional fiber on the same route where it has already deployed fiber that is in use. Once the decision has been made to incur the sunk costs of trenching streets, acquiring rights-of-way, the incremental cost to deploy additional spare fiber strands is minimal. CLECs typically will only deploy fiber, either between an ILEC central office and the carrier's hub, or to a customer building, when there is sufficient revenue committed by the customer to recover the significant construction costs and where there the customer is willing to wait for a substantial amount of time while deployment is completed. Thus CLECs only deploy dark fiber when they are first deploying fiber to provide lit service to a customer that has made a long-term revenue commitment that justifies building the fiber. Generally CLECs can only economically justify fiber deployment to carrier POP locations where carriers naturally aggregate large amounts of traffic. The decision to build is, of course, is always

conducted on a case by case basis, because street cut moratoria, rights-of way blockages, and lack of available duct can thwart deployment even where the carrier has secured a long term contractual commitment for high capacity services. Alpheus has had to turn down deals because the fiber build could not be justified even over a five-year term. One street crossing where costly and time-consuming construction is required can skew the economic equation and can make unprofitable an otherwise attractive customer commitment.

8. In theory, fiber optic cable has virtually unlimited capacity. In practice, the capacity of a specific strand of fiber is dependent on the equipment attached to that fiber and the network configuration. That equipment, by emitting pulses of light over the fiber strand, determines the capacity of any particular strand of fiber.

9. Alpheus' network optimizes the otherwise unused raw material — legacy ILEC unbundled network element (UNE) dark fiber strands — formerly left dormant. By investing in and deploying its own state-of-the-art equipment that maximizes the capacity of each strand of fiber in the network, Alpheus is able to efficiently provide services across each major market in Texas without the unnecessary duplication of facilities that are already in the ground, and as stated before, not being utilized. In fact, Alpheus regularly finds that forty percent of the ILEC fiber is dormant, leaving assets paid for by the ratepayers going unused.

10. Alpheus has deployed the latest technology using next generation Synchronous Optical Networking ("SONET") and dense wave division multiplexing ("DWDM") equipment in Dallas, Fort Worth, Austin, Houston and San Antonio, the five largest mar-

ket areas of Texas. By deploying state-of-the-art technology in its network, Alpheus brings an innovative, ubiquitous and highly reliable transport service to the wholesale telecommunications market in Texas, which in turn, promotes competition in the retail market.

11. DWDM technology allows Alpheus to create multiple transmission paths on a single dark fiber strand by segmenting the white light spectrum on the fiber strand into individual colors where each individual color is a single transmission path. This allows Alpheus to send different signals simultaneously over single strands of fiber. In other words, DWDM turns a single lane country road into an eight-lane superhighway, without laying down any more pavement.

12. Alpheus deploys DWDM and other optronic equipment used to transmit telecommunications signals over fiber optic cable at its core network sites called hubs, located in each city on its Texas network. In order to reach its customers, who are dispersed throughout each metropolitan area, Alpheus has collocated its own telecommunications transmission equipment in SBC's central offices. Alpheus' hubs are connected to these collocation arrangements with fiber entrance facilities that Alpheus owns and installed. Currently Alpheus has collocation arrangements in 117 SBC central offices in Austin, Dallas, Fort Worth, Houston and San Antonio. Alpheus then connects each of these collocation arrangements using dormant unbundled dark fiber strands obtained from SBC under its interconnection agreement.

13. When customers require significant bandwidth between their location and Alpheus' network, Alpheus must provide a fiber-based connection in order to provide that

bandwidth. In order to provide that fiber-based connection, Alpheus first determines whether it can construct its own facilities to the desired customer location. As explained below, in many instances, deploying new fiber optic cable by tearing up streets is not an option, because the time to market and the cost to build our own fiber facilities does not make it economically feasible to undertake such an endeavor. In many other instances, municipalities have enacted moratoriums prohibiting further trenching for telecommunications companies or other impediments exist such as congested rights of way that leave no more room for installing fiber cables. In these instances Alpheus looks to obtain dark fiber from a third party provider by obtaining an indefeasible right of use ("IRU").[1] In the vast majority of Alpheus' markets in Texas, there is no dark fiber (either in the loop or between SBC central offices) available from sources other than SBC. In these situations, Alpheus has no recourse but to rely on UNE dark fiber.

II. ALPHEUS' WHOLESALE TELECOMMUNICATIONS SERVICES

14. Alpheus' business model is predicated on the philosophy that telecommunications competition at the retail level cannot flourish until retail telecommunications providers have more than one source of supply for the inputs needed to provide their services. In addition to providing wholesale telecommunications services that are standard and similar to those generally available from SBC such as T-1 (also referred to as DS1), DS3, and up to OC12 level transport,[2] Alpheus goes further and has deployed more innovative and

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[1] In fact, Alpheus has an economic incentive to purchase IRUs from alternative transport providers, if they are available, since a twenty (20) year IRU over the term of the IRU is less expensive than leasing UNE dark fiber on a monthly basis from SBC.

[2] DS1, DS3 and OC12 are measures of the information transmission capacity of a telecommunications circuit. DS3 refers to the capacity to transmit 44.736 Mbps of information. A DS3 is the equivalent

more widely available services, such as managed wavelength services capable of supporting transparent OC48, Gigabit Ethernet connectivity and rate limited Gigabit Ethernet connections.

15. Alpheus' managed-wavelength services provide customers with access to their own "virtual fiber." These services are only available because Alpheus has widely deployed DWDM equipment to segment individual fiber strands into unique wavelengths. Alpheus' managed wavelength service then allows Alpheus' customer to use that specific wavelength as part of its own network. The customer can purchase its own transmission equipment and use the wavelength to transmit DS3 circuits or it can use the wavelength to connect its computer networks using Gigabit Ethernet.[3] Regardless of how the customer chooses to use that wavelength in its network, the customer retains control and management of that service. Alpheus simply offers a protocol-agnostic path that accommodates any type of traffic. In short, Alpheus' managed wavelength services provide carriers with raw bandwidth.

16. Alpheus' DWDM-based network also allows it to provide data storage and IBM mainframe connectivity services such as Fibre Channel, Enterprise Systems Connection ("ESCON") and Fiber Connection ("FICON"). These advanced services provide cus-

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of 28 DS1s. Each DS1 equals 1.544 Mbps of capacity and is the equivalent of 24 DS0s at 64 kbps of capacity. A DS0 represents the capacity of typical voice grade circuit over copper telephone wires used to provide plain old telephone service to most Americans. An OC12 is the equivalent of 12 DS3s and an OC48 is the equivalent of 48 DS3s. At a level of DS3 and above, transmission must be provided over fiber if it is to travel any significant distance. Over short distances, however, such as connections within a building, coaxial cable like that used to provide cable television and to connect VCRs to TVs can support a DS3 signal.

[3] Ethernet is a basic computer networking protocol that allows computers to communicate over a computer network. Gigabit Ethernet is a high-speed Ethernet protocol that allows customers to connect computer networks together over long distances.

tomers with interfaces and protocols that allow mainframe connectivity and real-time data replication between primary and backup data centers. For example, financial institutions use these services to maintain a real-time backup of its data. These services allow large enterprise customers the ability to maintain business continuity in the event of a disaster. Although SBC has tariffs filed for some of these services such as Gigabit Ethernet, SBC will only provide these services on an individual case basis since SBC has not ubiquitously deployed the technology to provide these offerings. Alpheus, unlike SBC, has widely deployed OC48 and DWDM transport and stands ready and able to provision services to customers where it is able to obtain dark fiber from SBC.

17. Alpheus' services further represent a technological leap ahead of SBC by standardizing its cross-connect system at the optical level to give Alpheus' customers a more reliable and efficient network design.[4] The technology that Alpheus uses maintains all of the signal at the optical level and the equipment deployed internally breaks the signals down electrically by utilizing ASICs.[5] This technology allows the signals to travel at the optical level throughout the Alpheus network. Conversely, SBC does not deploy an all optical equipment configuration. All of the signals in the SBC network are physically converted from fiber cable to copper cable and manually patched electrically using coax-

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[4] The cross connect refers to the combination of equipment and cable that connects Alpheus' network to the customer's network or telecommunications system. Optical connections can only be made over fiber optic cable. Other transmission cables, such as coaxial, use electrical impulses to transmit information and are typically used for DS3 level and lower connections.

[5] An ASIC is a programmable chip that in SONET systems take an optical signal and breaks it into its electric equivalent signal. Thus a series of chips replaces the myriad electrical cables and patch cords the ILECs use to cross connect traffic between fiber. One rack of next generation multiplexing equipment and digital cross connection equipment in Alpheus' hub can replace almost an entire central office worth of copper and coaxial cross connections. This also allows Alpheus to provision services via software, while SBC must physically connect cable and patch cords.

ial and/or copper cable in the central office, thus creating a very inefficient and un-reliable service (coaxial cable and copper cable and panels are much more un-reliable than fiber optic cable and panels). The introduction of the human element physically running cable between two points adds enormously to the issue of points of failure on any network design. Alpheus also encourages our customers to interconnect into our network at an optical level utilizing an optical handoff. An optical hand-off uses fiber optic cable to connect carrier equipment to customer equipment; as a result, the signal is in the same form (pulses of light) in the cross-connect as it is in Alpheus' transmission network. This optical hand-off is more reliable, efficient, easily managed and cost effective than the electrical interface cross-connects required by SBC, which necessitate conversion of the optical signal into electrical signals and as described above, the human element of potential error. An optical hand-off is more reliable because Alpheus can use the intelligence of its fiber-based network to send traffic in another direction at the push of a button if the cross-connect fails. Such redundancy is only available with fiber and not with the electrical signals that are usually provided over coaxial or copper cable. Optical hand-offs are also cheaper because they require less equipment and space. For example, with an OC48 that is divided into 48 DS3s, an electrical hand-off requires 48 coaxial cables (one for each DS3). Alpheus can perform the same 48 DS3 hand-offs via a single optical cross-connect with the equipment and a single strand of fiber. The efficiency of Alpheus' optical hand-off derives entirely from Alpheus' capital investment in state-of-the-art network equipment. By engineering a cost efficient network and using the newest technology and innovation, Alpheus has deployed a transport network that provides features, services and reliability that SBC's legacy network does not offer.

A. Alpheus' Constantly Looks for Alternatives to Using SBC Fiber

18. Alpheus mission when it entered the market was simple – to build a profitable, sustainable controllable network in the most efficient configuration possible with the broadest reach to the largest customer base. First, Alpheus had to develop products that deliver consistent quality. Second, Alpheus needed flexibility of network design coupled with control of the network at the most granular level and the broadest reach into the ILEC footprint.

19. Having the legal right, under this Commission's and Texas PUC rules, to use the raw spare legacy dark fiber of the ILEC that would otherwise remain unused, enabled Alpheus to build a technologically advanced all optical network with control over the functionality of the network where it needed it the most. Coupling that with collocation in a majority of the SBC central offices in the five major Texas cities gave Alpheus the large wholesale footprint needed to sustain its business model. The decision to deploy its own equipment did not come lightly because it required an enormous capital expenditure before there were any paying customers. Alpheus spent over $350 million purchasing equipment, deploying fiber in core business districts, collocation turnup in SBC's central offices, and installing its network.

20. Because Alpheus had finite capital at hand, certain decisions had to be made to make Alpheus as efficient and broad-reaching in its deployment as possible. By utilizing the legacy UNE dark fiber, capital expenditures were targeted at purchasing equipment that would provide Alpheus the ability to use innovation to gain a competitive edge.

Similarly, capital was directed at building the deep metro market reach that an efficient CLEC would need to reach that goal-post of profitability in a foreseeable amount of time.

21. Using UNE dark fiber has its drawbacks as well. As Alpheus turned up its Dallas and Houston network, it found that the quality of the dark fiber provided by SBC frequently did not allow for deployment of DWDM. Because DWDM requires a much more stringent loss and reflectance standard at high frequencies, Alpheus required the UNE dark fiber to be tested at the high frequency of 1550nm for power loss, and for the reflectance of light through the fiber. Alpheus found that the power loss over the fiber and the reflectance of light was un-acceptable to turn-up DWDM technology. Even our equipment vendors were thinking there was something wrong with the test gear used to test the fiber since they had never seen such poor conditioned fiber before. SBC simply refused to perform the necessary testing despite having the equipment and ability to do so. After extensive testing and with no help from SBC Alpheus established that the problem was the poor quality of SBC's fiber jumpers. Again SBC refused to cooperate in fixing the problem. Only when Alpheus purchased good quality fiber jumpers and literally gave them free and clear to SBC was SBC willing to replace the defective jumpers. Problems such as these caused significant delays, added expense and increased resources in the deployment of the state-of-the-art network using ILEC fiber.

22. Still, the use of DWDM was important to the network deployment, and made economic sense, because it utilizes the least amount of legacy UNE dark fiber, and uses that fiber in the most efficient manner. Our DWDM systems can partition a fiber into 64 transmission paths, and each transmission path is the equivalent of 64 fiber strands using older technologies (thus utilizing fiber very efficiently). Alpheus is the poster child of an

efficient, facilities-based new CLEC bringing innovation, and better products and services to the market while eyeing the day it can wean itself of dependence on SBC, which is not a reliable or cooperative supplier. Alpheus has always taken pride in the fact that as a consumer of legacy UNE dark fiber, it has regularly engineered its network to reduce dependence on UNE dark fiber. Where Alpheus is dependent on UNE dark fiber it makes the most efficient use of the fibers as is economically possible. Alpheus is constantly reviewing where it can return ILEC dark fiber and leverage its own optronics and fiber assets.

23. Alpheus always had a goal to reduce its dependence on SBC dark fiber when economically feasible, whether that meant deploying its own fiber facilities or obtaining third party fiber. Alpheus has no interest in remaining as an involuntary and indefinite tenant on SBC's fiber. There are several reasons why Alpheus used UNE dark fiber as an initial entry mechanism, though its long term goal is to eventually move off of UNE dark fiber dependence. First, as a new entrant, a month-to-month lease at TELRIC pricing speeds entry, helps gain market share, allows a more ubiquitous network deployment, and allows scarce capital to be directed at the elements of the network that allow innovation. Alpheus saw little advantage as a new entrant in attempting to deploy hard to duplicate fiber transmission facilities. When measuring the significant sunk costs against the vast quantities of SBC fiber left dormant underground this decision was both reasonable and economically sound. However, there is a trade off with the ability to pay for UNE fiber on a month-to-month basis. Alpheus experience is that UNE dark fiber is can actually be more expensive than commercially available 20 year IRUs. For example, UNE dark fiber rates in Texas are approximately $4,000 per fiber mile over a 20-year term. It has been

Alpheus' experience that, in the major markets in Texas, rates for typical IRUs will not exceed half this rate.

24. Second, Alpheus prefers not to rent from an unwilling landlord unless all other options have been exhausted. It is difficult for a new entrant to predict where traffic demand will be greatest and where the significant time and expense to deploy fiber can be justified by potential customer revenues. As the business grows, however, the entrant can discern, based on traffic patterns, customer aggregation trends and revenue in the pipeline, where self-deployment of fiber or entry into a long term IRU makes economic sense. Because there are some transport routes on the Alpheus network where there are insufficient revenues to justify deployment and no alternatives, Alpheus will continue to use legacy UNE dark fiber for the current time period. Elsewhere, Alpheus is progressing towards the use of its own fiber, alternative fiber obtained via IRUs from other carriers where possible and legacy UNE dark fiber. But Alpheus could not win customers in the first place and then start this transition to owned fiber without acces to legacy UNE dark fiber.

25. Third, Alpheus realized that as it expanded its customer base, it made sense to retain even greater control over its network and its business. No company enjoys or can hope to thrive operating under constant regulatory uncertainty. Thus, as early as 2001, Alpheus looked for reasonably priced fiber assets that fit into the business model enabling Alpheus to obtain greater control of its transmission facilities and less reliance on the ILEC's network.

26. However, the transitional process to self-provisioning fiber, as explained in other sections of this declaration, is a long, tedious and expensive process. Where it is feasible, Alpheus obtains IRUs for fiber assets other carriers have deployed. For example, between 2001 and 2004, Alpheus obtained IRUs for certain fiber assets in Houston, San Antonio, Dallas, Ft Worth and Austin. Alpheus also deployed its own fiber through duct that Alpheus purchased in Houston during this time frame. However, the fiber available in the market rarely, if ever, went where Alpheus' customers needed it. For example, while some carriers have clearly deployed fiber in the cities, the networks Alpheus reviewed did not have fiber facilities deployed between the SBC central offices or that connected to SBC's system of underground duct. Rather, of the largest of CLECs deployed fiber entrance facilities that connected their hub to the ILEC central offices for transport of switched services or alternative fiber providers had fiber on routes connecting carrier POP locations rather than SBC central office locations. This means that the alternative fiber that is available does not enter the SBC duct run so it cannot be connected to the SBC central office. In order to deploy fiber between SBC Central Offices, the third party facilities have to be connected to the SBC zero-manhole or be in the SBC duct run so it is possible to extend the cable to the central office through the use of SBC duct. This very important, and most expensive, step almost always requires trenching the street and boring holes into the sides of both parties' manholes. Further, Alpheus has found that these alternative fiber assets did not enter the large commercial buildings because of difficulties gaining access to rights-of-way to bring fiber to the building and building access restrictions that impeded entry into the building.

27. When Alpheus obtains third party fiber, those fiber facilities must be connected to the Alpheus transport network either through SBC duct or into SBC's central offices, as discussed in Part F of this declaration.

28. After several years, Alpheus was at the level of maturity both in its market definition and network design as a CLEC to begin the task of self provisioning. This requires employees with new skill sets, contractors, complete re-engineering of the network and the introduction of potential outages as the conversion took place. This project is not one that conforms to a piecemeal transformation; rather, it requires a detailed level of redesign. Beginning in 2004, Alpheus began the long and arduous process of connecting its own fiber coupled with legacy UNE dark fiber, where necessary, into a reliable transport network between its collocations. Alpheus had to wait until it had acquired sufficient customer base and market knowledge to justify the long-term investments in sunk facilities. Although Alpheus could forklift its optronics to other offices if existing arrangements were no longer economic, the same was not true of its fiber, because once the fiber was deployed in the ground it automatically became fixed and sunk costs, because the asset cannot be moved elsewhere so every capital dollar spent on self provisioned fiber must prove to be the right decision or the consequences can prove to be devastating to a small CLEC with limited resources. Only after five years of developing its network did Alpheus possess sufficient information about network demand and the infrastructure needed to support that demand to make efficient decisions regarding deployment of its own fiber, where alternative fiber is available and, where joining SBC's duct run with the Alpheus' duct run to accommodate the pulling of Alpheus fiber cable through the ubiquitous SBC duct is economically feasible.

29. For example, Alpheus is currently building its own fiber facilities in certain areas of Dallas because of a close proximity of SBC central offices, the availability of SBC duct between those offices, and the concentration of business lines that creates large customer demand in a small geographic area. These central offices have as a minimum 40,000 business lines based on the 1999 PNR data provided to the Commission. In these market areas, Alpheus could potentially have the larger central offices with over 40,000 business lines off of legacy UNE dark fiber and onto IRUs or owned fiber in a year if there is available SBC duct.[6]

30. It has been Alpheus' general experience that transport routes that more than 40,000 business lines in each wire center should have the necessary amount of aggregated traffic as well as robust core business districts to warrant self provisioning of facilities. In almost every case with over 40,000 business lines, the business lines exceeded the residential lines, sometimes double or triple, suggesting core business districts. If Alpheus could not obtain UNE transport between two offices each with 40,000 business lines, it would need to replace existing UNE dark fiber transport on: (36) thirty six routes in the Dallas-Ft. Worth market, (45) forty-five routes in the Houston market, (3) three routes in the Austin market and (1) one route in the San Antonio market.

31. This data correlates with marketplace knowledge that Alpheus has gained over time. The market for competitive fiber in San Antonio and Austin is not comparable in scope to that in Dallas and Houston. Because these cities have smaller populations and lower business line density, there are fewer alternative fiber facilities deployed. It is im-

[6] Access to ILEC duct is discussed beginning with ¶ 38 below.

perative that any fiber build focus on large aggregation of traffic where the greatest, and most concentrated demand resides. When that demand is dispersed or to one or two large corporations, as it is in Austin and San Antonio, rather than multi-corporation and concentrated, as it is in Dallas and Houston, it becomes harder to recover the costs of building the facility because you have smaller addressable market in a larger geographic area. Again, a core multi-business district is necessary in the equation of the economic model of any fiber deployment to be realistic.

32. When the number of business lines at a wire center drops below 40,000, there are typically additional issues that need to be weighed before a judgment can be made on deployment. The dynamics of the data between residential, business and access lines is not so definitive and shows that there may be a differentiation in wire centers. Since each and every decision to self-provision is a critical decision for a small CLEC such as Alpheus, routes involving a wire center with fewer than 40,000 business access lines involve to much speculation and too little certainty regarding the ability to recover the cost of deployment. In fact, it has been Alpheus' experience that on routes between wire centers with 40,000 business access lines and 20,000 business access on is a difficult range to predict. The presence of alternative fiber on these routes is the exception rather than the rule. For instance, in one central office in Austin, although there are over 36,000 business lines, there are close to 53,000 residential lines. This may be because the wire center covers such a large geographic area that, although there is not a core business district that would warrant the fiber build, there are smaller pockets of smaller business that aggregate into the larger number but do not warrant an economic build decision for Alpheus. It has been Alpheus' experience that large residential wire centers do not have the

economic model necessary for self deployment of dark fiber and currently require the continued use of the legacy UNE dark fiber. This pattern of large number of residential lines that clearly exceed the level of business lines appears repeatedly within this range. Residential lines are vastly more expensive to serve because the customers are widely dispersed with the wire center.

33. For Alpheus to self-provision fiber between two ILEC wire centers, it is essential to Alpheus that any interoffice fiber build must also give Alpheus the opportunity to send laterals to larger multi-tenant buildings and carrier POPs. Without this ability, it is unlikely a fiber build could be justified. Although the ILEC has specific facilities between its central offices, CLECs build in a ring configuration that has nodes in buildings along any transport path. It is imperative that dense core business areas be available along the route between SBC central offices to which Alpheus is going to self provision. Although these core business markets are addressable in wire centers with at least 40,000 business access lines and above, it is not apparent on routes between wire centers with 40,000 and 20,000 business access lines.

34. Even in large cities like Dallas, Alpheus does not have an alternative to SBC dark fiber on many routes because the demand to reach certain central offices will never justify the sunk investment in fiber. Based on the data on the PNR excel spreadsheet, these offices typically have less than 20,000 business lines at one or both ends.

35. This analysis generally correlates to the routes that SBC claimed impairment in the impairment dockets in Texas. Below is a comparison of the data:

City	Number of routes SBC sought a finding of impairment.	Number of Routes in Tier 2 Subject to TRO Triggers Between 40k and 20k business lines	Number of routes where No Impairment Over 40K business lines
DFW	159	157	36
Houston	85	210	45
San Antonio	12	21	1
Austin	10	15	3

36. This chart demonstrates that the number of routes under each test are quite close in Dallas-Ft. Worth (DFW) and very close in Austin and San Antonio. The only city where the numbers vary significantly are in Houston, which suggest that Houston may, indeed, be a city where the evidence of over 20,000 business lines is indeed not an indication of a CLECs ability to self deploy. This further exemplifies that additional scrutiny is necessary at this level.

37. With few exceptions, the routes that likely prove economic to deploy based on Alpheus' experience and the routes that require additional scrutiny are, with extremely few exceptions, the exact routes that SBC requested an examination of non-impairment in the transport trial in Texas.

B. Access to Dark Fiber UNEs is Critical to the Alpheus Network

38. Absent new rules from the Commission, SBC has made it clear it believes it will no longer be required to offer *any* dark fiber facilities to Alpheus, and will withdraw those facilities we are already using in critical portions of Alpheus' network, both in the interoffice transport network that carries traffic between and among SBC central offices and in the loop side of the network that connects Alpheus' transport network to its customers.

39. In a pending arbitration proceeding in Texas, SBC has suggested that CLECs should have only 90 days to disconnect from SBC's UNE dark fiber if the Commission eliminates UNE dark fiber. Even if the transition were six-nine months, Alpheus would face immediate and virtually complete disruption of its network. Unlike lit UNEs, the transition from dark fiber UNEs involves disconnecting the ILEC fiber from the Alpheus equipment. Although SBC offers DS1 and DS3 level special access interoffice transport that are comparable to the DS1 and DS3 UNEs, SBC does not offer dark fiber in any tariff in Texas and SBC has made it quite clear to Alpheus that it would not offer dark fiber under any terms and at any price. SBC also makes it clear that there would not be any cooperation with researching and reserving SBC duct to allow Alpheus to become a self deployed fiber based CLEC. The only way to obtain dark fiber from SBC today is as a UNE. Absent FCC rules specifically requiring access to legacy dark fiber, SBC refuses to offer dark fiber facilities to Alpheus. Therefore, unless the Commission mandates unbundled access to dark fiber, Alpheus at some point will be unable to obtain any legacy dark fiber from SBC on any terms or for any price whatsoever.

40. If SBC can disconnect Alpheus from its existing dark fiber UNEs with six months or less notice, Alpheus' ability to economically provide service to its customers and its ability to remain a viable competitor to SBC would be crippled. The new innovative services that Alpheus offers other carriers and customers would not be available from SBC since SBC does not have these services deployed. In most instances, Alpheus' ability to remain a viable competitor would be harmed even if afforded a longer period in which to transition off of SBC's unbundled dark fiber, due to the unavailability of any satisfactory alternative. If SBC were to disconnect Alpheus' dark fiber UNEs, Alpheus could, in the-

ory, deploy its own network. However, as explained below, it is virtually, if not physically, impossible for Alpheus to deploy new fiber optic cabling to replace the 7,832 route-miles of SBC UNE dark fiber in Alpheus' network in six months or any other short time period. Further, even if it were possible, the expense to replace those 7,832 fiber route miles would be staggering and impossible for Alpheus to undertake financially.

41. Nor could Alpheus transition all the portions of its network using SBC UNE dark fiber to an alternate supplier. As explained below, dark fiber is typically not available between SBC central offices from companies other than SBC. To the extent other companies have deployed some of their own fiber in the same markets, they have deployed it for their own networks focusing on their product lines and that fiber is generally not available to Alpheus or the customers that Alpheus serves. Even if alternative fiber was available, the fiber typically does not go where Alpheus needs it — between SBC central offices or to Alpheus' customer locations.

42. Even if fiber was available on the market or Alpheus could deploy its own fiber, it remains a complex task to completely redesign and rebuild an existing telecommunications network, with live customer traffic. It would be impossible to restructure a complex working network in a six month timeframe and nearly impossible without substantial disruption of customer services even if one had an extensive time and capital.

43. SBC insists that, if in 90 days from notification to disconnect the UNE dark fiber transport, Alpheus has not issued an order to SBC to disconnect the fiber, SBC will disconnect the fiber itself. This would not only put Alpheus out of service, but Alpheus' customers, many of whom are carriers that have their own end user customers, out of ser-

vice. The effect of the discontinuance of UNE dark fiber transport would ripple across multiple carriers and thousands of end user customers throughout Texas.

44. Simply put, if Alpheus can no longer obtain UNE dark fiber transport and loops, Alpheus' network would be ripped apart and made unusable. Alpheus' three hundred and fifty million dollar investment in equipment, collocation, and its own fiber facilities would be stranded. The five years of sweat and innovation used to design and build this innovative and superior network would be for naught. There currently is no other wholesale telecommunications carrier that now offers to provide Alpheus' customers with the ubiquitous DWDM based services that Alpheus provides, including SBC. Carriers in Texas would be forced to purchase SBC special access services that do not adequately replace Alpheus' services because they are not as reliable, robust, protocol agnostic or as state-of-the-art. Alpheus' carrier customers would be forced to use the inefficient electrical cross connects instead of the more reliable and instant optical cross connects that Alpheus has deployed, and at higher ILEC prices.

III. ALPHEUS FACES SEVERE IMPEDIMENTS DEPLOYING METRO FIBER

A. Building Access Impedes Alpheus' Ability to Deploy Fiber Loops

45. Although Alpheus faces a myriad of obstacles when it seeks to serve new customers, one of the most serious and intractable issues is obtaining access to the customer when the customer is a tenant in a commercial office building. The obstacles present significant competitive issues because SBC faces virtually none of the same obstacles. It is far easier and cheaper for SBC to gain access to a building than it is for a CLEC like Al-

pheus because SBC retains advantages from its legacy monopoly status and its resulting first mover advantage.

46. Building owners expect to be compensated for Alpheus' use of space in the building for locating telecommunications facilities, and Alpheus understandably does not suggest that building access should be free. These costs can vary widely however, from building to building, landlord to landlord, making entry into certain buildings economically feasible but entry into an adjacent building infeasible. This simple fact can deter Alpheus from making the sunk investment to build to a commercial building because it is more efficient to deploy fiber facilities when there will be multiple sources of revenue to cover the sunk investment in the facility.

47. For example, in Houston, Alpheus wanted to serve a customer in a building that housed a carrier POP. The building owner wanted to charge access fees as follows: approximately $1500 per month for a four-inch penetration from the street, of which Alpheus needed two; approximately $140 per foot per year for a conduit inside the building (which is about 250 ft.); approximately $500 a month for a J-box[7], which Alpheus needed two of and approximately $40 per square foot for floor space, which Alpheus needed about 100 sq. ft. The total would have cost Alpheus approximately $75,000-$100,000 <u>a year</u> just to serve one customer in one building. By comparison, Alpheus pays approximately $37.00 per fiber mile per month or $444.00 per fiber mile per year to SBC to obtain a dark fiber loop which is already terminated in the building and would go otherwise unused. Ultimately, due to these high costs, Alpheus decided it was not economically

feasible to pay for the necessary building access costs imposed by the buildings' owner. Competitors like Alpheus cannot compete against SBC if it costs them significant sums to access a building and it costs SBC nothing. SBC maintains an enormous leg up in the marketplace due to its legacy building wiring, which often CLECs cannot compete against without using UNEs; the barriers to entry are simply prohibitive.

48. SBC also has an advantage in gaining building access because of its legacy monopoly status. To our knowledge, SBC pays nothing for building access in Texas. SBC has instituted sales programs to cement its first-mover advantages. One such program is called "Business SmartMoves" or "BSM". Through BSM, SBC pays building owners a marketing fee in return for the building owner's service as a marketing agent for SBC. Under this program building owners help market SBC's product and services to prospective and existing tenants. When SBC deploys fiber to the owner's building, the owner can market its building as possessing state-of-the-art telecommunications facilities. Prospective large tenants target these buildings for fiber and fiber diversity capabilities to secure their telecommunications traffic.

49. Owners receive additional benefits, such as receiving commissions on sales of SBC products and services the owner generates. Of course, this scheme incents owners to charge CLECs outrageous building access fees while allowing unfettered ILEC access, and as a result locks Alpheus and other similarly situated CLECs our of many buildings.

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[7] A J-box is an enclosure that brings the cable from the conduit that connects to the outside manhole into the building.

50. Another SBC program designed to cement its first mover advantage is the "T-1 roll initiative." This program targets businesses, both large and small, that have SBC T-1 (DS1) facilities provisioned over copper at a specific building. After reviewing the number of T-1 facilities provisioned over copper to the particular building, SBC approaches the owner and proposes to deploy fiber into the building. Since SBC generally has fiber in the manhole in front of the building and conduit already built to the building, which has been paid for by the ratepayers, the cost of deployment is insignificant. The T-1 roll initiative allows SBC to migrate multiple T-1 circuits on its copper cable serving the building and convert those circuits to SBC's fiber. It was Mr. Galvan's experience, while at SBC that rolling T-1's to fiber reduced SBC's maintenance and repair costs for T-1s provisioned over copper from significant to almost non-existent under fiber deployment. This program then helps SBC deploy fiber to the building, reducing already expensive copper maintenance and repair costs and allows a building owner to market the fiber capabilities of its property and compete with the large class A buildings. It also allows SBC to extend the reach of its fiber network through its inherent first mover advantages. SBC can target tenants in these buildings to offer to sell DS3 or OCN service, thus tying them into a long term contract that locks out the CLECs..

51. SBC is also able to gain access to the buildings through a network infrastructure that they have been compiling for over 100 years during which they faced minimal competition. Even today, when builders prepare to construct a building they typically meet with the city for water and sewer needs, the power company for electrical, and SBC for their telecommunications needs. Alpheus only gets the opportunity to provision to the building from the start in rare instances. Further, while Alpheus cannot provision fiber to

a building unless they have a customer committed to using their service; SBC typically finds itself as the first carrier in regardless of whether any tenants want SBC's service.

52. SBC's pre-construction advantage still exists in today's competitive market, allowing SBC to retain and expand its first mover advantage. This was evident in the construction of a new building in Houston that went up one block from Alpheus' office building. The plans for the telecommunications conduit showed that the building owner placed 10-4" ducts out the west side of the building directly in front of an SBC manhole and 4-4" ducts out of the east side directly to another SBC manhole. SBC only needed to construct 40 feet of conduit to connect its ubiquitous fiber network to the building. During the time this building was under construction, the City of Houston reconstructed 3 of the streets surrounding the building and plans to reconstruct the fourth in 2004. Thus, if a CLEC today wished to self-provision dark fiber to this building, the CLEC would need to cut into at least 2 streets covered by the city's construction moratorium. This example is typical of how building owners provide SBC access to their new buildings.

53. CLECs do not get comparable access to buildings. SBC's large customer base and fiber generally being available close to most buildings, coupled with the BSM program, allow SBC to fully leverage its first mover advantages which incent building owners to ask CLECs for large access fees, if the building owners allow access at all. BSM provides the owners a strong financial incentive to make it very difficult for CLECs to bring competitive facilities into the building. Just as SBC has done, a CLEC could, in theory, pay a marketing fee to the building owner. However, if the building owner is currently capturing a marketing fee from SBC, which has with 85 percent of the market and which company had virtually 100 percent of the relevant market, there is little to no incentive to

add other competitive providers to the building. When SBC approaches the building owner with the prospect of installing fiber, which allows the building owner to make more money off the tenant base, the building owners jump at the chance to have an additional revenue stream and willingly allow SBC free reign into the building.

54. The bottom line is that CLECs and ILECs do not incur the same costs to operate in these buildings and the differential in costs is a steep impediment to serving customers in commercial buildings. Moreover, SBC's marketing programs and first mover advantages in some cases allow SBC to provide building owners with incentives to make access to the building cost prohibitive for competitors.

55. There are other factors that affect the building access fees a CLEC must pay. In many instances, building owners have charged Alpheus above market price per linear foot for riser and conduit space or per square foot for equipment room space to access a building. In other words, Alpheus often is required to pay more per square foot for space in a broom closet than the tenants who occupy plush offices within the building. SBC and the building owners have argued that the building owner is not "discriminating" by charging high access fees to the CLECs because the building owner would charge the same fees to all the competition, except SBC.

56. CLECs also have to overcome other obstacles in determining the feasibility of access to a specific customer location. The cost to install fiber to a specific building varies depending on whether the adjacent streets are subject to a construction moratorium, and if the building entrance is accessible for placement of fiber. A moratorium describes construction limitations imposed by municipalities. The limitation can require any entity

cutting a street that has been recently resurfaced or reconstructed to return the street to its original or better condition. More stringent limitations can involve outright denial of access for construction purposes. Currently both Dallas and Houston have enacted street cut moratoria. Moratoria frequently cause significant increases in the costs of provisioning service to a building. It has been Alpheus' experience that moratoria are typically set for no less than five years and for as many as ten years. The cost to construct in the Dallas core or central business district ("CBD") typically runs between $100-$150 per foot.[8] If the city has reconstructed the street with reinforced concrete the cost often exceeds $400 per foot. The increase is so significant that the cost to build the facility may make the build uneconomical. In some cases it may take as long as 5 to 10 years to recoup such an investment, and most customers are not willing to commit to 5 to10 year deals, especially with the instability that exists in the marketplace today.

57. In buildings where Alpheus has obtained access, there remain additional obstacles in providing service to the tenants. For instance, Alpheus needs to determine whether the general contractor placed enough conduit for new entrants, whether there is enough riser space capacity in the building, whether the telecommunications room has space for redundant equipment or must valuable rental space be converted and paid for and whether the city has recently paved adjacent streets and subjecting them to an onerous construction moratoria.

58. Building access problems also impede use of UNE loops. Obtaining access to the building can be a problem for Alpheus because it is not afforded the free and easy build-

[8] Commercial fiber suppliers and contractors typically charge for material and services by the foot.

ing access requirements of SBC. Early in 2004, Alpheus tested a DS3 UNE loop in Dallas. In order to get access to the telecommunication closet, located in the basement of multi-tenant buildings or on individual floors, the contractor for Alpheus and Alpheus personnel were each required to obtain a certificate of insurance and indemnify the building owner from liability. Such extraordinary requirements added extensive delay to the installation interval when provisioning intervals are critical.

59. In this situation, Alpheus was not constructing any facility but just testing an existing fiber obtained from SBC as a DS3 UNE loop. Alpheus' contractor had to be escorted into the room by the building management. Building owners make it difficult to access their buildings since having multiple telecommunication providers has increased work and reduces the commission they receive under the BSM program with SBC. This is but one example of daily impediments that Alpheus faces. SBC's BSM program is clearly an obstacle that Alpheus often finds difficult to overcome in loop development.

B. Impediments in Accessing ILEC Conduit and Duct

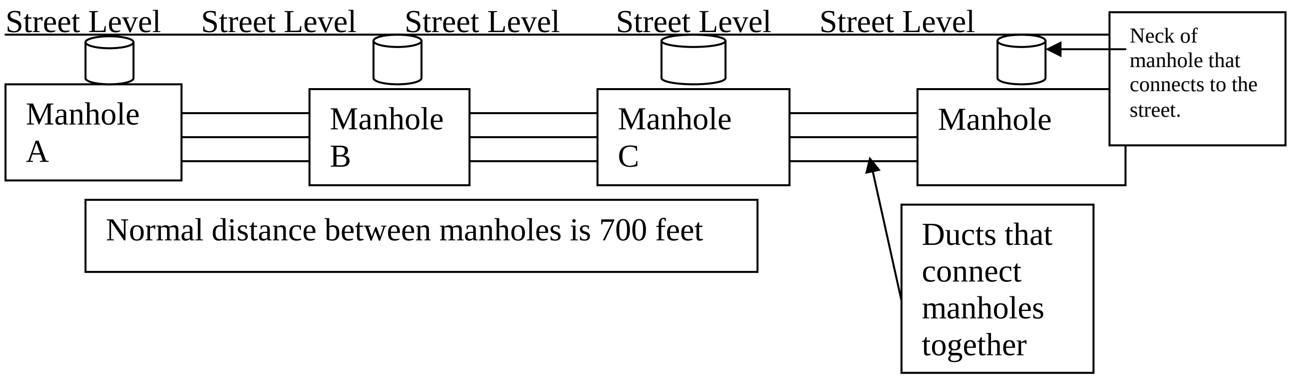
60. Although pulling fiber through existing duct is easier and less costly then trenching the street to lay new fiber cabling, it remains a manual, time intensive and costly process to locate duct, ensure that it is available, make sure the duct is not physically damaged and is usable and prepare the duct for installation of the fiber.

61. SBC's underground fiber facilities are typically placed as follows: between two SBC central offices, SBC has built a conduit system and pipes built in which the underground cable is placed that connect manholes to each other about every 700 feet. The copper or fiber cables are pulled from one manhole to the next and spliced together at the

manhole. A manhole is a vault is approximately 7 feet high by 6 feet wide and 12 feet long, made of concrete that has been put under the ground. The vaults are designed to allow access through a small entry tube (or neck) that connects the ceiling of the vault to the ground level or to the street where the manhole cover encloses the vault. The vault contains a ladder allowing a person to climb to the floor of the manhole and work on the cabling and duct systems inside.

62. The short ends of the manhole have round concentric holes to which duct has been placed as the pathway between the manholes. Ducts are the hollow core containers, connecting the manholes, into which the cable is placed. In the illustration below, cable would be pulled from Manhole A to Manhole B. Cable would also be pulled from Manhole C to Manhole B. In Manhole B, the cable from Manholes A and C are joined by splicing the copper cable wires together.

63.



64. The duct run is divided by using conduit very similar to what is used to hold individual golf clubs in a golf bag and is approximately the same size. Individual fiber strands are the circumference of a human hair so a 288-fiber cable is very compressed but capable of transmission of incredible amounts of data. Fiber cables are typically deployed purposely leaving a length of slack cable coiled inside specific manholes in which there is a splice case attached to the cable which allows splicing crews to extend the fiber cable out of the manhole into a van where maintenance and reconfiguration splicing is performed in a controlled environment.

65. The process used to look for available duct is an arduous manual process. First, the CLEC must make a formal request to the ILEC to review the duct records. Then, an engineer must examine the available plats and engineering drawings. The plats or engineering drawings are a picture of each cable path or duct run between every manhole on a given fiber route between SBC central offices. SBC's plats that are initially provided have typically not been updated in seven years, so the information on them is often at least partially inaccurate. Outdated plats may allow the engineer to review the path of the duct run but contain no information allowing the engineer to determine whether duct is

unused and available. This is because SBC continuously places, removes or otherwise alters the configuration of duct that dictates availability. During the last seven-year period many of these changes have occurred. Thus, the changes not on the plats must be identified in order to determine availability. The CLEC engineer must then request the SBC personnel to print the latest version of a number of specific plats or maps stored electronically in a computer program called OPTI-CAD.[9]

66. The duct plats and maps contain critical information that allows engineers to determine whether duct is usable. From reviewing the plats and maps, an engineer can determine how many ducts have been built between each manhole and then determine if each duct is: (1) occupied by copper cable which usually takes up the entire duct, (2) occupied by fiber cable, (3) vacant but earmarked as the maintenance duct, or (4) is vacant. A fiber cable usually does not take up an entire duct since one can install small innerduct into the duct and divide the space so two or three fiber cables can share the same duct space.

67. However, the information on OPTI-CAD is not 100% accurate. When Opti-CAD is not complete, the only way to get accurate information is to review plant layout records (“PLRs”) and all of the design work order or “DWOs” that have been completed in that wire center containing potentially 200 to 300 documents to find the information needed. Essentially, there was not a complete conversion from paper records to data base records and that when errors are found, the CLECs seem to be exerting the effort to correct the OPTI-CAD data base. This results in the CLEC spending an enormous amount of time

[9] OPTI-CAD is a computer program that stores digital images of maps that inventory SBC’s under-

correcting an inaccurate data base inventory. These OPTI-CAD records are supposed to identify the number of cables along a particular duct run and help identify the number of cables located inside the conduit route.

68. The records were typically scanned into OPTI-CAD over the last few years at the initiation of OPTI-CAD. If one of the plats was not scanned into the database, Alpheus has to look through hundreds of old records to find the one that was not scanned into the data base to complete the path between SBC central offices.

69. This process of identifying the duct itself takes many months. For example, it recently took Alpheus well over a month simply to gather the paperwork to check if duct was available on the specific route in Dallas. After obtaining the paperwork and analyzing whether duct is available or not, further research may be necessary to determine alternative routes before Alpheus has a viable path on which to pull its fiber. Even then, accessing the information frequently requires time of the SBC clerks that work in SBC's engineering office where duct plats are maintained. SBC claims this is a hindrance and has made it plain that it will require that Alpheus limit its plat review to one or two days out of each week. Although Alpheus compensates SBC for the clerks time, we are not afforded the ability to complete the job in a timely fashion. For a process that takes weeks and months, this limitation extends the process considerably.

70. For instance, just recently in Dallas, an SBC clerk took all day, from 8:30AM until 3:15 PM to execute 45 keystrokes to get Alpheus the scanned conduit plats it needed from the OPTI-CAD records. Meanwhile Alpheus sent its engineers from Houston to

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ground cabling.

Dallas specifically to research duct records and paid SBC for the clerk's time. In return for the fees Alpheus paid, SBC provided a clerk who was not properly trained or motivated to provide the service needed.

71. CLECs cannot go to one SBC office in a city to access to all of the duct information in that city. For example, Alpheus is in the process of analyzing the cost of deploying its own cabling on a route that connects several central offices in Dallas. The personnel at the district office advised Alpheus that they thought it was taking up too much of the clerk's time and that it would have to go to the actual engineering office units that are dispersed throughout the city to garner the information needed to analyze duct availability.

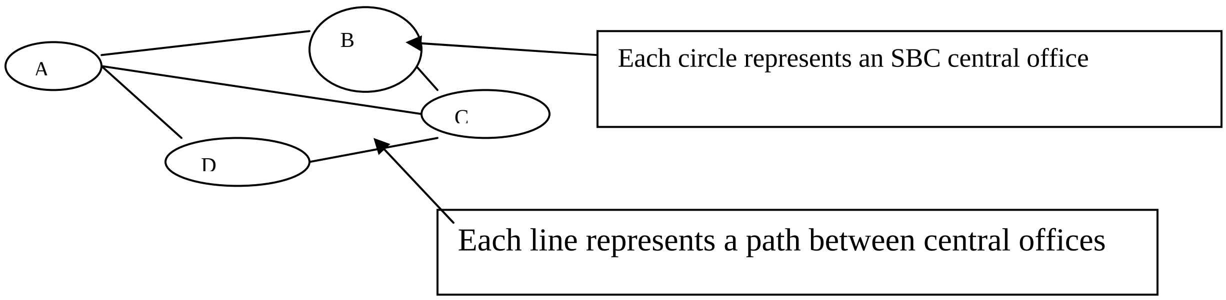
72. First, the engineer needs to determine how SBC duct system connects the two central offices on an interoffice route, and then give the underground reference number to the clerk so she can print the latest version from the OPTI-CAD data base. This gets the latest cable records to determine if there is a clear route to place the proposed cable. From there, the clerk can cross-reference which conduit records are needed to determine the interoffice route. This cross reference method is not always accurate. Some of the conduit records are not always scanned in the data base which results in looking up the missing sheets in their paper files or reviewing the various work orders to determine the actual trunk route. This process may involve reviewing hundreds of conduit records and 20-30 work orders.

73. During the investigation in Dallas in the Mesquite wire center Alpheus needed a plat that could not be found in OPTI-CAD. These manholes existed – a field survey ana-

lyzing the route confirmed their existence. The SBC district engineer requested that the SBC unit engineer produce the plat that placed the new manholes since it was not scanned into OPTI-CAD. It took three weeks for the SBC engineer to produce the plat to the Alpheus engineer.

74. There is an exponential component in researching duct between central offices – the more offices Alpheus intends to connect, the more paths or routes that are available For example, the review may begin looking at one path to a particular central office, but after weeks of review find that duct is not available or blocked on one section of duct. This reuires the engineer to start again look for a new unblocked path between central offices. This means the CLEC engineer will examine a myriad of configurations to find available duct, significantly extending the time process—all with little if any help from the ILEC which has the information.

75.



For instance, in the diagram above, looking for a path from SBC Central Office A to SBC Central Office D, the most direct route is naturally between A and D. Since that would be the most cost efficient route, there is a high potential that there is no duct available on that route. Since this is often the case, the engineer must search for duct on routes A to C to D, A to B to C to D as well. Taking into consideration that there are twenty to fifty central offices in the Dallas and Houston MSAs, one can see how time intensive and complicated this procedure could become. It would take over a year for a CLEC simply to research available duct in the Dallas MSA alone.

76. Other obstacles to pulling fiber through ILEC duct arise because segments of duct are likely blocked while the remainder of the route is sound. If only one section between two manholes is blocked between SBC central offices, cable can sometimes be put on telephone poles between the blocked sections by running it out of one manhole, attaching it to an existing pole line, and then attaching it to other poles until the blocked duct area is covered. Then cable can go from this aerial pole back to underground placement by the same process in the opposite order, and continue on the route. However, this scenario is only administrable where there are existing telephone poles, which are not available in major metropolitan cities such as Dallas and Houston, San Antonio or Austin. Even

where telephone poles are available, all carriers (including ILECs) typically prefer underground cabling for security of the cable against damage, including from nature which affects the reliability of the service. Aerial cable is subject to too many external issues to make it a centerpiece of a business model. Today's industry standards suggest deployment of fiber either direct buried or in a duct/manhole configuration. New national security measures reaffirm the value of underground or direct buried fiber deployment. Ultimately, the need to place a segment of a fiber route on poles can increase the cost to build. Additional costs are incurred to obtain city approval that can take months, place the cable on the poles, to place a pipe to bring the fiber up from manhole to the pole.

77. There are significant steps remaining once the CLEC identifies the route and locates available duct. First, what is in the paper or computer records does not always reflect what is actually under the streets. Nor do the records reflect defective duct or abandoned cables remaining in the duct. SBC does not keep a record of either of these cases. When SBC "retires" or stops using a cable, SBC removes any record of that cable's existence from OPTI-CAD. Therefore the duct that the cable occupies would look available on a paper or by OPTI-CAD review, when it really is not.

78. SBC frequently abandons copper cable in the manholes, which creates problems for deploying new fiber. As fiber cable is deployed deeper into the neighborhood by SBC, copper cable is no longer needed. Even though these are routes between SBC central offices, the cabling to the neighborhood generally follows the same routes in many cases. It is expensive to remove copper cable which can get physically stuck in the conduit system. Therefore, SBC leaves cable in the duct until the duct is needed for a future project. The problem is that the only person that generally keeps up with this specific in-

formation is the SBC design engineer for that exact geographic area and the information resides either in that engineers head or on paper records in the engineer's office. In either case, the information is not made available to Alpheus.

79. Therefore, even after this long and arduous information gathering period, it is still not possible to have certainty that duct is still available between central offices: (1) the ducts that are shown as available could be damaged, (2) there could be an abandoned cable in the duct that is not reflected in the records.

80. First, duct can become damaged. For instance, in Dallas there are lots of damaged ducts – about 55% of the duct and manhole infrastructure was built in the 1950s, when ceramic tile duct was state-of-the-art. Duct runs are literally a series of interconnected four-and-a-half foot square tile sections with holes.[10] There was no strong PVC innerduct deployed as there is today. Each four-and-a-half foot long section was assembled with a joint between sections. At each joint, as traffic weight or street borings made the earth above move, it allows dirt to enter the duct through the joint or in many cases caused the duct to collapse. Over the years, the tile may have completely broken down and the duct may have deteriorated, making the duct space uninhabitable for fiber cable. This can happen between two manholes or between many segments of the manhole paths. To add insult to injury, the old cables placed in the 1950s were coated with a lead overcoating or sheath. In many cases, he lead has corroded or embraced the tile permanently to form a bond that cannot be severed. This means that the duct is not useable without

[10] See Exhibit 1.

very expensive remodeling to the duct run. This expense often makes fiber deployment uneconomic.

81. Second, copper cable can be unused or abandoned in the duct. SBC is more than willing to let CLECs absorb the cost of removing the unused or abandoned SBC cable to use the duct space, because the cost is generally $1500 per section between manholes. In addition, it adds a time factor to deploy fiber as it takes half-a-day between each manhole to pull out the abandoned cable. If the cable cannot be removed, the conduit has to be cut in the middle of the run to see if the cable can be dislodged, at a cost of over approximately $10,000 per blocked section. This adds at least two to four weeks to the process because the contractor needs to obtain an open cut permit to excavate the pavement. There could be fifty manholes in one route between two SBC central offices since they are only 700 feet apart, thus this adds an enormous amount of time to any deployment scheme. At this point the advantage of pulling fiber through existing duct has dissipated.

82. After all the analysis is done and a clear path is found, there are still many steps before actual deployment can take place. First, an application must be submitted to SBC for a license to occupy the duct. This application requires a detailed drawing of each manhole wall where the duct enters the manhole. Each duct must be scrupulously detailed to show what cable is present in each and every duct on the route at the time of analysis. Although any other carrier must perform this in-depth analysis for each duct and cable in the system, SBC apparently never puts this information into its OPTI-CAD system either for its own use or the use of other carrier using the duct, thus perpetuating the extensive analysis by each and every user of the duct. After filing this extensively de-

tailed outline for permission to use the duct, SBC may take 30 days to approve the application under the Commission's rules.

83. After SBC approves the occupancy application, the process of obtaining city permits (to open and work in the manholes), getting bids to place the fiber, dealing with contaminates in manholes that require expensive removal (an increasing problem that can add cost and time to any job), ordering cable, filing traffic control plans with each municipality encountered on the route and working with peers to confront issues of equipment reconfiguration that is required in collocations arrangements begins. Traffic control permits must be obtained for three events to gain occupancy, which take about three to five weeks per event. The manhole must be entered three times at different dates during this process: (1) to detail the manhole, (2) to rod and rope the duct and (3) to place the proposed fiber cable. If there are obstructions, this will add months to the process of obtaining a permit if excavation is required or power washing is required.

84. The first step is to enter the existing manholes and determine if there is a vacant duct. The contractor makes a sketch of the end wall to determine the occupied duct or vacant duct. The average number of manholes between wire centers is about 60 manholes. This will take about three to five weeks for each interoffice route. The contractor needs to obtain a traffic control permit from the city, county or state governmental entity which takes about two weeks to obtain.

85. Once Alpheus determines which duct space it intends to occupy, the CLEC submits a form to SBC for permission to rod and rope the duct. Each CLEC that wants to utilize the SBC ducts must perform what is called a "rodding of the duct". "Rodding" re-

fers to a tool that resembles a plumbers snake that is used to push through piles of mud or other debris blocking duct. This means that the CLEC must hire another contractor for an additional cost to examine each segment between each manhole for blockages. Some of the time the blockage is dirt alone which the contractor can generally "feel" because the dirt compresses as the snake is forced into the hole. In these cases, with the help of a power washer, the duct can be reclaimed but at a price that most times makes the economic model of pulling fiber deployment out of reach. Power washing is frequently a deal killer making the deployment uneconomic.

86. After the completing the rodding process, from manhole to manhole, and the duct is clear, the technicians tie an 1800 lb nylon rope to the fiber cable that it is to be deployed. The technicians then pull the rope through the duct for each section of duct from manhole to manhole, creating a continuous rope line between the "A" and "Z" locations of the route. After the entire route is roped the CLEC must then submit another application to actually pull the fiber and occupy the duct. After taking the allowed thirty days, the ILEC approves the application and the CLEC can pull the fiber using the rope to pull the fiber through the duct.

87. Once the fiber is pulled into the duct, which typically takes 1-2 months, including obtaining the municipal lane closure permits, the CLEC can splice and terminate the fiber into the collocation arrangement inside the SBC central office but only SBC approves the collocation augment application, which has a 2 month interval.

88. After splicing and terminating the fiber in the collocation arrangement, Alpheus begins a painstaking process of installing equipment, engineering the SONET ring which

typically takes 2-3 months. Part of the engineering process requires continual testing to confirm whether the equipment is configured with cards for the appropriate distance the optical signal will travel. Alpheus uses equipment that has short reach, medium reach and long reach cards. This testing process typically takes at least 1-2 months. Other engineering steps are involved leading up to the eventual rolling of existing circuits from a UNE dark fiber based system to one on Alpheus owned fiber. A system roll takes many months as it involves working within narrow maintenance windows to avoid disrupting customer traffic. Its not possible to disrupt customer traffic every day for a month. Rather it must be performed gradually which, of course takes more time. Ultimately the roll itself involves a closely coordinated activity between technicians and the alphas NOC to move traffic form the working side of the SONET system to the protect side. Then the fiber jumpers are moved and the traffic is rolled back to the working side, now an Alpheus fiber, while the jumpers changed disconnecting the SBC UNE fiber from the protect side. Depending on the number of nodes on the ring simply rolling the traffic from one pair of fiber strands to another can take several months. At SBC, Mr. Galvan experienced system rolls that took years.

C. Alpheus is Generally Unable to Self Provision Fiber Facilities or Obtain adequate Alternatives on the Wholesale Market.

89. The incremental cost of extending a fiber facility into a building is significant. There are substantial upfront costs that must be incurred, such as ROW access, installation costs and building access costs. Adding a lateral extension requires the expenditure of significant time and resources which can only be justified by the additional revenues the customer may generate.

90. The cost driver in fiber deployment is the cost of laying the fiber, including the costs of obtaining rights-of-way and actually digging and placing the cables. There are also costs associated with splicing and testing the fiber and splices before installation is complete. For instance, the lateral that a CLEC needs to deploy may be from 500 feet to 5,000 feet at a cost of over $100 per foot, and up to $400 per foot if it is a moratorium street.

91. Alpheus faces obstacles when it constructs lateral extensions that SBC does not have. SBC, for example, does not need to obtain a city permit, which can take up to 90 days. Also, because much of SBC's conduit has been in place for years, they do not face issues with moratorium streets which Alpheus faces, they simply pull cable through existing duct. SBC's first mover advantage and ubiquitous embedded network also creates a situation where access to public streets and office buildings is vastly different for Alpheus than SBC.

92. SBC also has advantages in laying underground fiber cable in downtown Austin, Dallas, Houston and San Antonio. SBC has spare conduit capacity in the right-of-way to access the building as well as existing SBC conduit into the building – the path is generally clear for SBC. Alpheus does not have the same access that SBC has. If Alpheus has access to spare conduit capacity, it faces other significant deployment hurdles. If Alpheus has a fiber facility from which it can connect a lateral, which it most often does not, Alpheus must connect its own conduit system to the SBC conduit system to gain building access. This means, in all cases, the city streets must be torn up as a pipe is placed between the two conduit systems and holes are drilled into both the ILEC and CLEC concrete structures.

93. Typically, for existing buildings, SBC already has duct penetrating into the building and only has to pull the fiber through that duct and into the building. Alpheus, however, has to construct new conduit to the building, obtain a city permit to construct in the right-of-way and negotiate with the building owner for access. Alpheus has to complete the application to the city for a permit, including the building drawings, but cannot do so until it has successfully negotiated with the building over how and where it will access the building, which can take months. Of course, customers generally prefer a much shorter interval from ordering until activation, which SBC can provide because of its existing legacy network and thus deliver immediate service.

94. Alpheus sometimes has access to SBC conduits, but obtaining it is a time intensive and manual process and sometimes the process results in no access at all. It is a mistake, however, to assume that using SBC conduit avoids problems associated with constructing in the streets. Aside from the process of obtaining and installing fiber through the conduit, Alpheus faces additional obstacles. For instance, when using SBC conduit Alpheus must still connect its existing fiber network to the SBC conduit system. Even though Alpheus will pull fiber through SBC duct there is typically physical construction required to connect into SBC's duct system. It is very difficult to interconnect to SBC's embedded manhole system due to the various moratoria on street construction that apply to new entrants. Alpheus, even where it has its own fiber ring, would have to build from the existing Alpheus manhole to the nearest SBC manhole. This connection build is where the problems start. Since SBC has conduit from virtually every major building to a SBC manhole, each and every CLEC that wants access to a building must find a way to build to the SBC manhole. SBC never has a need to connect to another carrier's manhole

because SBC builds access to each building as the building is constructed. CLECs rarely, if ever, have enjoyed this first mover advantage.

95. Alpheus does have limited fiber cables deployed in SBC's conduit system. One of the disadvantages Alpheus has encountered with fiber deployed in SBC's conduit is that Alpheus does not have control of its own facilities. In essence, Alpheus has to trust its fiber facilities to its competitor. By way of example, in an incident in July 2002, Alpheus OSP employees found an SBC fiber tag tied around an Alpheus fiber cable located in an SBC manhole in Austin, Texas. The SBC technician wrote on the SBC fiber tag that he was upset about the manhole being congested and folded the fiber cable at the splice enclosure, damaging the fiber, and thus affecting service.. It is situations like this that give Alpheus pause at using SBC conduit to build its competitive network.

96. As stated above, Alpheus has surveyed and found few if any sufficient alternatives to replace the SBC dark fiber it uses today. Even in the limited instance when there is some fiber available, Alpheus also has trouble purchasing dark fiber from third parties because the costs of doing so are typically not justified given the potential revenues at stake. Third party providers generally do not provide a point-to-point connection and rarely do so between SBC central offices. This means Alpheus would need to purchase miles of fiber it has no use for in order to gain access to one building. Since fiber is generally paid for by fiber mile, the increased cost of purchasing numerous miles of a fiber route that are not needed makes the cost prohibitive depending on the revenues available from the customer.

97. Existing alternative provider networks are not deployed by CLECs in the same manner as SBC. CLECs' fiber rings are also different from how SBC deploys its fiber network. A ring is a network and fiber circuit arrangement in which each telecommunications transmission device is attached along the same signal path to two other devices, forming a path in the shape of a ring. Because SBC has such a large conduit and fiber infrastructure, pays relatively no building access fees and has enormous spare capacity in its duct system to pull directly into a building, SBC can pull a fiber cable into a building and have point-to-point connectivity to the site. SBC also uses a certain amount of its interoffice fiber as local exchange fiber and is able to provide diversity to a majority of the major buildings in Texas from diverse central offices. SBC sometimes has so much duct capacity in one wire center that it is able to feed the building diversely out of the same wire center. For example it may have a duct run on multiple streets adjacent to the building.

98. CLECs try to find the most economical route to service some of the major buildings in a CBD in a ring configuration. Some CLECs utilize SBC conduit when they can but do not have the capital to duplicate SBC's network. SBC, on the other hand, has an advantage because it can build its network along every street in the CBD to service any customer in the area. For example, Alpheus needed to obtain facilities to a carrier POP but was required by a third party seller to purchase the entire 65 mile ring to reach a building that only had a route of 20 miles.

99. Further, a fiber provider typically only allows Alpheus to access their fiber at an existing splice point. In order to access that splice point, Alpheus may have to build from hundreds or even thousands of feet to connect to the third party's fiber splice and then

build back to the targeted building. Similarly, most CLECs that have fiber deployed are not in the business of enabling other CLECs to gain access to their customer location and are reluctant to sell dark fiber to prime carrier locations.

IV. ISSUES WITH RIGHTS OF WAY

100. This section explains the significant costs Alpheus would be required to bear and obstacles it would face if it attempted to acquire and use municipal rights-of way in order to deploy fiber in metropolitan areas in Texas.

101. When Alpheus deploys new fiber facilities in the ground, unless it has access to ILEC duct, accessing municipal rights-of-way ("ROW") is one of the initial, and most complicated and costly obstacles to constructing new fiber routes, either for loops or interoffice transport. Before putting shovel to pavement, any CLEC must obtain the necessary permits and comply with the processes established by the appropriate local governmental entity. Obtaining the necessary permits is frequently a time intensive and costly process because the requirements in each city can differ from block-to-block and each city imposes different requirements.

102. Further, local governments are not the only entities exercising authority over access to rights-of-way. If Alpheus needs to cross a state highway or place fiber along such a highway, it is required to comply with the rules set by the State Department of Transportation. If the fiber is deployed alongside or across transit lines, Alpheus must work under the guidelines of the local transit authority. Each local authority has its own set of rules to follow that create additional layers of complexity, time and expense to any project deploying fiber in a metro area. All of these issues directly and significantly restrict

Alpheus' ability to deploy fiber in the most critical markets, and to deploy such fiber in the time before the customer takes its business to SBC

103. In the past, some carriers, particularly carriers much larger than sixty-eight employee Alpheus, have been able to deploy fiber. However, local government requirements are dramatically more complex, time consuming and costly today. After the initial fiber rush of the late 1990s, cities and other authorities implemented much more stringent rules because of the disruptions they experienced having the same streets repeatedly dug up by different carriers. Thus, many of these cities have imposed stricter obligations on carriers to replace entire sections of road rather than just the strip surrounding the trench, or additional requirements that add to the expense CLECs must incur when deploying fiber in the ground. Therefore, the situation new entrants face today is much more burdensome than what existed a few years ago.

104. To respond to public backlash against the fiber goldrush, local governments have made the permitting process a long and complicated process. For instance the cities typically require CLECs to submit plans and profile engineering drawings before the city will grant a CLEC a permit for constructing in the ROW. This process, which usually involves a cycle of submitting plans for review and updating plans subsequent to that review provides the city an interval to review the initial drawings and make appropriate changes and review traffic control plans. The Austin permitting process is also particularly cumbersome because a separate request form must be completed for every street in which work will occur. If a carrier is building a fiber ring connecting multiple SBC central offices, simply filling out the requisite forms could take months.

105. Austin also requires a two foot vertical separation and a five foot horizontal separation between all utility lines where other cities generally only require one foot vertical separation and three foot horizontal separation. The effect of these unique separation standards is that there is less room in the ROW for placing utility lines. This restricts the placement of new facilities in the ROW, especially those close to carrier POPs and SBC central offices, where multiple carriers require entry into the building.

106. Typically there is significant political pressure on local government public works departments to keep roads open, particularly when the government has paid handsomely to resurface the road where a CLEC needs to deploy fiber. As a result, despite Alpheus' best efforts, many of its applications to build in the right-of-way on a moratorium street have been denied.

107. Even when Alpheus obtains the permits, other obstacles remain. Locating available space in the ROW is complicated when the route is congested with other utility lines including other carrier's fiber cables. If Alpheus needs to place fiber in the ground in the Central Business District ("CBD"), sometimes it is hard to find a spot in the ROW for its cable because the ROW is being used by other utilities. Cost is an issue if Alpheus' planned fiber deployment impacts a newly built or repaved road. In these cases the cost to restore the pavement to its original condition can be prohibitive because the cities typically try to discourage construction in streets that are new or have recently been resurfaced.

108. Certain high congestion areas and streets contain congested ROW. For instance, if the construction is near a carrier POP or an SBC central office where many other provid-

ers are located within the ROW, the cost escalates because as a rule the ROW is extremely congested and the excavation contractor cannot rely on purely mechanical means to place the facilities in the ROW. Thus, the contractors Alpheus hires must dig the trenches for cable using jackhammers or picks and shovels in order to avoid damaging the cables already placed in the ROW by other carriers. Digging by hand or jackhammer as opposed to using a backhoe normally triples the construction costs. This labor intensive construction method also increases by many weeks the time to needed to construct facilities.

109. If space in the public ROW is not available Alpheus may not be able to deploy at all If the ROW is exhausted, CLECs do not have the right to put a pole line on someone's private property. In instances where utilities or ILECs need this additional space, they can attempt to obtain or purchase an easement from the property owner. The process of obtaining an easement, if the property owner is amenable, can be time consuming and very costly. As with building access private property owners have the upper hand in these negotiations and often demand exorbitant sums when they realize they own the only path to a desirable destination.

110. CLECs also incur additional costs due to constraints placed on carriers deploying fiber in the public ROW that were not present in the mid-to-late 1990s. Requirements that all trenching and digging in the ROW must occur at night to avoid traffic congestion during peak hours are new and common in Texas. Working at night requires paying the contractor a higher rate so the contractor can pay its laborers overtime pay. Further, contractors charge more for working at night because they must handle their supplies differently since restoration material, including asphalt and concrete, are not readily available

in the overnight hours. Sometimes cities close streets for their own aesthetic improvements. For example, in Austin, Alpheus received information that two streets were now designated moratorium streets due to redevelopment planned by the city on a four block square downtown.

111. There are other factors that effect the cost of constructing fiber in the public ROW. One unique feature of downtown Houston and Dallas is that developers of office buildings were allowed to build their basements to the street. As Houston and Dallas built high-rise buildings, a system of tunnels connecting buildings to each other via these underground tunnels was developed. These tunnels connect high-rise buildings, parking garages, restaurants, and hotels. They have shops, restaurants and walkways in the tunnels that are used extensively by the people who work in the downtown CBDs. This system of tunnels adds another layer of complexity to finding usable ROW in the CBD to connect SBC central offices. Since SBC's ROW that was used to provide a path between SBC central offices was determined before or during the course of tunnel construction during the 1970s and 1980s, the design of SBC's transport network did not need to address these problems. Today, there is little space left underground to place new fiber on transport routes in major Texas cities, particularly Dallas and Houston.

112. Other government agencies beside municipalities are also frequently involved in approving fiber construction projects. Obviously the more approvals involved the higher the costs and length of the process. For instance many interoffice transport routes require traversing or following along state or federal highways. The rules for accessing these roads and placing fiber underneath them are governed by the relevant highway authorities. Complying with highway authority procedures adds another layer of complexity to a

project that drives up costs, assuming that ROW is even available under these roads. In many instances these highways are closed to new underground utility facilities because of extreme congestion in the ROW. Likewise any route that traverses railroad tracks adds additional expenses and another set of local authority regulations to follow. DART rails are pervasive in Dallas and many of the CBD routes in Houston require traversing the new Houston Metro rail line.

113. The local authorities can affect the ability of a new entrant to provide service. If the new entrant cannot obtain the necessary permits because of a moratorium on construction by the relevant authority, then service provision can be impeded. For example, the State Department of Transportation has closed major state roads in the Dallas area to further underground facilities, because of congestion in the underground or lack of additional ROW. One area closed to new construction are two highways that bisects available routes between critical and high demand central offices. The state informed Alpheus that there is no available ROW left on the required sections of theses highways and that it would be unable to deploy new facilities on those roads. In other cases the practical costs of dealing with multiple authorities drives the cost of the project beyond the point at which those costs are recoverable from paying customers.

114. Texas local governments impose strict rules governing fiber construction methods. Dallas imposes other onerous requirements for street cuts such as requiring that the permittee have its backfill material sent out for testing to a certified laboratory to make sure the backfill composition complies with the city’s rigorous standards.

115. Other typical restrictions include (1) restricting construction to just 6 hours during the daytime, which forces the contractors to work at night if the work is to be completed in a reasonable period of time. (2) denying the ability to use directional boring in downtown areas; and (3) moratoria limiting the cutting of a newly constructed street within 60 months of its completion without complete restoration.

116. Directional boring allows the contractor to place a conduit system in the ROW with a minimal impact to the street surface and subsurface. The typical directional boring procedure requires digging a "bore pit" and boring a steel or high-density polyurethane pipe underground. A hole, about 4" in diameter is then bored to a receiving pit at a distance anywhere between 100-500 feet. This saves the utility the cost of repaving the streets and can cut construction time and costs between 40-60 percent. The problem with this method is that unless the city's plans accurately portray the precise location and depth of existing underground lines there are significant chances of hitting and breaking those lines with the bore. Further, even if the contractor knows where all the utility lines are located the bore head can hit a rock and veer off direction into another utility line.

117. The local governments in the major markets Alpheus serves have created severely restrictive requirements for constructing in streets that have been paved within the preceding 60 months. The common requirement, is that resurfacing is required for the entire block where the street cut is made. Part of this requirement includes a requirement to use a slurry seal or micro-resurface that is uniform, matches the existing pavement or asphalt color and covers the entire block in which the cut was made. Dallas, for instance requires contractors to submit the "mix design" of either the slurry seal or micro-resurface for the

pavement or asphalt to an independent laboratory for testing and certification that it complies with the city's specifications.

118. For example, in Dallas, Alpheus constructed fiber from a manhole to a carrier hotel where it took approximately two months simply to obtain permits to install a 120 foot lateral. Due to government restrictions, contractors had to hand dig the trench for placing the conduit.

119. Many of the local governments openly discourage companies from constructing in recently repaved streets, instead suggesting that utilities determine alternative methods of making necessary repairs and facility installations to avoid excavations on these streets. Even where the city makes a provision to allow excavation in newly paved streets, it is only allowed by a variance, because the owner cannot serve its customers in another reasonable manner. Further, in order to obtain the variance the applicant must explain: (1) why the excavation was not performed before or when the public way was paved; (2) why the excavation cannot be delayed until after the five-year period expires; and (3) why the excavation cannot be performed at another location. These requirements make it exceedingly difficult to deploy new fiber routes, especially interoffice routes which are typically longer and traverse multiple municipal jurisdictions.

120. Some cities such as Houston have paid a significant price to replacing pavement on the major north–south corridors in the city with 18-24 inches of reinforced concrete to handle the bus traffic serving the downtown business district. Previously the city experienced significant damage to its streets subject to heavy bus traffic because the streets could not handle the stress from the weight and volume of the city's bus traffic and the

weight of the city's buses. Metro and the City of Houston published a long list of the streets subject to the five-year full replacement program. Under this program the carrier digging in the ROW must replace the entire concrete panel in the street, not just the portion of the street actually cut. This eliminates extra stress in the street that is ordinarily the result of trenching only part of the pavement panel. Each cut of the street weakens the street and increases the likelihood of the street requiring major repairs if left in its weakened condition. To alleviate this problem, the city requires that contractors cutting the streets must replace the entire 2 foot thick reinforced concrete panel from joint-to-joint (typically a 10' x 30' area) so that cutting the street does not decrease the life expectancy of the pavement. The Houston moratorium also provides that in streets subject to the moratorium the subsequent excavation and street repair must be tested by an independent tester.

121. San Antonio has similar restrictions which have impacted Alpheus efforts to deploy fiber. On one occasion, Alpheus built into an SBC central office and had to dig approximately 20 feet into the public ROW. As a result of this 20 foot dig, Alpheus was required to replace half of the entire block, re-mill the road and pour new asphalt from seam-to-seam without patches, which inflated the cost of the project significantly.

122. San Antonio has another restriction on access to ROW because some streets are paved with brick. On these streets the cost to construct in the ROW is very burdensome because the city requires that bricks must be removed individually by hand and salvaged for re-use. Alpheus has actually had project workers remove bricks by hand, number them in pencil in the order which they are removed so the bricks could be replaced in the precise location from which they were removed.

123. The requirements imposed by local governments and other authorities add significantly to the cost of deploying alternative transport facilities in most areas of the city. While some carriers may have done so in the past, most of those same carriers have also filed for bankruptcy, suggesting that investing in transport facilities to replace the interoffice fiber SBC has already deployed is not efficient. Alpheus has been unable to serve customers on many occasions because the length of the project, due to myriad local requirements, generated costs that could not be recovered through customer revenue.

124. Declarants sayeth no more.

We declare under penalty of perjury that the foregoing is true and correct.

Eleuterio (Teo) Galvan
Alpheus Communications, L.P.

Francisco Maella
Alpheus Communications, L.P.

Executed on: October 4, 2004
Houston, Texas

Alpheus Communications, L.P., Joint Declaration of Eleuterio (“Teo”) Galvan and Francisco Maella

EXHIBIT 1