BEFORE THE
TENNESSEE REGULATORY AUTHORITY

TESTIMONY
OF
JOSEPH GILLAN
ON BEHALF OF
AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.
AND
WORLDCOM TECHNOLOGIES, INC.

Introduction and Witness Qualification

Q. Please state your name, business address and occupation.

A. My name is Joseph Gillan. My business address is P.O. Box 541038, Orlando, Florida 32854. I am an economist with a consulting practice specializing in telecommunications.

Q. Please briefly outline your educational background and related experience.

A. I am a graduate of the University of Wyoming where I received B.A. and M.A. degrees in economics. From 1980 to 1985, I was on the staff of the Illinois Commerce Commission where I had responsibility for the policy analysis of issues created by the emergence of competition in regulated markets, in particular the

telecommunications industry. While at the Commission, I served on the staff subcommittee for the NARUC Communications Committee and was appointed to the Research Advisory Council overseeing NARUC's research arm, the National Regulatory Research Institute.

In 1985, I left the Commission to join U.S. Switch, a venture firm organized to develop interexchange access networks in partnership with independent local telephone companies. At the end of 1986, I resigned my position of Vice President-Marketing/Strategic Planning to begin a consulting practice. Over the past decade, I have provided testimony before more than 25 state commissions, four state legislatures, the Commerce Committee of the United States Senate, and the Federal/State Joint Board on Separations Reform. I currently serve on the Advisory Council to New Mexico State University's Center for Regulation.

Q. On whose behalf are you testifying?

A. My testimony is sponsored by AT&T Communications of the South Central States, Inc. (AT&T), and Worldcom Technologies, Inc (WorldCom).

Q. What is the purpose of your testimony?

A. The purpose of my testimony is two-fold. First, my testimony discusses in general terms the importance of confirming that BellSouth has fully implemented each element of the Competitive Checklist before it is authorized to provide interLATA services in Tennessee. BellSouth's own economic witness has admitted in other jurisdictions that BellSouth has no reason to offer lower prices unless others are able to compete on similar terms -- a circumstance which will not exist unless the Checklist is fully implemented in a manner which makes broad-scale competition possible.

Second, my testimony focuses on the several specific areas where BellSouth's refusal to comply with the Telecommunications Act of 1996 (the "Act") will prevent effective competition from developing for most Tennessee consumers. Specifically, I address BellSouth's efforts to deny new entrants the ability to efficiently use network element combinations or impose economic restrictions -- such as refusing to recognize the entrant's right to provide access service to its own customers -- which will severely limit competition to a narrowly defined market of larger customers.

It is clear that widespread competition -- that is, competition throughout Tennessee and for average customers -- absolutely depends upon entrants having the ability to provide service using a "platform" of network elements obtained from BellSouth.

The 8th Circuit has affirmed BellSouth's obligation to permit entrants to provide services entirely using network elements. The only remaining issue is *how* entrants will be able to access and combine elements so that local entry can occur as broadly and rapidly as BellSouth's entry to the long distance market. To achieve broad competition, particularly to residential customers, means that unnecessarily complex and disruptive practices -- practices which effectively require that entrants "hand-craft" their offerings while BellSouth relies on fully automated systems -- cannot be tolerated.

The Framework of Review

Q. How should the Authority approach its role with respect to evaluating Section 271 compliance?

A. Under the Act, the fundamental role of a state commission is as a fact-consultant to the FCC, determining through a practical and quantitative review of the conditions in its state whether it believes BellSouth has fully implemented each of the tools required by the Checklist. Conducting a factual review is particularly important because, for all practical purposes, Congress adopted a national blueprint for local competition based on the limited experience of a few states, none of which had fully implemented its own policies. The result is a law with excellent intentions, but

without the benefit of a working model.

The dramatically higher barriers to entry to the local exchange market (particularly relative to long distance) must be *successfully* eliminated in order for exchange competition to proceed. Local competition depends not upon BellSouth's paper compliance with abstract concepts -- or, even more speculatively, *promises* of future compliance[1] -- but rather upon whether the tools entrants actually need are available in ways that are capable of supporting entry on a commercial scale.

Q. Why do you place such emphasis on seeing the tools actually work to support commercial activity?

A. Unless carriers can compete with BellSouth on a broad scale, with an economic ability to drive prices towards cost, and supported by OSS which makes it as easy and convenient to change local carriers as it is to change long distance providers, competition will fail. BellSouth's own economic witness has testified that

1 The Ameritech Order (¶ 55) makes clear that paper promises will be given no weight in evaluating BellSouth's compliance with Section 271 (emphasis in the original):

> ... we find that a BOC's promises of *future* performance to address particular concerns raised by commentors have no probative value in demonstrating its *present* compliance with the requirements of Section 271. Paper promises do not, and cannot, satisfy a BOC's burden of proof.

BellSouth need not offer consumers lower prices to attract customers:[2]

Dr. Taylor: ...[in Louisiana] when BellSouth comes in at even a small discount below what AT&T and MCI charge today, people will flock to them in droves simply because they know who they are. They have dealt with them before, and its easier to have people value one-stop shopping.

MCI: If consumers flock to BellSouth in droves at something less than a 25 percent discount, then what incentive does BellSouth have to reduce rates by 25 percent?

Dr. Taylor: Oh, it has none whatsoever, but AT&T and MCI do. I mean what happens is BellSouth comes in at what they think the most profitable price for them is going to be.
I don't know what that is.
They will, in my view, take away enough customers from MCI and from AT&T that AT&T and MCI will respond.

Dr. Taylor's testimony proves an important point. If BellSouth is granted interLATA entry prematurely, prices *will not* fall and consumers *will not* benefit because BellSouth will be able to attract customers as a one-stop provider without offering lowering prices. Consumers will benefit *only* if other carriers (AT&T and WorldCom included) have the ability to compete by responding as one-stop competitors to as *many* consumers as BellSouth, with the same ability to drive prices to *cost*.

[2] Cross-examination of BellSouth witness Dr. Taylor, Louisiana Docket U-22252, Transcript pages 1063-1064.

Q. Why does your testimony place such emphasis on establishing conditions that will support *rapid* and *broad* local entry?[3]

A. BellSouth's interLATA opportunity is immediate and ubiquitous. There must be a similarly rapid opportunity for entrants to offer local services broadly in the market or competition will fail. The speed and ease by which BellSouth can provide long distance services means that the Authority must be absolutely convinced that local exchange markets are competitive and that the Checklist is operational *before* BellSouth is allowed to enter the long distance market. It will simply be too late to try and establish local competition *after* BellSouth has entered the long distance market.

Q. Are you implying that the future of all competition depends on local competition succeeding?

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[3] The ability to expand competitive operations rapidly and broadly is a critical assumption in the Act. As the FCC noted in citing the House Report:

> Any carrier in another part of the State could immediately take advantage of the "agreement" and be operational fairly quickly.

Thus, the Act presupposes that the tools in an agreement which bring actual competition to one part of a State also creates the "... potential for competitive alternatives to flourish rapidly throughout a State..." Ameritech Order (n. 169).

A. Yes. It is important to recognize that BellSouth will *never* operate as a conventional interexchange carrier, providing long distance services to a customer that obtains local service from another provider.[4] Rather, BellSouth will operate as a full service provider, offering both local and long distance services.[5] If consumers prefer one-stop shopping -- and available evidence suggests that this may be the case -- then there must be competition for each service in the "one-stop package" or competition in all telecommunications markets will suffer. The single most important piece of any package -- indeed, the compulsory element of the package -- is local phone service.

Q. Will it be simple for BellSouth to offer long distance services once it obtains the legal authority to do so?

A. Yes. There is no question that BellSouth will be able easily to offer long distance service -- after all, thousands of firms since divestiture have entered this market

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[4] In fact, BellSouth has had the opportunity to offer conventional long distance services in 41 other states since the Act's passage more than two years ago. The fact that BellSouth has chosen not to compete in this market demonstrates that its management fully understands that the conventional long distance market is highly competitive (even if its witnesses claim otherwise).

[5] I recognize that BellSouth will use a different *legal* entity to offer interLATA service. The relevant issue, however, is whether BellSouth will offer its interLATA services through an entity that is perceived as a separate provider by Tennessee consumers. If not, then BellSouth is essentially operating as an integrated full service provider and the future of competition depends on the ability of others to do the same.

without any of the advantages of being an incumbent local exchange carrier. The reason that BellSouth will be able to enter the long distance market so quickly, however, is that the actions needed to reduce (indeed, eliminate) long distance entry barriers began more than 15 years ago and are now fully implemented. In 1995, more than 42 million customers changed their long distance carrier, many within 24 hours of making the decision.[6]

Overall, BellSouth already performs (or possesses the capabilities to perform) most of the functions necessary to provide interLATA service and, for those functions that it does not, it can easily out-source these functions in a competitive environment. The FCC also compared the relative barriers to entry in the local and long distance markets and concluded:[7]

> ... [the] BOCs will have access to a mature, vibrant market in the resale of long distance capacity that will facilitate their rapid entry into long distance and, consequently, their provision of bundled long distance and local service. Additionally, switching customers from one long distance company to another is now a time-tested, quick, efficient, and inexpensive process. New entrants into the local market, on the other hand, do not have available a ready, mature market for the resale of local service or for the purchase of unbundled network elements, and the processes for switching customers for local service from the incumbent to the new entrant

[6] Peter K. Pitsch, The Long Distance Market is Competitive, PITSCH COMMUNICATIONS, September 3, 1996, page 2.

[7] Ameritech Order, ¶ 17.

are novel, complex and still largely untested.

Q. Are today's barriers to entry in the local market comparable to those that once existed in long distance?

A. No. By contrast to entry into the long distance market, the barriers to entry into the local service market are high. As a starting point, the Authority should understand that long distance networks exhibit significantly different economic characteristics than local networks. Intercity long distance networks are high-usage facilities, requiring relatively little switching investment, with more flexibility in right-of-way selection between distant points. As a result, the nation's experience establishing long distance networks was relatively rapid (i.e., *only* 20 years) and successful.[8]

These attributes, however, do not apply to local networks. Local networks are constructed to specific premises for individual consumers, not general areas. Switches are located closer to customers, loop investment sits idle much of the day, and local calling volumes far exceed those of long distance. These characteristics make entry into this market significantly more difficult and costly than entry into the long distance market.

[8] Of course, the reason the Act guarantees entrants cost-based and non-discriminatory access to the existing network is to accelerate the potential benefits of competition in the local market.

Local networks are more difficult to replicate because their ubiquity and scale give rise to substantial declining costs. Further, BellSouth acquired the local rights-of-way necessary to establish the basic network footprint of loops and local switches over the past 100 years. Because of the local exchange carriers' economies of connectivity, density and scale, competition will not develop in local markets unless the incumbents share these economies with other providers.

Q. How does full implementation of the Competitive Checklist address this concern?

A. The Competitive Checklist can be seen as Congress' effort at providing entrants the same ability to provide local services that BellSouth will experience providing long distance services by seeking to eliminate legal, regulatory and *economic* barriers to competition.

Eliminating legal and regulatory barriers is relatively straightforward. Because these barriers are a *consequence* of law and government policy, a law can easily change them. Eliminating economic barriers, however, requires a broad range of structural changes so that the incumbent's economies of scale and scope are shared

by all industry participants. As the FCC noted in the Ameritech Order:[9]

> We acknowledge that requiring businesses to take steps to share their market is an unusual, arguably unprecedented act by Congress. But similarly, it is a rare step for Congress to overrule a consent decree, especially one that has fostered major advances in technology, promoted competitive entry, and developed substantial capacity in the long distance market. Congress plainly intended this to be a serious step.

Q. What entry strategy will enable entrants to offer services on the same scale as BellSouth?

A. The past several years experience with local competition confirms that local networks will take time to develop. Just as importantly, however, is the lesson that the operational systems which convert a customer from one local provider to another must be efficient and economic if mass-market competition -- that is, competition for average customers throughout a market -- is to develop. To satisfy these conditions requires that entrants have an ability to easily use combinations of elements to provide local service.[10]

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[9] Ameritech Order, ¶ 18.

[10] Local entry using network element combinations is directly comparable to BellSouth's ability to provide long distance services by purchasing pre-established combinations of interLATA network elements, i.e., transmission, switching, signaling, etc... A standard wholesale contract for interLATA network would provide BellSouth undifferentiated minutes of interLATA transport that BellSouth will offer as retail services (WATs, MTS,

The industry term for the entry approach using combinations of network elements is "the platform" -- i.e., the cost-based use of existing facilities to provide local and exchange access services on a par with the incumbent LEC. BellSouth is committed to frustrating this strategy by forcing carriers to collocate facilities to combine elements and refusing to recognize that entrants have the same right to provide access service to their end-users as BellSouth has to its own. As I explain below, BellSouth's positions cannot be squared with its obligations under the Act and, more importantly, would deny Tennessee consumers an opportunity to choose among competing full service providers.

BellSouth's Obligation to Support Network Element Combinations

Q. Please summarize how BellSouth intends to make its network available to be used in combinations?

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etc...). BellSouth's price of its wholesale minutes will not depend upon its retail labeling, it will not vary between business and residential customers, and it most certainly will not be structured as a discount from the transport-provider's retail price. Furthermore, BellSouth will not be forced to collocate at the switching facilities of its transport provider to reestablish connections that the transport provider disconnected solely to increase BellSouth's costs -- or engage in endless litigation to define the elements that it needs and the prices that it will pay. A competitive market will protect BellSouth from the excesses that it visits upon its local competitors -- excesses which its local competitors can only be protected from by the active oversight the Authority.

A. BellSouth's basic position is that it will disrupt any customers' serving arrangement (loop and switch combination) when they choose a competitor and that the competitor must install collocated facilities to recombine these elements to provide service.

Q. BellSouth maintains that its positions regarding network element combinations comply with the decision of the Eighth Circuit. Do you agree?

A. No. As a threshold matter, it is important to understand that the Eighth Circuit fundamentally affirmed the entrant's right to provide service using network element combinations obtained from BellSouth at cost-based rates:

> The petitioners [such as BellSouth] assert that a competing carrier should own or control some of its own local exchange facilities before it can purchase and use unbundled elements from an incumbent LEC to provide a telecommunications service. The petitioners argue that subsection 251(c)(4) makes resale the exclusive means to offer finished telecommunications services for competing carriers that do not own or control any portion of a telecommunications network. Furthermore, the petitioners point out that under subsection 251(c)(4) a competing carrier may purchase the right to resell a telecommunications service from an incumbent LEC only at wholesale rates.
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> Initially, we [the Court] believe that the plain language of subsection 251(c)(3) indicates that a requesting carrier may achieve the capability to provide telecommunications services completely through access to the unbundled elements of an incumbent LEC's

> network. Nothing in this subsection requires a competing carrier to own or control some portion of a telecommunications network before being able to purchase unbundled elements.
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> We conclude that the [Federal Communications] Commission's belief that competing carriers may obtain the ability to provide finished telecommunications services entirely through the unbundled access provisions in subsection 251(c)(3) is consistent with the plain meaning and structure of the Act.

Q. If the Court fundamentally affirmed the entrant's right to use network element combinations to offer service, why is there such controversy concerning its opinion?

A. Although the Court sustained the entrant's right to use network element combinations to provide services, the Court also decided that the entrant should combine the elements themselves.[11] As a result, the Eighth Circuit's decision (even if it is upheld on appeal) does not *absolve* BellSouth from an obligation to support network element combinations, but it does change the *form* of that obligation -- at least with respect to its obligations under federal law.[12]

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[11] BellSouth has interpreted this aspect of the decision as a license to sabotage its network, physically ripping elements apart to increase its competitor's costs and forcing these entrants to install collocated facilities to restore the elements to their original configuration.

[12] As I explain later in my testimony, several states have concluded that state law provisions concerning discrimination and/or service quality prohibit such an unreasonable and disruptive practice independently of the federal act.

Two provisions of the Eighth Circuit's decision are particularly relevant to this issue:

> ... the fact that the incumbent LECs object to this rule [requiring that the LEC combine elements] indicates to us that they would rather allow entrants access to their networks than have to rebundle the unbundled elements for them.
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> ... 251(c)(3) indicates that a requesting carrier may achieve the capability to provide telecommunications services completely through access to the unbundled elements of an incumbent LEC's network. Nothing in this subsection requires a competing carrier to own or control some portion of a telecommunications network before being able to purchase unbundled elements.

Q. What is the practical significance of these provisions?

A. What these provisions mean is that even under the Eighth Circuit's decision, BellSouth must still support network element combinations in a manner which satisfies a two-prong test:

(1) the entrant must have non-discriminatory access to combine the facilities themselves, and

(2) the entrant cannot be required to own or control facilities before it is

able to use network elements.

BellSouth's demand that entrants install collocated facilities in order to use network element combinations violates both prongs of this test. Mr. Falcone's testimony addresses in more detail the deficiencies of BellSouth's collocated-facilities proposal. The point of my testimony is to emphasize that BellSouth has two choices -- leave the elements undisturbed or provide entrants the non-discriminatory access they require to combine the elements themselves. In other words, whether the Eighth Circuit is reversed or upheld, BellSouth must accommodate competition based on network element combinations. The only question is *how*?

Q. What would be the most efficient method to separate/recombine network elements?

A. The most efficient method of separating and recombining loop and switching elements would be an electronic separation and recombination using BellSouth's "recent change" process. ("Recent change" is the process that BellSouth uses today to separate, recombine, and modify elements such as the loop, switching, and transport, to serve their customers.)

Under this approach, the loop and switch separation would occur by BellSouth

sending a message -- known as a "recent change" -- that instructs the switch software to block the connection between a specified switch port and its associated loop. To recombine these facilities, the entrant would send a comparable electronic message to the switch instructing it to restore the connection.

This electronic process would disconnect the loop from the switch every bit as effectively as if BellSouth had assigned a technician in the central office to manually disconnect a specific loop and switch-port arrangement. The difference, however, is that this "electronic" process would satisfy the Court's requirement that the entrant be able to recombine facilities in a non-discriminatory manner without the need for its own facilities. Mr. Falcone's testimony describes this alternative in detail.

Q. Are entrant's entitled to access to the recent-change process?

A. Yes. When an entrant purchases the unbundled local switch, it gains access to every feature, function and capability of the switch, including custom calling, CLASS functionality, and Centrex[13] and use of the incumbent's signalling and call-related database systems in the same manner at the LEC uses such systems themselves.[14]

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[13] CFR §51.319(c)(1)(i)(C)(2).

[14] CFR §51.319(e)(1)(ii) and §51.319(c)(2)(iii).

Similarly, the TRA's arbitration decision requires BellSouth to provide full access to features as part of the local switching network element. There is no provision in the TRA's arbitration or applicable federal rules -- rules affirmed by the Eighth Circuit -- that would exempt from the definition of the local switch network element the recent change database and its use to recombine separated network elements.

Q. How have other states addressed this issue?

A. States have taken a variety of approaches to foster the more rapid and expansive local competition possible only by providing access to network element combinations. Some states have concluded that they have the authority to require access to network element combinations under their own state laws. For instance, Michigan concluded:[15]

> In the arbitration panel's view, adopting BRE's position would avoid enforcing a market inefficiency. It noted that the testimony and arguments of the parties showed that to unbundle previously bundled elements, GTE must perform an act to separate each element, and BRE must then perform another act to recombine those elements. Seeing this as increased effort to achieve the same result, the arbitration panel reasoned that the economic inefficiency could have a deleterious effect on the ability of BRE to compete.
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> The Commission finds that Iowa Utilities Bd, supra, does not require modifying the arbitration panel's determination. Pursuant to Section

[15] Michigan Public Service Commission, Case No. U-11551, In the matter of BRE Communications Request to Interconnect with GTE.

> 252(e)(3) of the federal Act, 47 USC 252(e)(3), Congress preserved the states' authority to establish and enforce additional requirements in arbitration proceedings. Thus, although Section 251 of the federal Act has been interpreted not to support requiring an incumbent LEC to combine elements on request, there is no prohibition on enforcing state law to that effect. Additional state-imposed conditions and requirements are only preempted when inconsistent with standards expressed in Section 251. 47 USC 261(c).
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> Although the Court vacated the FCC's rule requiring incumbent LECs to combine requested elements, the Court did not hold that it would be unlawful for an incumbent LEC to accede to a request to combine elements. There is nothing in Section 251 of the federal Act that prohibits an incumbent LEC from combining elements at the request of a competitive LEC. The Commission therefore concludes that the requirement to combine elements at the request of the competitive LEC is not inconsistent with Section 251(c)(3) of the federal Act and may be imposed pursuant to the provisions of state law.

Similarly, the Washington Commission determined that:[16]

> State commissions, unlike the FCC, also have authority under the Act to implement state policies to the extent the policies are consistent with the Act. This commission has an obligation to implement Washington statutes governing quality of service and incumbent discrimination against new entrants. To the extent those statutes create a need for incumbents to offer element combinations, the Commission must require them to offer combinations to the extent the Commission is able to do so.

Illinois has also determined that it has the authority to require Ameritech to provide

[16] Commission Order Partially Granting Reconsideration, Washington Utilities and Transportation Commission, Docket UT-960307.

combined elements under state law. Other states have relied upon the fundamental choice presented by the Eighth Circuit to the incumbent LECs -- provide entrants non-discriminatory access to combine elements themselves or do the combining for them -- to assure that entrants can access and use network element combinations to enter and compete. For instance, the Texas Commission held Southwestern Bell to its commitment to offered combined elements, noting that it would otherwise be required to address the entrants' right to direct access to combine the elements themselves.

> Moreover, SWBT's explicit commitment to provide network elements in combination when requested had a substantial impact on the arbitration proceedings. Because of SWBT's commitment, the Arbitrators and the parties did not pursue the issue of appropriate terms and conditions for access to SWBT's network were LSPs to combine network elements themselves. *In this respect, relying on SWBT's representations, the LSPs responded by relinquishing their right to seek direct access to SWBT's network.*[17]

Q. Has any state accepted the requirement that an entrant must establish collocated-facilities in order to combine network elements?

A. No, not to my knowledge. To the contrary, the Massachusetts Department of Public Utilities has determined that any requirement to install collocated facilities as a

[17] Amendment and Clarification of Arbitration Award, Texas Public Utility Commission, PUC DOCKET NOS. 16189, 16196, 16226, 16285, 16290, 16455, 17065, 17579, 17587, AND 1778. Emphasis added.

prerequisite to combining network elements violates the Eighth Circuit's decision:

> While it is true that the Eighth Circuit found that the FCC may not require ILECs to combine network elements, the Eighth Circuit also found that "a requesting carrier may achieve the capability to provide telecommunications services completely through access to the unbundled elements of an incumbent LEC's network, " and that a requesting carrier is not required "to own or control some portion of a telecommunications network before being able to purchase unbundled elements." Based on the record, it is clear that collocation requires a competing carrier to own a portion of a telecommunications network, so making collocation a precondition for obtaining UNEs appears to be at odds with the Eighth Circuit's findings.[18]

Q. What are BellSouth's obligations to provide access to combinations of network elements under the Tennessee Arbitration decision?

A. The Tennessee arbitration decision included a *temporary* restriction on the entrant's right to network combinations that required the entrant to provide a "... new and/or different service from that being provided by BellSouth."[19] Importantly, this restriction would expire coincident with BellSouth's gaining interLATA authority in Tennessee (or earlier if the FCC's universal service and access reform proceedings

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[18] Massachusetts Department of Public Utilities, DPU/DTE 96-73/74, et al. Footnotes omitted. In rejecting the collocated-facilities proposal, the Department instructed the parties to negotiate an alternative.

[19] Second and Final Order of Arbitration Awards (Jan. 23, 1997), page 42. That decision also placed the burden on BellSouth to petition the Authority in the event BellSouth believed the restriction was violated. Significantly, as the testimony of AT&T's witness John Hamman indicates, BellSouth has refused to process UNE orders in accordance with the Authority's orders.

are resolved). It is evident from BellSouth's failure to provision UNE combination orders that BellSouth is not willing to support combinations with or without restriction. (See testimony of AT&T witness John Hamman.)

The bottom line of my testimony is that broad-scale local competition is only possible with efficient and routine access to network element combinations -- access that can only be achieved through electronic separation and recombination or, more efficiently, by simply leaving already combined elements intact. BellSouth's testimony demonstrates that it is neither prepared (nor apparently willing) to support combinations in a manner which would provide entrants a meaningful opportunity to compete.

Q. What is your recommendation?

A. The Authority should not expect broad-scale competition unless entrants have the ability to efficiently provide service using network element combinations. Without broad-scale competition, even BellSouth acknowledges that its 271 authority would provide it higher profits, but not lower prices for consumers. The Eighth Circuit decision offers two paths to broad-competition -- voluntarily provide access to combinations without disruption (the most efficient solution) or provide entrants non-discriminatory access to efficiently combine the elements themselves (the next best choice). Until BellSouth complies with one of these choices, it is not satisfying its Checklist obligation to provide non-discriminatory access to network elements

and its application must be rejected.

The Network Element-Based Entrant is Entitled to Provide Access Service

Q. Is BellSouth prepared to offer unbundled local switching (either individually or in combination)?

A. No. There are (at least) three major deficiencies in BellSouth's ability/willingness to provide unbundled local switching. First, BellSouth refuses to recognize that an entrant providing service using network elements is the provider of intrastate access service to its local customers in the same way as BellSouth provides with respect to its end-users.[20] Second, BellSouth admits that it cannot provide automated billing and other critical information for unbundled local switching usage -- either to support BellSouth's charges to the entrant or to provide the entrant the usage data that it needs to render its exchange access bills. Third, as the testimony of AT&T's witness John Hamman indicates, BellSouth refuses to provision AT&T's network combination orders that include features in the switch that BellSouth does not offer as a retail offering.

[20] This position appears limited to carriers which purchase unbundled local switching which is the measurement and tariff-application point for most usage-rated switch access charges (including access charges associated with the local loop).

Q. Please explain the basic role of the "network element" under the framework in the federal Act and its relationship to access service.

A. A central premise of the federal Act is that an entrant (i.e., a requesting carrier) may obtain network elements to provide whatever array of services it desires. Section 251(c)(3) describes BellSouth's obligation to provide network elements as:

> The duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements ...

The FCC rules which implement Section 251 reaffirm this central principle. For instance, CFR §51.307(c) states (emphasis added):

> (c) An incumbent LEC shall provide a requesting telecommunications carrier access to any unbundled network element, along with all of the unbundled network element's features, functions, and capabilities, in a manner that allows the requesting telecommunications carrier to provide *any* telecommunications service that can be offered by means of that network element.

Q. Are there other rules which make clear that the entrant has the right to use the network elements to provide any service, including access service?

A. Yes. The following FCC rules, undisturbed by the Eighth Circuit's decision, clearly

establish that the entrant may use network elements for this (or any) purpose:

47 C. F. R. § 51.309. Use of Unbundled Network Elements

(a) An incumbent LEC shall not impose limitations, restrictions, or requirements on requests for, or the use of, unbundled network elements that would impair the ability of a requesting telecommunications carrier to offer a telecommunications service in the manner the requesting telecommunications carrier intends.

(b) A telecommunications carrier purchasing access to an unbundled network element may use such network element to provide exchange access services to itself in order to provide interexchange services to subscribers.

Q. Do these FCC rules apply only to the *interstate* services that will be offered using network elements?

A. No. The Act's provisions defining network elements -- as well as the FCC rules implementing that authority -- are non-jurisdictional. That is, the entrant's right to use network elements to provide *any* service includes intrastate services (such as local service and intrastate access). After all, the Act's blueprint for *local* competition would be meaningless if it applied only to the use of network elements to provide interstate services. FCC orders and rules clearly establish the entrant as the provider of access services with respect to its end-users -- and this conclusion would apply equally to both interstate and intrastate access.

Q. Has the FCC addressed the entrant's ability to become the access-provider to

its own customers?

A. Yes. The FCC has reiterated through a series of orders that the roles of local provider (to the end-user) and access-provider (to other carriers) go hand-in-hand. In its initial decision defining network elements issued August 8, 1996 in Docket 96-98 (paragraph 356), the FCC concluded:

> We confirm our tentative conclusion in the NPRM that section 251(c)(3) permits interexchange carriers and all other requesting carriers, to purchase unbundled elements for the purpose of offering exchange access services, or for the purpose of providing exchange access services to themselves in order to provide interexchange services to consumers.

Furthermore, in this same order, the FCC explicitly defined the loop network element to establish the entrant as the exclusive provider of all services using the loop (paragraph 385):

> Giving competing carriers *exclusive* control over network facilities dedicated to particular end users provides such carriers the maximum flexibility to offer new service to such end-users. In contrast, a definition of a loop element that allows simultaneous access to the loop facility would preclude the provision of certain services in favor of others.

Finally, on September 27, 1996, the FCC issued a Order on Reconsideration in Docket 96-98 (paragraph 11), that extended this principle to the local switching

network element in recognition of its indivisible nature:

> ... when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single [network] element on a per-line basis ... Thus, a carrier that purchases the unbundled local switching element to serve an end user effectively obtains *the exclusive right* to provide all features, functions, and capabilities of the switch, including switching for exchange access and local exchange service, for that end user.

Consequently, the FCC rules defining the loop and switch network elements establish the purchasing carrier as a complete provider of local exchange and access services.

Q, How does BellSouth's request for an intrastate access monopoly square with these definitions?

A. BellSouth's proposal to retain intrastate access cannot be squared with its obligations under the Act, its compliance with FCC rules, or the cost methodology underlying the prices charged for these network elements. BellSouth's position would mean that the loop/switch network elements only provide the entrant with the functionality to provide *some* services (presumably local services and interstate access), but that BellSouth somehow retains the sole right and functionality to offer others (intrastate access). Such a perspective is contrary to the basic definition of the loop and switch elements as the lease of *all* functionality to the entrant.

Furthermore, at the urging of the ILECs, the FCC specifically rejected defining these elements in a manner which *would have* allowed the functionality to provide exchange access to exist independently of local service:

> We decline to define a loop element in functional terms, rather than in terms of the facility itself ... this definition would enable an IXC to purchase a loop element solely for purposes of providing interexchange service. While such a definition, based on the types of traffic provided over a facility, may allow for the separation of the costs for a facility dedicated to one end user, we conclude that such treatment is inappropriate. (Order, Docket 96-98, paragraph 385.)
>
> ***
>
> We thus make clear, as a practical matter, a carrier that purchases an unbundled switching element will not be able to provide solely interexchange service or solely access service solely to an interexchange carrier. (Order on Reconsideration, paragraph 13.)

The fact is that the loop/switch network elements embrace *all* the functionality of these facilities and BellSouth's request to retain an intrastate access monopoly must be rejected.

Q. Are BellSouth's cost studies consistent with its position in this docket?

A. No, not to my knowledge. BellSouth's network element cost studies typically (and appropriately) consider the cost of the loop in its entirety. They are not (and should not be) structured to allocate this cost to different services, particularly with the

intention that BellSouth could then demand an exclusive right to offer a service of its choosing (such as intrastate access).

Q. Please summarize your recommendation regarding intrastate access service.

A. When an entrant purchases network elements to provide service, the entrant steps into the shoes of BellSouth and, with respect to its customers, fully replaces BellSouth as the local carrier. The entrant becomes the provider of local exchange service to its end-users *and* the provider of exchange access service -- both intrastate and interstate -- to other carriers. BellSouth does not maintain any residual authority to continue to charge other carriers to use the facilities that it has already sold the entrant as network elements. The Authority should reject BellSouth's claim on a residual access monopoly to the entrant's end-users.

Q. Has BellSouth demonstrated that its systems will provide the entrant that purchases the local switching network element the information necessary to bill interexchange carriers for originating and terminating access service?

A. No. BellSouth acknowledges that it is not capable of providing an automated bill for the usage components of the local switching network element -- much less is able to provide the entrant the usage information necessary for the entrant to issue

its exchange access bills:[21]

> BellSouth has completed the required developmental and implementation work and has a process in place and the capability to produce a bill mechanically for usage charges if a CLEC purchases unbundled local switching from BellSouth.

Although it is not entirely clear what this statement *does* mean, it is absolutely clear that it *does not* mean that BellSouth is capable of supporting commercial-scale competition with its billing system.

Q. What problems are created if BellSouth is unable to issue an automated bill and provide appropriate usage information for the local switching network element?

A. There are several serious problems created by BellSouth's inability to issue automated bills for its local switching element. First, manual billing violates the requirement that network elements be supported by operational support systems that are non-discriminatory. BellSouth cannot plausibly claim that it satisfies this standard when it cannot even issue a bill except through a manual process.

Second, the most important attribute of the local switching network element

[21] Milner draft affidavit to the Federal Communications Commission, paragraph 58.

(correctly defined) is its ability (properly provisioned) to support wide-spread competition for even residential and smaller business customers. Yet, for the network element most likely to be required on a commercial scale, BellSouth declares that it will *manually* issue bills. It is important to understand that this is not a question of one or two bills a month. If entry using local switching is to achieve its potential, BellSouth will be issuing hundreds of thousands of bills each month. Automated billing is an absolute must if this potential is to be realized.[22]

Third, it is impractical for carriers to enter now and then wait for BellSouth to develop the ability to issue bills in the future -- even assuming that BellSouth's future billing would be reliable despite its complete inability to issue bills today. Wall Street would never accept such uncertainty in the entrant's costs and financial reports.

Fourth, there is no reason to believe that every interexchange carrier that terminates toll traffic to the entrant's customers will agree to wait for an access bill (and then pay it when it arrives), even if this condition were acceptable to the entrant. Such a system would cast a cloud of uncertainty over both local and long distance

[22] Furthermore, BellSouth's stated intention to manually issue bills violates its obligation to "... demonstrate that it is presently ready to furnish each checklist item in the quantities that competitors may reasonably demand and at an acceptable level of quality." Ameritech Order (¶ 110).

markets.[23]

Finally, BellSouth must make necessary adjustments to *its own* access bills to make sure that BellSouth does not inadvertently bill for access traffic that rightfully belongs to the entrant.

Q. Does BellSouth's OSS for the local switching element comply with applicable rules concerning the interval in which customer-transfers must occur?

A. No. Rule § 51.319(c)(1)(ii) requires software-controlled systems which transfer end-users to a new exchange carrier in the same interval as the LEC transfers customers between interexchange carriers whenever a network reconfiguration is not involved.[24] As Mr. Falcone testifies, BellSouth can comply with the 8th Circuit's decision concerning access to network elements in a manner which fully

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[23] Further, the FCC noted (Ameritech Order, ¶ 330):

> We are particularly concerned, however, about the dispute in the record regarding Ameritech's technical inability and obligation to provide usage information to competing LECs purchasing unbundled local switching with shared transport in a manner that permits competing LECs to collect access revenues.

Of course, in this proceeding there should be no "record dispute" concerning BellSouth's inability to provide this information. They have already admitted as much.

[24] A software-controlled transfer would occur where the entrant purchases the preexisting loop/switch combination serving an end-user. In such an instance, it would not be necessary (or permissible) to physically reconfigure the end-user's loop to change its service provider.

automates the separation and recombination of elements. Consequently, BellSouth would be required to meet service intervals comparable to the PIC change process because a completely software driven event is used to combine the loop and port network elements.

Summary and Conclusion

Q. Please summarize your testimony.

A. The Act holds the promise of a fully competitive telecommunications industry, but achieving this vision requires the full implementation of BellSouth's obligations. A competitive *one-stop* market depends upon a competitive *local* market as an initial, essential condition.

Barriers to long distance entry -- including, importantly, operational barriers -- have all fallen as a result of the nation's decades-long commitment to competition. Local barriers must fall to this same low level for the next stage of the industry's evolution to succeed. There is but a single litmus test to determine that BellSouth has fully implemented each of the tools required by the Competitive Checklist: wide-spread entry and competition.

BellSouth's own economist has testified that consumer benefit for BellSouth's

interLATA entry is dependent upon the presence of competitors -- competitors which, in turn, depend upon BellSouth's compliance to compete. The Authority should reject BellSouth's application because of its intentional refusal to implement those provisions necessary for broad competition to succeed.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE
TENNESSEE REGULATORY AUTHORITY

TESTIMONY OF
ROBERT V. FALCONE
ON BEHALF OF
AT&T COMMUNICATIONS OF
THE SOUTH CENTRAL STATES, INC.

IN RE: BELLSOUTH'S ENTRY INTO LONG DISTANCE UNDER SECTION 271

DOCKET NO. 97-00309

March 27, 1998

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.
TESTIMONY OF ROBERT V. FALCONE
BEFORE THE TENNESSEE REGULATORY AUTHORITY
DOCKET NO. 97-00309
March 27, 1998

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert V. Falcone. My business address is 295 N. Maple Avenue, Basking Ridge, NJ 07920.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND AND EXPERIENCE.

A. I hold a B.S. in Business Administration from Adelphi University, Garden City, New York. Additionally, I have attended a number of technical and business related courses offered at the AT&T School of Business.

My career with AT&T began in 1970, working in a major switching center in New York City. In 1978, I became responsible for the administration of the New York City 4ESS switching complexes. I also was responsible for routing translations in AT&T's Northeast Region, divestiture planning, and access bill verification. In 1985, I assumed responsibility for access engineering in the Northeast region. I also served as project manager for the business development service organization, technical support for SS7 network interconnect, and network consultant for Unitel of Canada. In 1995, I assumed my current position in the Local Services Division.

Q. PLEASE DESCRIBE YOUR CURRENT EMPLOYMENT AND THE SCOPE OF YOUR RESPONSIBILITIES.

A. I am employed by AT&T as a Division Manager in the Local Services Division. My current duties include providing network technical support for new service applications and participating in various federal and state proceedings.

Q. PLEASE STATE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my testimony is to recommend that the TRA reject BellSouth's Statement of Generally Available Terms (SGAT") and determine that BellSouth does not provide non-discriminatory access to its unbundled network elements ("UNEs") because BellSouth is requiring CLEC's to utilize collocated facilities to combine unbundled network elements. BellSouth's collation requirement is contrary to AT&T's interconnection agreement with BellSouth and arbitrarily increases the costs of competing with BellSouth using UNEs. Moreover, as demonstrated by the testimony of Mr. Gillan, BellSouth's requirement is contrary to the Act.

My testimony also recommends a more efficient, non-discriminatory alternative to requiring CLECs to utilize collocated space to combine network elements. If the Authority determines that BellSouth is not obligated to provide elements as they are currently combined or to combine elements for AT&T, the purpose of my testimony is to demonstrate that physical separation of the loop and switch is not necessary; it deprives AT&T of the use of certain capabilities of the switch and tremendously increases the non-recurring costs associated with the purchase of unbundled network elements.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. First, I will explain BellSouth's position on providing unbundled network element combinations. Second, I will explain the physical plant involved in combining UNE's. Third, I will explain how BellSouth's policy of separating UNE's only to have AT&T combine them using its own collocated facilities serves no valid commercial purpose and does nothing more than create an insurmountable barrier to local competition. Fourth, I will discuss alternatives to the use of collocated facilities for combining elements and show that current capabilities of the switch allow logical (i.e., electronic) separation and recombination of the loop and switch. This is the only process that comes close to providing CLECs with a viable commercial substitute for the activities that BellSouth performs for itself -- and allows Centrex customers to perform for themselves -- today. Fifth, I will discuss how the Authority could assure that CLECs will be able to provide viable competition using combined loops and ports by prohibiting BellSouth from disturbing existing combinations of elements.

I. REQUIREMENTS OF THE INTERCONNECTION AGREEMENT

Q. WHAT IS BELLSOUTH'S CURRENT POSITION WITH REGARD TO PROVIDING COMBINATIONS OF UNBUNDLED NETWORK ELEMENTS?

A. BellSouth has taken the position that it will not provide a combined loop and switch port. BellSouth's SGAT offers only limited combinations which do not include a combined loop and switch port. If the CLEC wants to combine the UNEs, BellSouth will deliver the separated elements to CLEC collocation space or other requested location. See AJV-at p.10. BellSouth also has taken this position with companies that have interconnection agreements requiring BellSouth to provide combinations. In

discussion with AT&T, BellSouth stated that it will physically unbundle currently combined UNE's and provide them separately to AT&T to be combined using AT&T network equipment installed in collocated space. BellSouth stated in a February 10, 1998 letter to AT&T: "BellSouth's policy is to deliver UNE's to a CLEC's collocation space for the purpose of combining unbundled network elements." See RVF-1 at 4. On March 17, 1998, BellSouth confirmed this position and rejected four potential alternatives to collocation proposed by AT&T. See Letter dated March 17, 1998 from Quinton Sanders to Ray Crafton (RVF-2).

Q. DOES THE BELLSOUTH/AT&T INTERCONNECTION AGREEMENT OBLIGATE BELLSOUTH TO PROVIDE UNBUNDLED NETWORK ELEMENT COMBINATIONS TO AT&T?

A. Yes. "Combinations" is a specifically defined term in the BellSouth/AT&T Interconnection agreement. "'Combinations' consist of multiple network elements that are logically related to enable AT&T to provide service in a geographic area or to a specific customer and that are placed on the same order." See Interconnection Agreement, Attachment 11, p.3. (RVF-3 contains selected pages of the interconnection agreement.) The Agreement prohibits the separation of interconnected elements and combinations of elements. It states:

> When AT&T orders Elements or Combinations that are currently interconnected and functional, such Elements and Combinations will remain interconnected and functional without any disconnection or disruption of functionality. This shall be known as Contiguous Network Interconnection of network elements.

Interconnection Agreement, Attachment 4, § 4.5. (RVF-3) This language requires BellSouth to provide combined elements whenever those elements are combined in BellSouth's network.

Other provisions of the Agreement also evidence BellSouth's agreement to provide combinations. Section 2.2 provides that "Combinations . . . shall be identified and described by AT&T so that they can be ordered and provisioned together and shall not require the enumeration of each Element within that Combination on each provisioning order." See Interconnection Agreement, Provisioning and Ordering § 2.2. (RVF-3) In addition, section 30.6 provides:

> [W]here BellSouth provides contiguous Network Elements to AT&T, BellSouth may provide the existing interconnections and no demarcation point shall exist between such contiguous Network Elements.

Interconnection Agreement, Part II, § 30.6. (RVF-3) This language demonstrates that Bell South agreed to provide combinations of unbundled network elements.

II. THE PHYSICAL PLANT INVOLVED IN COMBINING UNE'S IN COLLOCATED SPACE

Q. WHY IS IT NECESSARY TO DESCRIBE THE PHYSICAL PLANT?

A. BellSouth's collocation proposal is the most anti-competitive means for providing CLEC's the ability to combine network elements. It creates unnecessary market entry delays for CLECs, generates unnecessary costs for both CLECs and BellSouth, and will create unnecessary customer service disruption and dissatisfaction. In order to understand these negative impacts, it is useful to understand how loops and switch ports

are typically connected in a central office, and then to describe the steps that would be involved if CLECs seeking to combine the loop and switching elements were required to use a collocation approach.

Q. WHAT ARE THE METHODS USED BY INCUMBENT LECS TO CONNECT LOOPS AND PORTS MANUALLY?

A. There are two basic architectures in broad use among ILECs for manually connecting loops to switch ports. The first, and most common, involves use of a Main Distribution Frame ("MDF"), at which each copper wire loop is individually cross-connected with a pair of wires that runs to a switch port connector block on the frame. The second involves use of Integrated Digital Loop Carrier ("IDLC"), in which a digital circuit carrying numerous multiplexed loops bypasses the MDF and connects directly into the switch.

Q. PLEASE DESCRIBE THE MAIN DISTRIBUTION FRAME METHOD OF CONNECTION.

A. Exhibit RVF-4, Figure 1 to my testimony depicts a typical configuration for manually connecting copper loops to switch ports in an ILEC's central office. See RVF-4, Figure 1. As noted, the connection is made at the Main Distribution Frame (or "MDF"). The MDF consists of a series of connector blocks each connected to ironwork uprights anchored to the floor and ceiling. The MDF is depicted in Figure 1 as having two sides: a line-side and a switch-side. Bolted to each side of the MDF is a series of connector blocks, each of which typically contains approximately 200 terminals at which individual wires can be connected. To aid frame technicians in distinguishing the two sides of the

MDF, the connector blocks on the line side are arrayed vertically, and the connector blocks on the switch side are arrayed horizontally.

The typical connection between a copper loop and switch port is made as follows. As shown in RVF-4, Figure 1, cables carrying multiple loops enter the central office and run to the MDF. At the frame, each loop (typically a pair of copper wires) is segregated from these cables and connected (by being installed at the appropriate position on the block and then either wire wrapped or soldered) to the specific terminals on a connector block to which it is assigned. This is a "hard-wired" connection which is installed at the time the cables are brought into the central office. Barring cable replacement these connections are never again touched by the ILEC technicians. A second wire, known as a "cross-connect" (or alternatively, "cross wire" or "jumper"), is then connected to those same line side terminals. The cross-connect runs to the other (switch) side of the MDF, where it is connected to a specific terminal on another connector block. From those terminals, a pair of wires connects to the switch port (also known as the "line card" or "line termination unit"). This final connection from the terminal to the line card is also a "hard-wired" connection. It is established by the switch vendor when the switch is installed, and -- barring equipment failure or replacement -- is never moved or altered again.

Each ILEC maintains a software data base inventory of the numbers assigned to each piece of equipment making up the loop-switch port connection. ILECs typically keep track of each copper loop by its cable number and pair number, and record its place on the connector block ("block assignment") by assigning a number to each terminal on each

block. Similarly, the line termination units (or line ports) on the switch are assigned identifying numbers.

Q. PLEASE DESCRIBE THE INTEGRATED DIGITAL LOOP CARRIER ("IDLC") METHOD.

A. BellSouth is turning increasingly to a superior technology, IDLC, for serving new residential and commercial developments and, where appropriate, replacing old plant. At the end of 1997, seventeen percent of loops in Tennessee and nineteen percent of loops in regions served by BellSouth were IDLC. This number will increase over time as BellSouth continues to deploy this more efficient technology.

The architecture of the loop/switch connection with IDLC is substantially different than with copper wire. See RVF-4, Figure 3. Instead of aggregating copper in the central office, BellSouth brings the copper loop first to the IDLC remote terminal located in an underground vault or locked cabinet in a neighborhood. The remote terminal converts the analog loops to a digital signal and multiplexes all of these signals onto a digital facility for transmission to the central office. At the central office, the digital loops bypass the MDF altogether and connect directly into the switch through a digital cross-connection frame. No analog signal or physical appearance on an MDF is ever re-established to identify an individual subscriber's loop.

Q. WHAT IS THE RELATIONSHIP OF COLLOCATED SPACE TO THE LOOP AND THE SWITCH?

A. Collocated space is simply space within a central office that is leased by and dedicated to a CLEC. Such space is often located at a significant distance from the MDF -- possibly

hundreds of feet and/or several floors away. Typically such space is enclosed with a wire mesh cage, with entry through a locked door controlled (except in emergencies) by the CLEC. Within the cage, a CLEC seeking to connect loops to a switch would need to install its own "mini-MDF," tie-cables to the ILEC's frame, and cross-connects. (A CLEC seeking access to loops for purposes of transmission to its own switch would need additional equipment.)

Q. WHAT STEPS WOULD AT&T NORMALLY HAVE TO TAKE TO ESTABLISH A COLLOCATION ARRANGEMENT AND INSTALL EQUIPMENT WITHIN THE COLLOCATED SPACE?

A. The process for establishing facilities in collocated space is a two phase process -- an inquiry phase and an engineering/installation phase. The first phase, the Application Inquiry phase, requires the following steps:

1) To begin phase I, AT&T would submit a collocation application and a check for the processing fee to BellSouth for each office where AT&T wants to combine unbundled elements.

2) AT&T must then wait to receive a response based on feedback from BellSouth's engineers, space planners and facility planners that space in the collocation area of the central office is available and ready for engineering.

3) Upon receiving the response, AT&T must then submit a bona fide Firm Order request to BellSouth including a detailed equipment drawing and payment of applicable fees.

If that firm order is accepted, BellSouth and AT&T would move to the engineering/installation phase which requires the following steps:

1) AT&T and BellSouth would schedule a joint planning meeting to engineer the space to meet AT&T's needs and appropriate BellSouth requirements.

2) Following the completion of the planning, AT&T would then await BellSouth's notification that BellSouth (or a BellSouth - approved vendor) had completed building the collocation cage.

3) AT&T would then retain a BellSouth-authorized equipment vendor to install, test, and turn-up AT&T's equipment. For prospective connection of the loop and switch elements, this would consist of installing a mini-MDF pre-wired with cross-connects and tie-cables to the ILEC's POT frame, IDF, or MDF.

See BellSouth Collocation Handbook (Ex. RVF-5).

Q. HOW LONG DO THESE PHASES TAKE TO COMPLETE?

A. The length of time to complete each phase of establishing space is uncertain. It will depend upon factors such as space availability, construction requirements, and vendor availability. BellSouth has not provided standard intervals for collocation. In the draft Collocation Business Process Agreement between BellSouth and AT&T, the parties currently estimate that the inquiry phase alone will last two to three months.

Q. DO THE STEPS DESCRIBED ABOVE CONSTITUTE ALL NECESSARY STEPS FOR AT&T TO OBTAIN A COMBINED LOOP AND SWITCH IN COLLOCATED SPACE?

A. No. To provision service for an actual customer using those elements combined by AT&T facilities in collocated space requires yet another sequence of steps. This example sets out the steps needed to provide UNE-based service to a single-line BellSouth

residential POTS customer that wishes to switch over to AT&T, using assumptions designed to maximize efficiency given the inherent constraints of this approach:

1) In the most efficient approach, BellSouth would pre-wire all of the cross-connections on the connector blocks at the IDF (if the IDF was used), effectively establishing a connection from new connector blocks on the MDF through the tie-cables to the IDF through the pre-wired cross-connection to the tie cables to the collocated frame. From the collocated frame, the connection would go back to the IDF and finally back to the MDF. As illustrated in RVF-4, Figure 4, this pre-wiring effectively creates a giant "U" shaped circuit, with the new CLEC connector blocks on the BellSouth MDF waiting to have loops and switch ports connected to them.

2) AT&T would submit a service order to BellSouth requesting a loop and switch port. The request would specify the tie down information -- e.g., the tie-cable and pair number, and the block assignments to connect that particular customer to the pre-wired "U" circuit through the BellSouth's collocated frame and back to the MDF.

3) With the pre-wiring described in Step 1 in place, BellSouth can then perform the actual cutover of service. The most efficient way to accomplish the cutover is by performing a "hot-cut" (i.e., a coordinated cutover in which the customer's service has not been previously disconnected) to minimize customer downtime. Frame technicians would lay-in the new cross-connection wires from the customer's loop location on the MDF to the AT&T's line side connector block and from the AT&T assigned connector block on the switch side of the MDF to the switch port.

The frame technician would then disconnect the existing cross-connection from the loop to the switch port, causing the customer to lose service. The technician would then connect the new cross connections that were just laid in, and remove the old, previously disconnected, wires from the frame.

4) BellSouth must test whether service has been restored by checking the connection from the original switch port termination at the MDF to the original loop termination at the MDF.

5) If service is not established then BellSouth and AT&T must troubleshoot the daisy chain of tie-pair cables and cross-connect wires until proper service is restored.

6) Upon confirmation of (or restoration of) service, changes on the customer's line need to be made in the switch software to establish the customer as an AT&T UNE-customer for usage and billing purposes and for making any needed changes to the features or functions (e.g., customized routing for OS/DA) that are now to be associated with that line.

III. THE SIGNIFICANT ANTI-COMPETITIVE EFFECTS OF BELLSOUTH'S COLLOCATION PROPOSAL

Q. WHAT ARE THE OBSTACLES ASSOCIATED WITH MANUAL RECOMBINATION OF THE LOOP AND THE SWITCH USING COLLOCATED FACILITIES?

A. Even under the best of circumstances, the manual reconnection of the loop and switch via collocated facilities is so cumbersome and inefficient that it prevents AT&T from gaining access to the unbundled loop and switch in a manner that would permit effective

competition. In particular, that approach imposes four serious obstacles to effective competition:

(1) it requires that the customer's line be taken completely out of service and creates a substantial risk of an extended outage;

(2) it will prevent AT&T from using the loop/switch combination (a) to service any customers soon; (b) to ever serve competitively significant numbers of customers; and (c) potentially to serve some customers (e.g., those on IDLC) at all;

(3) it will impose service on AT&T customers that is inferior to what BellSouth customers receive; and

(4) it will impose excessive and entirely unnecessary costs that would alone effectively foreclose competition via loop/switch combinations with BellSouth (who will not incur such costs) for most, if not all customers.

Q. PLEASE DESCRIBE THE PROBLEMS ASSOCIATED WITH THE LOSS OF SERVICE DURING CUTOVER AND THE FACTORS AFFECTING THE TIME OF LOST SERVICE.

A. In the collocation approach, there is no escaping the problem of placing the customer out-of-service for some period of time in order to disconnect and then reconnect the service. In the best-case scenario described above, pre-wiring by AT&T and BellSouth reduces the time that the customer is without service to the time it takes to perform a "hot cut" -- that is, disconnect both ends of a cross-connect and cut on the two new cross-connections, without having previously removed the dial tone at the switch. In addition, in the best case scenario, BellSouth would establish methods and procedures to ensure that each hot

cut is performed correctly by an experienced crew, so that the amount of time the customer would be kept out of service would be minimized.

There is significant room for discretion, even within the parameters of a "hot cut," to perform the procedure with greater or lesser impact on the customer. For example, the technicians should check in advance of the cutover to make sure that there was no active call on the line. Similarly, the sequence for disconnecting and reconnecting each terminal that the technicians follow will affect the amount of time that the customer's service is interrupted. And, because two cross-connections must be made to provision any one customer with an unbundled loop and switch, the number of technicians that BellSouth uses to provision each order will also affect the amount of customer downtime. It would therefore be essential to establish appropriate methods and procedures governing these and related aspects of loop/switch provisioning, in order to minimize the disruptiveness of the cutover process to the customer and to AT&T's ability to compete.

If the assumptions underlying the best-case scenario do not hold, however, the chances for a prolonged outage increase. For example, the best case scenario assumes that BellSouth is willing and able to adhere to procedures that require complete pre-wiring to the point that the new cross-connections are tied down on the blocks ready to be cut-over (as is typically done with collocation hot-cut arrangements). If any of the pre-wiring is not completed, the time the customer will be out of service will significantly increase. If no pre-wiring is done, the time out-of-service will be quite substantial, for at least two individual disconnect/reconnect procedures (two each at the MDF) would need to be completed; an additional two at the IDF, if that is used, would only further increase customer outage time. An even longer outage could occur if the pre-wiring is not done

correctly. Examples of predictable errors would include misidentified block assignments or cable and pair numbers, or defective connections. The technicians also might encounter an assignment not spare. An "assignment not spare" occurs when a technician is given a correct block assignment but nevertheless discovers on the job that the terminal is occupied by another wire that was mistakenly not removed during a previous job.

The best-case scenario also assumes that BellSouth will devote the substantial resources, e.g. overnight shifts of experienced frame technicians, needed to minimize customer service interruption. It is doubtful, however, that BellSouth will be able consistently to make such resources available to meet the demands of CLECs in a competitive market. Finally, the best case scenario makes a number of critical assumptions about methods and procedures that have yet to be established.

Q. HAS BELLSOUTH EXPERIENCED PROBLEMS WITH MANUAL CUTOVERS?

A. Yes. Even in the relatively simpler world of "pure" unbundled loop provisioning (where only one disconnect/new connect need occur in a hot cut), it is clear that CLEC customers have been subjected to substantial service outages. Far from quickly cutting over service in the dead of night, BellSouth has left new CLEC customers without service for hours at a time in mid-day.

ACSI, for example, has reported cutover outages routinely exceeding four hours. The competitive impacts of such outages are immense: "BellSouth's inability to avoid lengthy disconnections during the customer cutover process jeopardized ACSI's ability to retain existing customers and to attract new customers to its service. ACSI cannot compete

with BellSouth if its customers must endure service outages routinely exceeding 4 hours -- or if ACSI is made to appear unable to switch a customer to its service."[1/]

According to WorldCom, which has experienced three-to-four hour delays during cutovers of large business customers, "BellSouth coordinated cutovers are anything but."[2/] WorldCom customers have been out of service "an unacceptably long time" during cutovers, with delays caused by "limits on the number of cutovers that [BellSouth] will perform and the hours in which it will perform them."[3/] Indeed, on one occasion, when BellSouth repeatedly issued internal orders for an unbundled loop incorrectly, a customer experienced an eighteen day installation interval.[4/] In other instances, "BellSouth has spent months sorting out problems with its cutover process before Sprint's local customer received service from Sprint."[5/]

The potential impact of mandatory, unpredictable, and potentially extended service outages on the prospects for local competition cannot be overstated. Customers will be alarmed at the prospect of any service outage, and will not tolerate any prospect of an outage for more than a negligible period of time.

Q. PLEASE DESCRIBE THE LIMITATIONS ON AT&T'S ABILITY TO SERVE CUSTOMERS ASSOCIATED WITH COMBINING A LOOP AND A SWITCH THROUGH COLLOCATED FACILITIES.

A. Quite apart from the customer impact of losing service, there are three inherent limitations associated with combining network elements through collocated facilities. First, the time needed to construct collocation cages will delay any market entry. Second, the architecture of the MDF and the extensive manual work involved imposes severe

limits on the number of customers that can be provisioned in a given day. Third, IDLC loops simply cannot be separated without transitioning the customer's line to copper or universal digital loop carrier ("UDLC"), which may not be available or may degrade quality. As a result, the number of customers AT&T actually could serve using unbundled loop and switch combinations would be only a fraction of the customers AT&T otherwise could win. In contrast, when BellSouth enters the long distance market, it will be practically unbounded in its ability to absorb new long distance customers through the time-tested electronic PIC process which requires nothing more than a software change on the customer's line in the switch.

Q. HAVE CLECS EXPERIENCED PROBLEMS IN CONTRACTING FOR COLLOCATED SPACE WITH BELLSOUTH?

A. Yes. For example, BellSouth already has insisted on building collocated space with gypsum-board walls rather than wire mesh, an unnecessary requirement that serves only to prolong construction time and increase cost.[6/] Indeed, ITC DeltaCom has estimated that construction costs of the fully-walled collocation cages required by BellSouth will run $300.00 per square foot and that the cost to construct such space in three central offices in Georgia is over $300,000.[7/] Moreover, the BellSouth negotiation process has itself been a source of significant delay. It took ITC DeltaCom several months to negotiate a collocation contract with BellSouth, because the BellSouth representative "assigned the task a low priority," "provided little or no response to DeltaCom's requested changes," and "slow[ed] down the negotiation process completely."[8/]

Indeed, BellSouth has already compiled a record of delay in completing collocation orders. Under the MCI/BellSouth Interconnection Agreement in Florida, BellSouth must

provide MCI collocation within 90 days of a firm order. In April 1997, MCI placed four firm orders for collocation. Six months later, all four orders remained pending.[9/] Furthermore, in attempting to implement its collocation agreements in Miami, WorldCom has experienced "'delays, missed dates, surprise changes, and more delays.'"[10/] Thus, as this Commission found in declining to approve BellSouth's petition for interLATA authority, "BellSouth's inability to establish physical collocations in a timely manner is still a problem which has a direct affect on the [CLECs'] ability to compete meaningfully in the marketplace."[11/]

By requiring collocation as a condition precedent to AT&T obtaining combination of the loop and switching elements, BellSouth imposes on AT&T another layer of negotiation, expense and unpredictable delay.

Q. ARE THERE OTHER FACTORS THAT AFFECT THE NUMBER OF CUSTOMERS AT&T COULD SERVE IF COLLOCATION IS REQUIRED?

A. There are varying problems associated with the manual work needed to establish the cross-connection on the MDF. This would involve two basic steps that would typically be performed by a team of three technicians: one person working on the line side of the frame, one of the switch side, and a third who coordinates their activity, e.g., by calling out assignments and block appearances on the frame. First, the team would connect the connector block containing the loop appearance to the connector block containing the tie-cable to AT&T's collocated frame. Second, the team would connect the connector block containing the tie-cable coming from the collocated frame to the connector block containing the switch port. This wiring must be done on a customer-by-customer basis, which limits the number of customers that could be provisioned

with UNE service in any one day. Moreover, the MDF is a finite space so it is not possible to address the problem by simply assigning more technicians. The number of technicians who can work on the MDF at any one time is limited by the work space.

Q. PLEASE DESCRIBE MORE SPECIFICALLY WHY AT&T WOULD NOT BE ABLE TO COMPETE FOR CUSTOMERS SERVED BY IDLC.

A. Local loops provisioned using IDLC terminate directly into the switch without any physical appearance on the MDF. They cannot be manually disconnected from the switch on a customer-by-customer basis in the way copper loops can be. BellSouth has stated that it will "roll" the loop onto a "universal" DLC or other alternate facility (e.g., copper) at no extra charge. If alternate facilities do not exist, BellSouth will impose additional charges for providing an unbundled loop to the end-user's location, using its existing Special Construction Process.

"Rolling" the loop onto a spare analog loop pair would be possible only where a spare analog loop that meets loop technical requirements can be found in the vicinity of the customer. While no spare loop would be likely in a new development that was provisioned with IDLC from the outset, there may be spare loops in older areas where BellSouth has replaced copper loops with IDLC. If, however, such loops were abandoned for an upgrade to IDLC technology, chances are they are of poor quality, and the CLEC customer who is moved off of state-of-the-art IDLC onto the old analog loop plant may immediately experience a degradation of service quality. To a CLEC struggling to establish consumer confidence, the consequences of imposing such degraded service (or even the risk of such degradation) on its new customers are very serious. Furthermore, this method could impose additional costs and delay if the

associated BellSouth switch does not have sufficient analog line cards to support conversion of these formerly digital loops to analog loops.

Moving the customer's line to a parallel UDLC also creates problems. This older version of digital loop carrier equipment converts the loops back to an analog service in the central office, thereby allowing an individual customer's line to be accessed at the MDF. This digital-to-analog conversion, however, may degrade the quality of service for the customers involved.

Use of alternative methods (and acceptance of the associated degradation in service quality) may be necessary in order to roll a loop to a competitor's switch. But they are not necessary when the competitor seeks to combine the IDLC loop with the incumbent's local switching element.

BellSouth's current position that it will use its existing Special Construction Process to determine what additional costs to charge for providing an unbundled loop to the end user's location conflicts with BellSouth's obligations in the AT&T/BellSouth Interconnection Agreement. BellSouth has agreed to provide AT&T access to 100% of its loops, no matter what technology is deployed. The Authority will establish the price for purchasing an unbundled loop. BellSouth should not be allowed to increase those charges by adding additional costs.

Q. WILL THE RECOMBINATION OF A SWITCH AND A LOOP USING COLLOCATED FACILITIES AFFECT THE QUALITY OF AT&T'S SERVICE FOR ALL CUSTOMERS?

A. BellSouth's collocation requirement will lead to inherently inferior service quality for CLECs who recombine the unbundled loop and switch port. The wire used on the MDF typically is only 22 gauge, which means that the wires themselves are approximately the diameter of pencil lead. Such thin wires are inherently frail. Moreover, many of the wires connecting loops and switch ports have been in place for many years. A collocation requirement entails unnecessary handling and removing of these wires as customers change local service providers. As significant competition develops and customers begin to churn, the continual activity and increased congestion on the frame caused by installing new cross-connects and removing the old cross-connects will put an unnecessary stress on the frames' jumpers, potentially causing a connection to inadvertently break.

The impact of the increased strain on the frame and resultant service failures will be borne disproportionately by AT&T and other CLECs, because recombination by collocation will double the number of cross-connections on the MDF frame for CLEC loops compared to BellSouth loops. Jumpers in a frame (especially the MDF) are already subject to significant pulling and tugging as technicians move other jumpers across or around the frame, or "mine" out old wires that are no longer being used. As this pulling and tugging increases with competitive activity, so too will CLECs' service failures.

Q. WILL REQUIRING COMBINATION OF THE LOOP AND SWITCH USING COLLOCATED SPACE INTRODUCE ADDITIONAL POINTS OF FAILURE IN THE NETWORK?

Yes. A typical BellSouth loop connection that is not provisioned with IDLC has only two points of connection to a frame -- one on the terminal connecting to the loop, and the other on the terminal making the connection to the switch port. These points of connection are "points of failure," because they are places where the loop connection is most likely to come apart. Under BellSouth's collocation requirement, BellSouth loops that are recombined with BellSouth switching will require an absolute minimum of four points of failure, and could require up to eight or more such points depending on whether an intermediate frame is used to reach AT&T's collocation space. Thus, the collocation requirement at least doubles the possibility AT&T loops will fail.

Q. WILL REQUIRING COMBINATION OF THE LOOP AND SWITCH AFFECT MAINTENANCE?

Yes. The additional loop length that would result from BellSouth's collocation requirement may degrade the quality of service and will require changes in BellSouth's records to reflect the changed characteristics of the loop. If BellSouth does not make these changes, maintenance and repair functions cannot be properly performed. For example, changing the length of loops could have an impact on mechanized loop test (MLT) results, because when the make-up of a loop is changed (e.g., a change in loop length), the test could give improper results. Thus, BellSouth must reflect the change in its records to ensure that MLT results will be accurate.

Q. ARE YOU SUGGESTING THAT COLLOCATION ARRANGEMENTS ARE NEVER APPROPRIATE?

A No. If a CLEC simply wishes to purchase unbundled loops and use those loops to serve its customers with its own switch, then establishing a collocation arrangement is appropriate.

Q. WHY IS IT APPROPRIATE TO ESTABLISH A COLLOCATION ARRANGEMENT FOR THE PURCHASE OF UNBUNDLED LOOPS BUT NOT FOR THE PURCHASE OF UNBUNDLED LOOPS WHICH ARE TO BE COMBINED WITH UNBUNDLED LOCAL SWITCHING?

A. When a CLEC has its own switch, this switch resides in the CLEC's central office, which is located some distance from the ILEC's central office. The customer loops the CLEC wishes to purchase and serve with its switch terminate in the ILEC's central office. In order to obtain access to these loops and extend them to the CLEC's switch, it may be necessary for the CLEC to collocate equipment in the ILEC's location. The collocated CLEC equipment may be either transport equipment or remote switching modules, depending on the CLEC's requirements and the types of equipment allowed to be collocated under the terms of the carriers' interconnection agreement.

In contrast, when a CLEC chooses to serve customers with a combination of the ILEC's unbundled loops and unbundled local switching, both of these elements are housed within the same ILEC central office. There is no need to extend the ILEC's loops to another location, because the switch ports for the unbundled switching element are located on the same cross-connection frame (the MDF) within the central office where the loops appear. The most efficient means of connecting these two elements

that are located in the same central office is with a single cross-connection on the MDF-- just as the ILECs do for themselves.

Q. DOES BELLSOUTH'S COLLOCATION PROPOSAL FOR COMBINING UNBUNDLED LOOPS AND SWITCH PORTS OFFER ANY BENEFITS AT ALL FOR CLECS OR CONSUMERS?

A. No. Allowing BellSouth to physically tear apart elements that are already connected only adds cost, delay and inefficiency for all parties, including CLECs, consumers and BellSouth itself. It puts unnecessary strain on often already congested frames and on delicate cross connection wiring, substantially increases the risk of human error and complicates central office maintenance and repair procedures. Indeed the only "benefit" of this proposal to BellSouth is that the unnecessary work of ripping up its network elements will make it harder for new entrants to win and serve customers.

IV. ALTERNATIVES TO COLLOCATION

Q. YOU HAVE EXPLAINED HOW THE ILEC'S POLICY OF REQUIRING CLECS TO UTILIZE COLLOCATED FACILITIES IN ITS CENTRAL OFFICES PREVENTS CLECS FROM USING THE LOOP-PORT COMBINATION TO COMPETE. ARE THERE ALTERNATIVES TO COLLOCATION WHICH ARE LESS INEFFICIENT AND COSTLY THAN COLLOCATION?

A. Yes.

Q. ARE THESE ALTERNATIVES AS EFFICIENT OR PRO-COMPETITIVE AS PERMITTING CLECS TO PURCHASE IN COMBINATION ELEMENTS THAT ARE ALREADY COMBINED IN THE ILEC'S NETWORK?

A. No.

Q. WHY NOT?

A. No solution is more efficient than leaving together elements that are already combined when a CLEC wishes to purchase them for use in providing a competitive service to a customer. And only one alternative comes even close to enabling CLECs to use all the features and functionalities of the local switch and to combine network elements in roughly the same manner as BellSouth does for itself in similar circumstances. The others, although less costly and inefficient than collocation, do not permit CLECs to combine ILEC network elements in a commercially reasonable manner that could support a fully competitive local services market.

Q. PLEASE DESCRIBE THESE ALTERNATIVES.

A. AT&T has considered three possible alternatives to collocation. These are: (1) logical or electronic combination of elements using features that currently exist in the unbundled switch; (2) direct access to the central office by a third party vendor to separate and recombine elements; and (3) logical combinations using an electronic cross-connection frame. Only the logical or electronic combination of elements is even remotely similar to the way in which BellSouth combines elements in its own networks in similar circumstances and would enable AT&T to serve commercially significant volumes of customers. The others, although superior to collocation, rely on needless make-work activities that would constrict AT&T's ability to acquire existing BellSouth

customers using combinations of unbundled network elements. Moreover, the third alternative considered is not currently available. Because only logical separation and combination is similar to the way in which BellSouth combines elements in its own network, it is the only alternative I discuss in detail in my testimony. The other alternatives and their problems are described in exhibit RVF-6.

Q. WHAT DOES THE LOGICAL COMBINATION PROCESS ALTERNATIVE ENTAIL?

A. This alternative involves the logical (i.e., electronic) separation and reconnection of the ILEC's unbundled loop and switch port.

Q. IS THE LOGICAL SEPARATION AND COMBINATION OF ELEMENTS CONSISTENT WITH THE EIGHTH CIRCUIT'S DECISION THAT THE FEDERAL TELECOMMUNICATIONS ACT DOES NOT REQUIRE ILECS TO PROVIDE COMBINATIONS OF NETWORK ELEMENTS?

A. Yes. Nothing in the Eighth Circuit's ruling required that unbundled elements have to be physically separated, as BellSouth's collocation proposal requires. The separation of the customer's loop and switch port can be accomplished logically just as BellSouth does for itself. Then, AT&T, using the features, functions and capabilities of the unbundled switch it purchased would logically combine the loop and switch electronically separated by BellSouth.

Q. PLEASE EXPLAIN WHAT YOU MEAN WHEN YOU SAY THE ILEC SEPARATES LOOPS FROM THE PORTS ELECTRONICALLY.

A. When existing BellSouth customers wish to have their service discontinued because, for example, they are changing their residences, BellSouth accomplishes this by disconnecting the loop from the port through the use of a process known as a "recent change" on the local switch software.

Q. WHAT EXACTLY DOES THE RECENT CHANGE PROCESS DO?

A. BellSouth uses the recent change process to update the switch software and, among other things, disconnect the loop from the port by removing the dial tone from the customer's line. This effectively accomplishes the same result as if BellSouth physically removed the wires on the MDF connecting the customer's loop to the switch port. Thus, rather than physically removing the connections of the loop to the switch to disconnect the customer's service, as is required by BellSouth's mandatory collocation proposal, BellSouth logically, using switch translations, discontinues the customer's service in the switch software.

Q. WHY DOES BELLSOUTH PERFORM THE SEPARATION IN THIS MANNER?

A. It is done this way as a matter of efficiency. BellSouth knows that, shortly after the disconnect of this customer's service, another customer will likely move into the same location and request service. Rather than physically removing the cross-connection wires on the frame to terminate service and then reinstalling wires to establish service for the new customer, BellSouth avoids these wasteful tasks by using the logical separation process. In such cases, the physical connection of the loop and the port

remains intact, and the disconnection and reconnection of elements (and service) is done exclusively through the use of software.

Typically, this change is instituted by a service representative entering a few keystrokes at the time the customer who is leaving issues the request to discontinue service, i.e., in a matter of seconds. BellSouth's downstream systems then implement the software change, discontinuing the customer's service at the time requested. When a new customer moves into the existing location, service is restored using a similar process that is also automatically executed in BellSouth's network after a customer service representative enters a few keystrokes.

Q. AS A MATTER OF COMPARISON, HOW DOES BELLSOUTH ACCOMPLISH A "PIC CHANGE" TODAY WHEN A CUSTOMER WISHES TO CHANGE THEIR LONG DISTANCE PROVIDER?

A. PIC changes are also accomplished using the software capabilities of the local switch. When customers choose to change their long distance carrier, BellSouth personnel use existing switch software to update the pre-subscribed carrier identification code (PIC code) from one long distance carrier to another.

Q. DOES THAT MEAN THAT IF BELLSOUTH WAS GRANTED IN-REGION LONG DISTANCE RELIEF UNDER SECTION 271, ALL BELLSOUTH WOULD HAVE TO DO TO MOVE CUSTOMERS FROM AN EXISTING IXC CARRIER TO ITS OWN LONG DISTANCE SERVICE IS A SOFTWARE CHANGE ON THE CUSTOMER'S LINE?

A. Yes. There is never any physical work required when customers change their long distance provider.

Q. PLEASE EXPLAIN HOW THIS ELECTRONIC OR LOGICAL SEPARATION COULD BE USED TO ALLOW CLECS THE ACCESS NEEDED TO COMBINE UNBUNDLED NETWORK ELEMENTS.

A. The software capabilities in the local switch allow logical separation and combination of the loop and port. Those capabilities exist today and CLECs should be given controlled access to them. There are two methods that can be used to accomplish this task. The first utilizes existing technology that BellSouth uses to permit its Centrex customers to have controlled access to the switch software. Today, every ILEC employs an operational support system ("OSS") that allows Centrex customers to perform recent changes in the ILEC switch for the Centrex user's lines. These systems, with some modifications, can be used by the CLECs to have the access they need to combine the loops and switch ports.

Q. WHY IS THIS OSS USED?

A. The OSS is used to provide BellSouth's Centrex customers access to some of the software in the switch, so that Centrex customers can perform changes on their lines, including, for example, adding or dropping features or changing the telephone numbers

for different lines. The OSS serves as a "firewall" that prevents Centrex customers from making any changes on the switch to lines that they are not authorized to modify.

Q. HOW MANY OSS ARE USED BY THE ILECS TO PROVIDE CENTREX CUSTOMERS ACCESS TO THE SOFTWARE CAPABILITIES OF THE SWITCH?

A. I am aware of three vendors of these OSS: CommTech, BellCore and American Telecorp. The CommTech OSS, known as MACSTAR, is used by Bell Atlantic, Southwest Bell, SNET, BellSouth and Rochester Telephone. BellCore's product, know as CCRS, is used by BellSouth, Bell Atlantic, U.S. West and Southwest Bell. The American Telecorp product (CENPAC) is used by Pacific Bell. Each of these ILECs makes the recent change capability available to its Centrex customers through one of these OSS.

Q. HAS AT&T DISCUSSED ITS PROPOSAL TO USE THIS TECHNOLOGY WITH ANY OF THESE VENDORS?

A. Yes, AT&T has discussed this with the CommTech Corporation and with BellCore. CommTech indicated that what AT&T is proposing can be accomplished by either modifying the existing MACSTAR system or through another OSS they have available known as FastFlow.

Q. CAN YOU BRIEFLY DESCRIBE HOW THE PROCESS WOULD WORK USING MACSTAR AND FASTFLOW.

A. Yes. The basic high-level steps on how such a process would work are as follows:

(1) AT&T receives a service request from a customer.

(2) AT&T issues an electronic service order to BellSouth for the network elements needed (e.g., loop and switch port) to provide service to this customer.

(3) After AT&T receives an electronic firm order confirmation from BellSouth, AT&T initiates a restore order to be held in the system's buffer that will, at the appropriate time, electronically reconnect the loop and port.

(4) BellSouth, on the due date of the order, issues an electronic suspension of service order on the customer's line to electronically disconnect the loop from the port through the system. The BellSouth switch would notify the system that the suspend order had been performed, and the system would initiate the associated AT&T restore order from the buffer. Such activities could be completed within a matter of seconds and be performed automatically during off-peak hours, to minimize customer outage and impact on the customer.

Q. WHY WOULD THESE OSS BE USED AS AN INTERFACE IN LIEU OF PROVIDING AT&T DIRECT ACCESS TO THE SOFTWARE IN BELLSOUTH'S SWITCH?

A. Some ILECs have expressed network security concerns about providing CLECs direct access to their networks -- even though they did not express these concerns to the Eighth Circuit before the court issued its decision on the FCC's combinations rule. Accessing the necessary software capabilities using one of these OSS as an intermediary between AT&T and the BellSouth switch establishes a "firewall" that will allow AT&T to perform changes only on its own customers' lines. Such a firewall

would eliminate any BellSouth excuse for not allowing CLECs to have the access they need to logically combine the unbundled elements using software in the switch through the recent change process.

Q. ARE THESE SYSTEMS READY TODAY TO PERFORM THIS FUNCTION OR WILL SOME DEVELOPMENT BE REQUIRED?

A. These systems are not yet available to perform as described; however, based on recent discussions with CommTech representatives, I believe that the necessary development could be completed and tested within six months, and that the costs of implementation would be very modest compared to the costs of collocation. This is because the OSS firewall is similar to the one that is available today to Centrex customers. The only change involved is to limit CLECs' access to the specific line numbers of their customers, rather than the blocks of numbers assigned to Centrex customers. Otherwise, the OSS would function similarly.

Q. DO YOU HAVE ANY REASON TO BELIEVE THAT THE OTHER SYSTEM VENDORS COULD NOT MODIFY THEM IN A SIMILAR FASHION?

A. No.

Q. WHAT IS THE SECOND METHOD THAT CAN BE USED TO PERFORM THE LOGICAL COMBINATION OF ELEMENTS?

A. The second method is similar to the first and also uses the recent change capabilities of the switch. The difference is that BellSouth and AT&T could use a neutral third party as their agent to perform the logical separation and combination of elements. This

vendor would be identified by the industry participants and funded jointly by the ILECs and the CLECs.

Q. HOW WOULD THIS PROCESS WORK?

A. A brief description of this process is as follows:

(1) AT&T receives a service request from a customer.

(2) AT&T issues an electronic service request to BellSouth.

(3) BellSouth returns an electronic firm order confirmation to AT&T.

(4) AT&T issues an electronic restore order to electronically reconnect the loop and port to the 3rd party vendor.

(5) BellSouth issues an electronic suspend service order to electronically disconnect the loop from the port to the 3rd party vendor.

(6) The 3rd party vendor's database matches the suspend order with the restore order before any changes are performed to minimize customer service downtime.

(7) Once the vendor matches both orders the vendor performs the changes on behalf of BellSouth and AT&T.

Q. IS THERE A PRECEDENT FOR THIS TYPE OF ACTIVITY BY A THIRD PARTY VENDOR?

A. Yes, a third party vendor is used today by the industry to administer the toll free database. A third party vendor will also be used by the industry to administer the local number portability (LRN) database. This would simply be another application in which an independent vendor could be useful.

Q. WHAT ADVANTAGES DO THE LOGICAL SEPARATION AND COMBINATION HAVE OVER BELLSOUTH'S MANDATORY COLLOCATION REQUIREMENT?

A. Use of the software in the switch to combine elements effectively fixes all of the problems identified with BellSouth's collocation proposal, including the problems that result from the use of IDLC loops. It also effectively eliminates capacity constraints that would prevent CLECs from serving a significant number of customers through the use of the ILEC's loop and port. An additional benefit of using the software in the switch is that once a customer is identified as an AT&T customer, AT&T will have the physical capability to add or delete features, install originating screening on the line, suspend service and otherwise update the customer's account without the need to send a separate service order to BellSouth (and incur BellSouth order processing charges).

Q. HOW DOES THE USE OF LOGICAL COMBINATION RESOLVE THE PROBLEMS OF PROVIDING CLECS ACCESS TO IDLC LOOPS?

A. The switch software can be used to suspend and restore service on any customer's line, regardless of the type of loop technology used to serve the local customer. An IDLC loop has no individual physical appearance anywhere in the central office until after it connects to the switch. This lack of an individual physical appearance is what makes all of the other alternatives unworkable for IDLC loops. However, because the IDLC loops are physically connected to the switch, the switch software allows logical access to each customer's individual line.

V. PROPOSED AUTHORITY ACTION

Q. NOW THAT YOU HAVE DESCRIBED THE PROBLEMS WITH COLLOCATION AND THE ALTERNATIVES THAT ARE, OR MAY BE, AVAILABLE TO ALLOW AT&T TO COMBINE LOOPS AND PORTS, WHAT DO YOU PROPOSE THIS AUTHORITY SHOULD DO?

A. First and foremost, let me emphatically restate that there is no technical benefit -- and indeed significant potential harm -- flowing from BellSouth's mandatory collocation proposal. Thus, although the alternative I have discussed in my testimony is superior to collocation for the purpose of combining loops and ports, nothing makes more sense and is more cost effective and pro-competitive than leaving together elements that are already combined in BellSouth's network. Thus, to facilitate competition in the residential and small business markets, this Authority should find that BellSouth is discriminating against CLECs if it rips apart network elements that are already combined. BellSouth's intention to separate network elements serves no competitive or network security purpose. If implemented, it would be anticompetitive, commercially unreasonable, and would potentially cripple the chances for local competition in this state.

Q. WHAT ALTERNATIVE ACTION COULD THIS AUTHORITY TAKE?

A. If the Authority determines that BellSouth is not required to combine network elements, or to leave in place already combined elements, it should reject BellSouth's collocation proposal and find that nondiscriminatory access is provided only if BellSouth agrees to the logical combination process I described. As I described in my testimony, the closest analog to how BellSouth combines the elements for itself -- and the way it will compete with the IXCs for long distance customers -- is the alternative which provides AT&T with access to the software capabilities of the switch to combine elements.

These capabilities are "features, functions and capabilities" of an unbundled network element being purchased by AT&T, and AT&T should be free to use them to combine the loop and switch.

Q. CONSIDERING THE LOGICAL COMBINATION PROCESS MAY TAKE SOME TIME TO IMPLEMENT, IS THERE SOMETHING BELLSOUTH COULD DO IN THE INTERIM TO PROVIDE NONDISCRIMINATORY ACCESS?

A While the process of developing the systems and procedures for using switch software to combine elements is occurring, BellSouth could use the third party vendor direct access option. See RVF-6 for description. This option is extremely "low-tech" and is relatively cost-effective as an interim measure. The only development required would be for BellSouth to develop a means of providing the vendor a timely order listing all of the central office frame locations for the loops which need to be "re-combined" each day.

Q. IS THERE SOMETHING WHICH IS MORE EFFICIENT THAN REQUIRING THAT A TECHNICIAN BE DISPATCHED SIMPLY TO REMOVE A WIRE AND IMMEDIATELY REPLACE IT?

A. First, the Authority should recognize that this solution is no less ludicrous than the problem it is intended to solve: how to respond to BellSouth's decision to physically rip apart its own network for the sole purpose of handicapping its competitors' ability to serve consumers. Nevertheless, there are two things which BellSouth could do. If BellSouth demands that a separation and recombination must take place, then BellSouth could, during the interim, perform this function on behalf of AT&T using its existing

switch software capabilities. Alternatively, BellSouth could have its own technicians lift and replace the wires (or leave them alone, as this lifting and replacing accomplishes nothing).

Q. WHAT IF BELLSOUTH REFUSES TO PERFORM THIS FUNCTION AND INSISTS THAT AT&T DO IT?

A. If BellSouth both refuses to allow a third party vendor to perform the work and also refuses to combine the elements on behalf of AT&T, either in fact or through a phantom "glue" charge that is equal to or less than the cost of the CLECs doing the work for themselves through a third party, it cannot comply with its obligations under Sections 251 and 252 until it makes the software capabilities of the switch available to AT&T, either with or without a firewall.

VI. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. This Authority should find that BellSouth is required to provide combinations of network elements in order to comply with the § 271 checklist. Only if this Authority determines that BellSouth is not required to provide such combinations should it consider other alternatives. If such alternatives are to be considered, the Authority should reject BellSouth's SGAT containing the collocation proposal and find that only the logical combination described in my testimony provides nondiscriminatory access to UNEs. BellSouth's collocation proposal is the most anti-competitive means of allowing CLEC's to combine unbundled elements. It generates unnecessary costs for both CLECs and BellSouth, imposes unnecessary market entry delays for CLECs and will create unnecessary customer service disruption and dissatisfaction. Although there are

other options, some of which are much superior to collocation, none provides CLECs with equivalent access to the unbundled network elements that BellSouth enjoys, and only the use of switch software to separate and combine elements comes close to allowing the CLECs competitively neutral access to the elements BellSouth itself uses to provide service to its customers. Physically removing the loop from the switch deprives the CLEC of a more efficient means of combining the elements by using the existing features of the switch.

To the extent that the Authority is seeking an alternative to collocation that does not require BellSouth to combine network elements or to leave existing combinations in place, use of switch software to do the combining is the only viable long-term alternative. Thus, if the Authority finds that BellSouth is not required to combine network elements, BellSouth must make the switch software available to CLECs in a manner similar to the process it uses for itself and/or provides to Centrex customers. If it is determined that development work is necessary prior to making this capability available, BellSouth must permit a third-party vendor to perform the physical disconnections and reconnections described above. In the alternative, BellSouth should be required to perform the work for CLECs or allow connected elements to remain together until the long-term solution is implemented.

Q. DOES THIS CONCLUDE YOUR TESTIMONY.

A. Yes it does.

FOOTER

[1]/ ACSI Comments, In the Matter of BellSouth Corporation, BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in South Carolina, CC Docket No. 97-208, Affidavit of James C. Falvey ¶ 34 (Oct. 20, 1997).

[2]/ WorldCom Comments, In the Matter of BellSouth Corporation, BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in South Carolina, CC Docket No. 97-208, Ball Affidavit ¶ 18 (Oct. 20, 1997).

[3]/ Id.

[4]/ Sprint Comments, In the Matter of BellSouth Corporation, BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in South Carolina, CC Docket No. 97-208, at 16-17; Closz Affidavit ¶¶ 79. (Oct. 20, 1997).

[5]/ Sprint Comments at 17.

[6]/ See, e.g., BellSouth Barrier and Enclosure Wall Specifications, Louisiana PSC Docket Nos. U222022/U22093, appended to BellSouth Application at App. C-3, Vol. 33b, Tab 272(9); ALTS Comments, In the Matter of BellSouth Corporation, BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in South Carolina, CC Docket No. 97-208, Affidavit of Steven D. Moses on behalf of ITC DeltaCom, Attachment C, ¶ 19 (Oct. 20, 1997) ("ITC DeltaCom Aff."). Wire mesh is preferable to drywall because it is far cheaper and quicker to install, improves visibility and thus enhances security, and eliminates the need for additional or new air conditioning capacity, dust protection measures during construction. See Direct Testimony of Gerald B. Crockett on behalf of MCI/AT&T, Louisiana PSC Docket Nos. U222022/U22093, appended to BellSouth Application at App. C-3, Vol. 33b, Tab 272(8), at 7-12.

[7]/ ITC DeltaCom Aff. ¶ 19.

[8]/ ITC DeltaCom Aff. ¶ 19.

[9]/ Memorandum of Florida Pub. Serv. Comm'n Staff, Docket No. 960786-TL, Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Federal Telecommunications Act of 1996, at 70 (Oct. 22, 1997), aff'd in relevant part, Florida PSC, Order No. PSC-97-1459-FOF-TL (Nov. 19, 1997).

[10]/ In re: Consideration of BellSouth Telecommunications Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Federal Telecommunications Act of 1996, Florida Pub. Serv. Comm'n Order No. PSC-97-1459-FOF-TL, p. 48 (Nov. 19, 1997) (quoting WorldCom testimony).

[11]/ Id. at 58.

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Quinton E. Sanders
Sales – Assistant Vice President
AT&T Regional Account Team

February 10, 1998

William J. Carroll
Vice President
AT&T Communications, Inc.
Room 4170
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Dear Jim:

In response to your January 6, 1998 letter to Duane Ackerman, attached are BellSouth's responses to AT&T's 35 questions regarding combining unbundled network elements and collocation issues.

BellSouth continues to honor its contractual obligations with respect to the provisioning of combinations of UNEs identified by AT&T until such time as the Eighth Circuit's order becomes final and non-appealable. However, as BellSouth has stated before, if the Eighth Circuit's order is upheld, BellSouth will no longer have a legal obligation to provide combinations of unbundled network elements. BellSouth is still interested in exploring with AT&T the opportunity of a professional service arrangement in which BellSouth would combine UNEs for AT&T at market rate. Please contact me if AT&T is interested in pursuing such an arrangement.

The responses attached hereto provide the information that AT&T has requested. Should AT&T require any additional information, please address such request to me as your primary interface and contact. I will ensure that your request is handled accordingly. As your Account Team representative, I can assure you that adequate resources are available to AT&T via my staff and that such requests will be handled in an expeditious manner to meet AT&T's needs.

Sincerely,

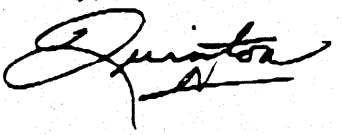
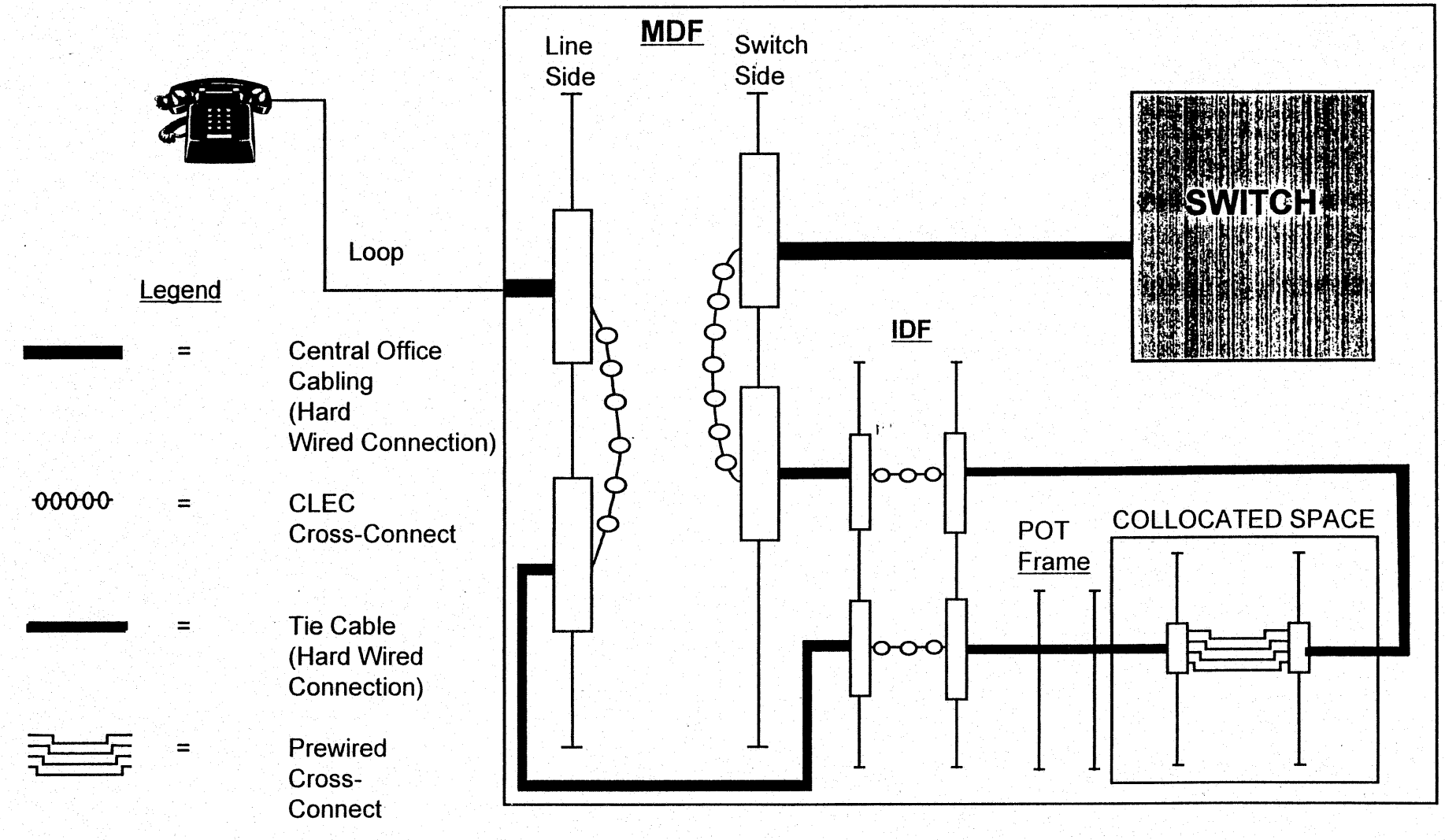
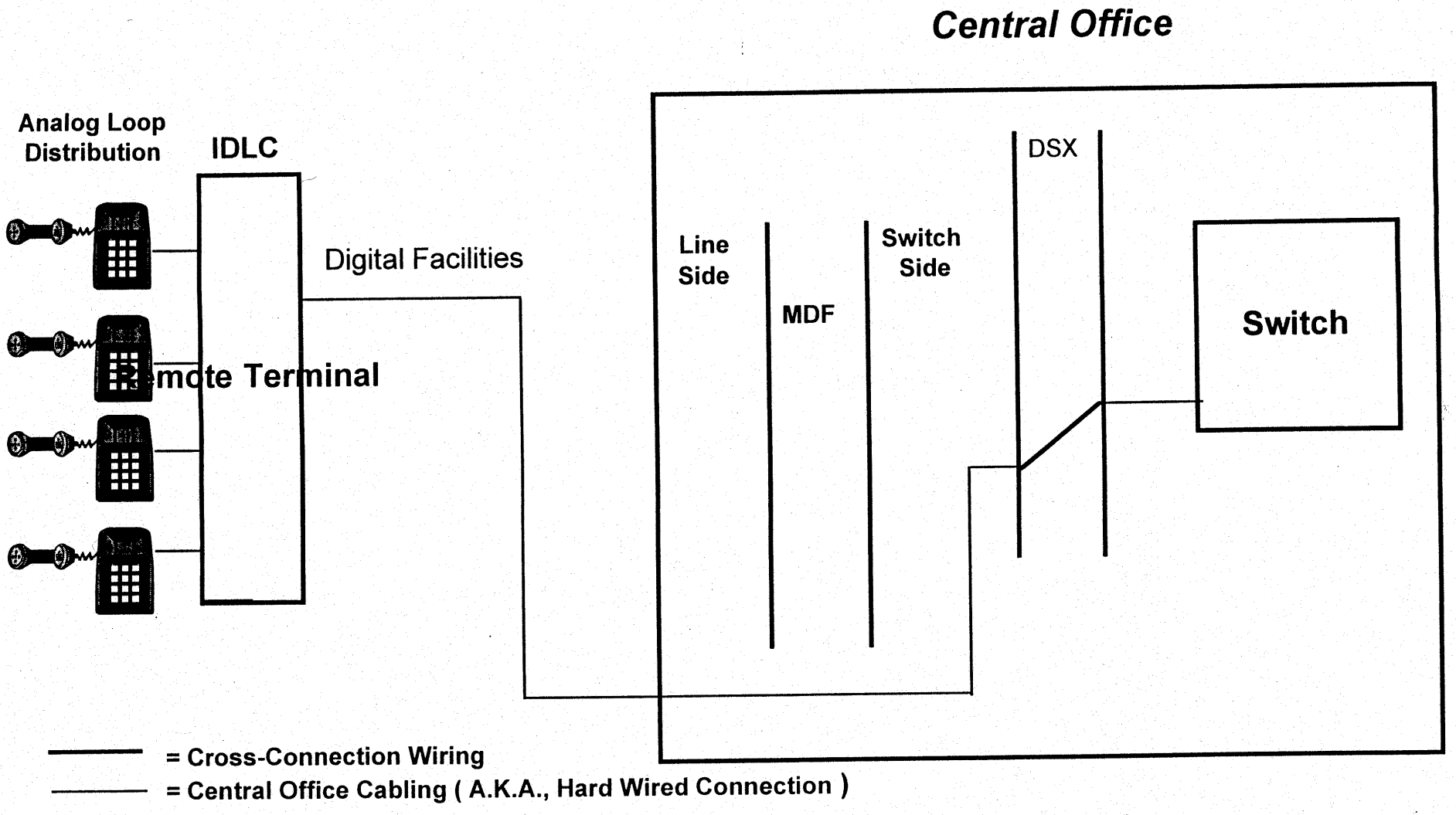


Figure 4
Collocation Configuration For Combining Elements Where IDF And POT Frames Are Used



cc: Duane Ackerman
Charlie Coe
Scott Schaefer
Elton King
Joe Baker
Scott Schaefer
Steve Inman
Alabama Public Service Commission
Florida Public Service Commission
Georgia Public Service Commission
Kentucky Public Service Commission
Louisiana Public Service Commission
Mississippi Public Service Commission
North Carolina Utilities Commission
South Carolina Public Service Commission
Tennessee Regulatory Authority

Figure 3:
Typical IDLC Loop And Switch Port Configuration



Attachment to February 10, 1998 Letter from Quinton Sanders

AT&T Questions Regarding BellSouth's Collocation Proposal Alternative Arrangements for CLEC Combination of UNEs

1. What UNEs will BellSouth provide to CLECs to combine in collocated space? Loops and ports only?

   With the exception of specific sub-loop elements that will be provided to the CLEC at the field site, BellSouth will deliver to the CLEC collocation space the following combined elements: loop and cross connect, port and cross connect, port and cross connect and common transport, port and vertical features, port and common transport, loop and LNP[1], as well as single network elements, for the purpose of CLECs combining said elements in any manner technically feasible and that performs within the parameters of the industry standards.

2. Can a CLEC pre-wire the equipment in its collocation space?

   In both a physical and virtual collocation arrangement, AT&T may pre-wire its equipment arrangement and the connection between its arrangement and the point of termination bay/frame using a vendor that has been certified by BellSouth.

3. Will BellSouth allow CLECs to share the same interoffice transport used by BellSouth?

   Yes. CLECs may access unbundled interoffice transport - shared for interoffice transport purposes. Unbundled interoffice transport - shared allows access to the interoffice transport and is charged on a per minute of use basis. The CLEC would order the unbundled port in the central office where the collocation space is present which would allow the end user traffic to be transported over shared facilities.

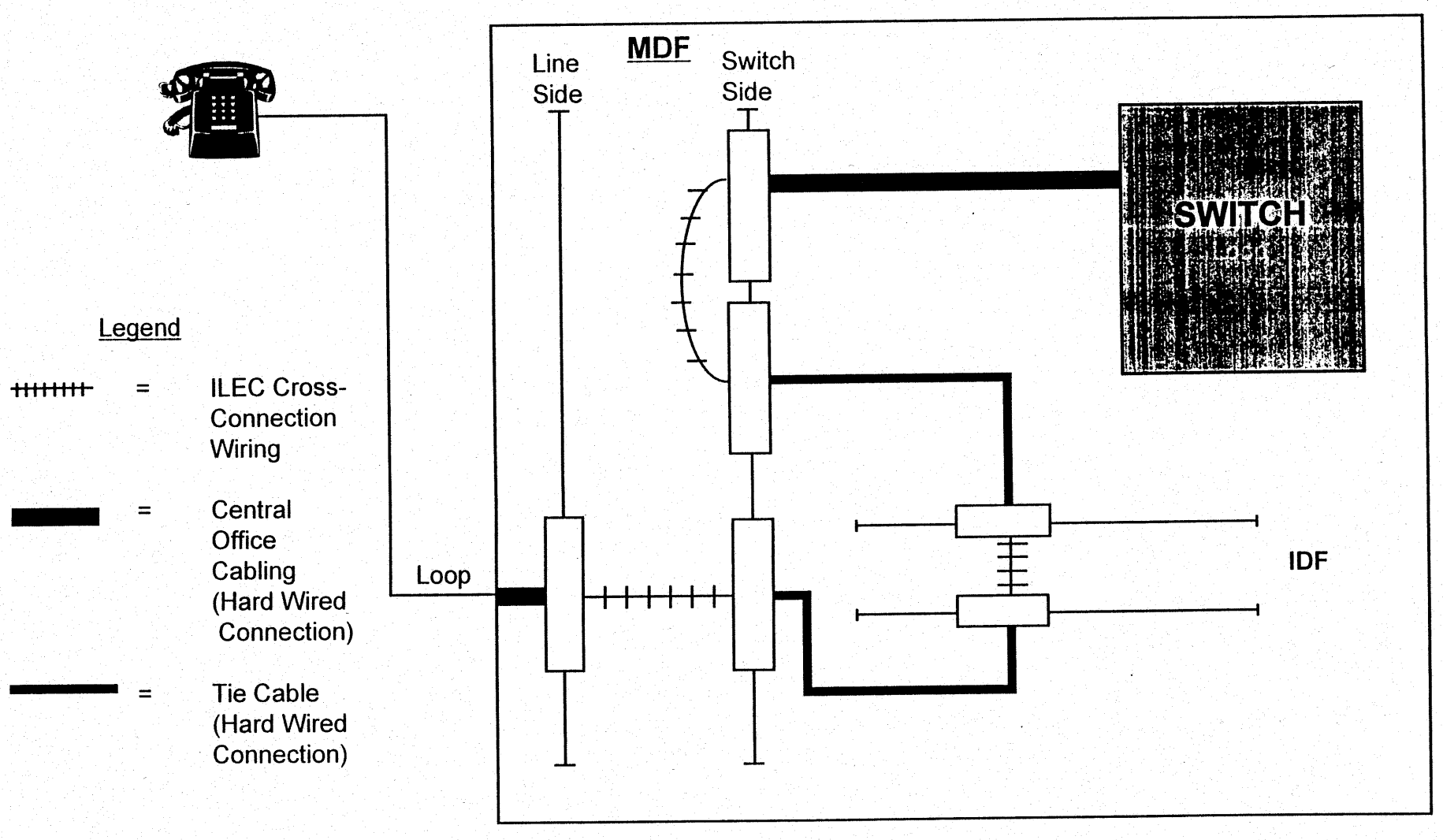
   Unbundled Interoffice Transport Dedicated may share the same physical facilities, fiber optic terminals, etc. An individual DS1 may be dedicated to a single CLEC, but the OC48 Fiber Optic Transport System would have multiple DS1s transiting the system.

4. Will BellSouth require that a CLEC purchase signaling separate from switching?

   Yes. As contained in the CLEC agreements and as a result of arbitration decisions in the various states, SS7 signaling is an individual unbundled network element and therefore is purchased separately from switching.

[1] The combined elements listed above are offered by BellSouth based upon the technical limitations that do not allow them to offered separately.

Figure 2
ILEC Loop And Switch Port Configuration (With IDF)



5. What does BellSouth propose where there is not sufficient room to collocate in central office?

   BellSouth has offered both physical and virtual collocation to AT&T. Where there is insufficient space on BellSouth's premises for physical collocation, virtual collocation can be provided.

   BellSouth does not anticipate any difficulty fulfilling requests for virtual collocation arrangements. In the event a situation arises where a virtual collocation request cannot be accommodated, BellSouth will discuss service alternatives on a case by case basis. Timely and accurate forecasts from CLECs will assist BellSouth in meeting CLEC's physical or virtual collocation needs.

6. How will BellSouth allow for the combining of loops and ports in central offices where there is no room for physical collocation?

   When there is insufficient space for physical collocation, BellSouth will offer virtual collocation. In a virtual collocation arrangement, the CLEC may then make arrangements for the combination of the UNEs.

7. Will BellSouth offer CLECs a choice of either physical or virtual collocation or will virtual collocation be made available by BellSouth only if there is no more space available for physical collocation?

   BellSouth offers CLECs a choice of either physical or virtual collocation.

8. How will BellSouth provision other UNEs for combining or recombining by CLECs?

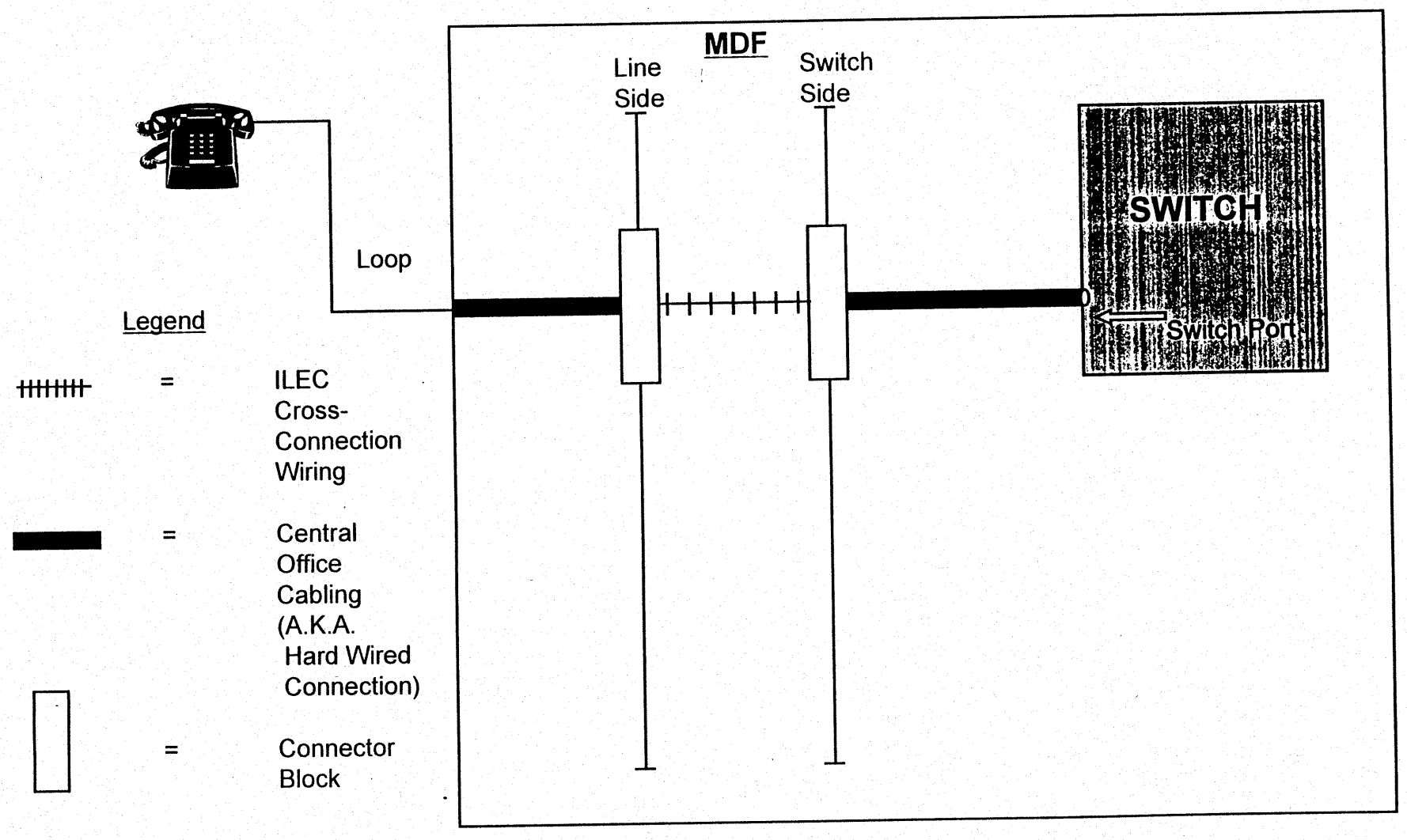
   BellSouth will provision UNEs as described in the applicable ordering guidelines, interconnection agreement and technical references. CLECs will determine how to use the UNEs, i.e., whether to combine them with other BellSouth provided UNEs or to use them with the CLEC's own equipment.

9. How will BellSouth maintain service coordination of the loop and port connections for each CLEC customer service order?

   BellSouth offers service coordination for the individual unbundled network elements, the type of coordination being dependent upon how the network element is ordered. Such coordination should minimize the effect of transferring the end user customer from one provider to the other. This activity contemplates cooperation and coordination between the work forces of the providers involved in the transfer.

10. How will BellSouth maintain service continuity or minimize service disruption for CLEC customers during the loop and line port cut-overs?

Figure 1
ILEC Loop And Switch Port Configuration (Without IDF)



During the process of loop conversions from BellSouth to a CLEC , the customer loop is physically removed from the BellSouth switch and then reconnected to the CLEC switch. This step is necessary to effect the conversion and does not produce lengthy interruptions of end user service. There are several options available to CLECs to reduce and virtually eliminate outage time. A CLEC can reduce the outage period by electing to have BellSouth provide manual order conversion. BellSouth also offers CLECs the option to request a specific conversion time and will then make every effort to accommodate the request.

11. Because the additional loop length caused by collocation may require loop conditioning, who will be responsible for performing the conditioning - BellSouth or the CLEC?

    There will be no significant increase to the loop length as a result of provisioning the loop to a collocation space. Typically, the loop and the associated cross-connect to the collocation space would not be any longer than the loop and the associated cabling to a BellSouth switch. BellSouth will make whatever adjustments are necessary to ensure that the unbundled loop types requested meet the appropriate performance characteristics. The CLEC would be responsible for making any adjustments between its collocation space and the CLEC switch. In addition, due to the fact that the loop is not connected to the BellSouth switch, the CLEC will be responsible for providing any switched-based conditioning.

12. When will BellSouth provide written methods and procedures documenting its proposed collocation process for combining UNEs.

    There are no unique M&Ps for the delivery of unbundled network elements to a collocation arrangement for the purpose of the CLEC combining said elements. The M&Ps developed by BellSouth for the purpose of ordering and provisioning of unbundled network elements will apply. These M&Ps have been previously provided to AT&T.

13. How many loop and line port jumper connections can BellSouth complete in a single day per central office? How many teams of technicians and shifts would this involve?

    BellSouth is committed to being the provider of choice and as such is committed to employing the appropriate forces to meet the demands of the CLECs. However, the number of connections that can be completed in a single day varies day to day and varies from C.O. to C.O. BellSouth is prepared to work orders by the due date. AT&T should refer large projects to the Account Team to assure project handling and dedicated central office personnel. In addition, AT&T should provide a service

PART II: UNBUNDLED NETWORK ELEMENTS

29. **Introduction**

This Part II sets forth the unbundled Network Elements that BellSouth agrees to offer to AT&T in accordance with its obligations under Section 251(c)(3) of the Act. The specific terms and conditions that apply to the unbundled Network Elements and the requirements for each Network Element are described below and in the Network Elements Service Description, Attachment 2. The price for each Network Element is set forth in Part IV of this Agreement. BellSouth shall offer Network Elements to AT&T as of the Effective Date.

30. **Unbundled Network Elements**

30.1 BellSouth shall offer Network Elements to AT&T on an unbundled basis on rates, terms and conditions that are just, reasonable, and non-discriminatory in accordance with the terms and conditions of this Agreement.

30.2 BellSouth will permit AT&T to interconnect AT&T's facilities or facilities provided by AT&T or by third Parties with each of BellSouth's unbundled Network Elements at any point designated by AT&T that is technically feasible.

30.3 BellSouth will deliver to AT&T's Served Premises any interface that is technically feasible. AT&T, at its option, may designate other interfaces through the Bona Fide Request process delineated in Attachment 14.

30.4 AT&T may use one or more Network Elements to provide any feature, function, or service option that such Network Element is capable of providing or any feature, function, or service option that is described in the technical references identified herein.

30.5 BellSouth shall offer each Network Element individually and in combination with any other Network Element or Network Elements in order to permit AT&T to provide Telecommunications Services to its Customers subject to the provisions of Section 1A of the General Terms and Conditions of this Agreement.

30.6 For each Network Element, BellSouth shall provide a demarcation point (e.g., an interconnection point at a Digital Signal Cross Connect or Light Guide Cross Connect panel or a Main Distribution Frame) and, if necessary, access to such demarcation point, which AT&T agrees is suitable. However, where BellSouth provides contiguous Network Elements to AT&T, BellSouth may provide the existing interconnections and no demarcation point shall exist between such contiguous Network Elements.

forecast to the Account Team, which will assist BellSouth in anticipating load requirements.

14. Will BellSouth allow CLECs to obtain less than 100 square feet of collocation space solely for purposes of combining or recombining the necessary UNEs? If so, how will BellSouth reduce its existing charges for collocation space?

    Physical collocation arrangements can be used for the provisioning of any telecommunications service including combining or recombining unbundled network elements. BellSouth will allow CLECs to obtain less than 100 square feet for Physical Collocation when an equipment arrangement enclosure is not utilized. Where an enclosure is requested, OSHA requirements dictate that at least 100 sq. ft. be utilized. Rates and charges for collocation space are set forth in the agreement and will be assessed based on the shadow print of the arrangement plus a factor which includes maintenance and wiring aisle space.

    Rates, terms and conditions for Virtual Collocation are contained in BellSouth's FCC #1 tariff, Section 20.

15. Will BellSouth allow CLECs to combine UNEs without collocation?

    BellSouth's policy is to deliver UNEs to a CLEC's collocation space for the purpose of combining unbundled network elements. AT&T has proposed several delivery methods in its January 6, 1998 letter. BellSouth is reviewing these methods.

16. Is BellSouth combining any components of its network or elements today via an electronic connection using a remote terminal? If so, which ones?

    BellSouth uses a variety of network management systems to manage its network. AT&T and other CLECs have a variety of options available to them to manage their network management systems.

17. Will BellSouth permit CLECs to have direct access to the BellSouth main distribution frame (MDF)?

    No. As the MDF was not designed for multiple users, such access will lead to an unacceptable higher risk of disruption of service to a large population of telecommunications users when technicians from a number of different telecommunications companies have access to the network and facilities of all telecommunications providing service to end users from that location. Further, BellSouth's inventory systems are not equipped to handle access to the MDF. The inventory systems are not equipped to track circuit paths through the central offices and thus, would not be able to provide accurate and timely information for provisioning maintenance and repair activities.

Provisioning and Ordering

1. **Network Deployment**

1.1 BellSouth shall deploy and maintain network facilities in all its serving areas in every LATA from and after the Effective Date of this Agreement as necessary to provide on a timely basis each of the Elements or Combinations thereof, as defined below, that BellSouth is required to offer to AT&T pursuant to this Agreement.

1.2 Throughout the term of this Agreement, the quality of the technology, equipment, facilities, processes, and techniques (including, without limitation, such new architecture, equipment, facilities, and interfaces as BellSouth may deploy) that BellSouth provides to AT&T under this Agreement shall be in accordance with standards or other measurements that are at least equal to the highest level that BellSouth provides or is required to provide by law and its own internal procedures.

2. **General Provisioning Requirements**

2.1 **DELETED**

2.2 Combinations, consistent with Section 1.A of the General Terms and Conditions of this Agreement, shall be identified and described by AT&T so that they can be ordered and provisioned together and shall not require the enumeration of each Element within that Combination on each provisioning order. Multiple individual Elements may be ordered by AT&T from BellSouth on a single order without the need to have AT&T send an order for each Element. Until Electronic Interfaces are in place to meet these requirements, AT&T and BellSouth will use best efforts to develop an interim process by no later than April 1, 1997 to meet these requirements.

2.3 **DELETED**

2.4 BellSouth shall provide provisioning services to AT&T equal to the provisioning services BellSouth provides to itself during normal business hours. If AT&T requests that BellSouth perform provisioning services at times or on days other than as set forth in the preceding sentence, BellSouth and AT&T shall mutually negotiate such provisioning including time interval and cost.

2.5 To ensure that AT&T's Customers have the same ordering experience as BellSouth's Customers:

18. Will BellSouth provide CLECs access to its engineering records, as the records need to be updated to reflect the new loop length to ensure MLT testing works properly?

    Metallic Loop Testing (MLT) does not rely on individual records to determine test parameters and, therefore, CLEC's do not need access to engineering records for such testing purposes.

19. How will maintenance of the combined unbundled elements work?

    Unbundled network elements delivered to the CLEC's collocation space will be maintained by BellSouth in the same manner that such element was delivered to CLEC. In other words, each individual element can be tested to determine performance specifications.

20. Please describe all BellSouth methods and procedures to describe how it will separate already-combined elements and how CLECs will "recombine" these elements? If such methods and procedures do not yet exist, when will they be completed and made available to CLECs?

    BellSouth recognizes that under the current agreements executed with AT&T, BellSouth may not disconnect those elements that are already combined. However, once the Eighth Circuit's decision becomes final and non-appealable, the combination provisions in the agreements will have to be revisited.

    However, for purposes of answering this question, there are no unique M&Ps to provide unbundled network elements to AT&T for the purpose of AT&T combining these unbundled network elements. BellSouth offers order coordination for the purpose of transferring a BellSouth customer to an AT&T customer where AT&T intends to utilize unbundled network elements to provide service to that same customer.

21. What OSS impacts are anticipated from BellSouth's "collocation" proposal? What OSS will BellSouth access/utilize to separate already combined elements and to allow CLECs to "recombine" elements? How will BellSouth provide CLECs access to these OSS?

    There are no OSS impacts due to BellSouth's collocation proposal. Collocation is ordered pursuant to Attachment 3 of the Interconnection Agreement. AT&T will utilize the OSSs set forth in Attachment 15 of the Interconnection Agreement to order individual network elements for the purpose of BellSouth delivering the unbundled network elements to AT&T's collocation space so AT&T can combine those unbundled network elements. Order coordination is available as set forth in BellSouth's response to number 20.

interconnected and functional without any disconnection or disruption of functionality. This shall be known as Contiguous Network Interconnection of network elements.

5. **Ordering Interfaces**

5.1 BellSouth shall provide real time electronic interfaces ("EI") for transferring and receiving Service Orders and Provisioning data as specified in Section 16.8 of Attachment 2 and in Attachment 15.

5.2 BellSouth shall provide real time provisioning data via an Electronic interface as described in item 5.1 of this section. Provisioning data shall include providing AT&T the ability: (i) to obtain information on all features and services available, in end-office where customer is provisioned; (ii) to establish if a service call is needed to install the line or service; (iii) to determine the due date and provide information regarding service dispatch/installation schedule, if applicable; (iv) ability to provide an assigned telephone number; and (v) ability to obtain a customer profile, including customer name, billing and residence address, billed telephone numbers, and identification of features and services subscribed to by a customer as set forth in Attachment 15.

5.2.1 **DELETED**

5.2.2 **DELETED**

5.2.3 **DELETED**

5.2.4 **DELETED**

5.2.5 **DELETED**

5.2.6 **DELETED**

5.2.7 **DELETED**

5.2.8 **DELETED**

5.2.9 **DELETED**

5.2.10 **DELETED**

5.3 BellSouth shall provide the ability to enter a service order via Electronic Interface as described in Subsection 5.1 of this Section. The service order shall provide AT&T the ability to: (i) establish service and order desired features; (ii) establish the appropriate directory listing; and (iii) order intraLATA toll and interLATA toll when applicable in a single, unified order.

22. What impact does BellSouth's "collocation" proposal have on engineering and inventory records? What records will BellSouth access or modify to separate already connected elements? What records will need to be accessed and/or updated for a CLEC to complete recombination of UNEs? What is BellSouth's plan to accurately maintain such records? How will multiple CLECs using recombined UNEs be given access to BellSouth's engineering and inventory records?

The engineering and inventory records will be modified to reflect the delivery of the individual unbundled network elements to the collocation space, and will not be inventoried as services delivered to the end user.

BellSouth will have an inventory of the individual unbundled network elements delivered to the collocation space. BellSouth will not have any record of what the CLEC does with the individual unbundled network elements once they are delivered.

The CLEC will not require access to BellSouth's system for recombination of elements by the CLEC because the CLEC has assignment control at the collocation arrangement and can control where each unbundled element is delivered.

23. Has BellSouth investigated any alternatives to collocation for the recombination of network elements (for example, providing CLECs direct access to BellSouth's network equipment for physical recombining or logical separation and recombining)? If so, please describe these alternatives and explain BellSouth's reasons for not making these alternatives available to CLECs prior to this date? If not, when will any such investigation be done?

BellSouth has examined the offerings of various incumbent local exchange companies and has determined that, at present, collocation is the most appropriate arrangement for CLECs to combine unbundled network elements. AT&T proposed several alternatives to collocation in its January 6, 1998 letter to Duane Ackerman. BellSouth is investigating the feasibility of these alternatives.

24. How many customers will BellSouth be able to convert in each of its central offices per day when collocation is used to combine a loop and port?

See response to Issue 13

25. How many collocation arrangements can BellSouth accommodate per month per state?

BellSouth is committed to being the provider of choice and as such is continuing to improve its processes to become more efficient and expedient in fulfilling collocation requests.

3.12 AT&T, where available, may choose between SCE/SMS AIN Access and SS7 AIN Access as designated on AT&T's provisioning order.

3.13 BellSouth shall inform AT&T if a customer action results in reassignment of an AIN trigger from an AT&T AIN application to some other service provider's application. Such notification shall be completed within twenty-four (24) hours of the action via electronic interface as described in the Account Maintenance requirements specified in the Customer Billing section of this Agreement.

3.14 BellSouth shall maintain a database containing AIN trigger configuration and other data necessary to allow AIN service and feature interactions to be determined by AT&T. BellSouth shall provide AT&T the capability to make queries on a demand basis to such database. AT&T recognizes certain combinations of triggers cannot be active simultaneously on a directory number. Information regarding such conflicts will be provided to AT&T at the time of request.

3.15 BellSouth shall provision AIN triggers as requested by AT&T on its provisioning order. BellSouth will not remove a trigger at the request of an end-user. If an end-user requests removal of a trigger that has been provisioned at the request of AT&T, the end user will be referred to AT&T.

4. General Ordering Requirements

4.1 Upon AT&T's request through a Suspend/Restore Order, BellSouth shall suspend or restore the functionality of any Network Element or Combination. On a non-discriminatory basis as to other BellSouth customers, BellSouth shall implement any restoration priority on a per Network Element or Combination basis in a manner that conforms with AT&T requested priorities.

4.2 BellSouth shall provide to AT&T the functionality of blocking calls (e.g., 800, 900, 976 international calls) on an individual switching element basis.

4.3 When ordering a Local Switching Element, AT&T may order from BellSouth separate interLATA and intraLATA capabilities (i.e., 2 PICs where available).

4.4 Unless otherwise directed by AT&T, when AT&T orders an Element or Combination, all pre-assigned trunk or telephone numbers currently associated with that Network Element or Combination shall be retained without loss of feature capability and without loss of associated functions including, but not limited to, Directory Assistance and 911/E911 capability, capability where such features or functions exist.

4.5 When AT&T orders Elements or Combinations that are currently interconnected and functional, such Elements and Combinations will remain

Collocation arrangements shall be provisioned in accordance with Attachment 3 of the Interconnection Agreement. The number of arrangements that can be accommodated depends on the location, the number or requests, the work associated with each request and the commitment of both parties to jointly prioritize and plan implementation of the collocation arrangements requested.

A reasonable estimate of the locations and volume that AT&T is projecting would enhance BellSouth's ability to respond.

26. What is the availability of collocated space in each BellSouth central office? Please describe any limitations which may exist.

This question is overly broad in that there are approximately 1600 Central Offices in the BellSouth region (See NECA Tariff FCC No. 4 for a complete list of central offices). Responding to this question for each central office would require a colossal effort on BellSouth's part. However, to address your question, each request for collocation must be evaluated for space availability on an individual case basis. Availability is determined at the time a collocation application is submitted to BellSouth with the appropriate application fee.

27. Assuming a CLEC has pre-wired loop and switch connections in its collocation space to blocks on BellSouth MDF and/or IDF frames, what is the expected duration of customer down time for conversion of an existing BellSouth customer to a UNE CLEC customer?

The customer down time may vary depending upon whether coordination is required, the telephone number is ported, it is a designed or non-designed circuit and the type of frame in the central office.

28. How does BellSouth propose to remedy the provisioning/service parity issues associated with its collocation proposal e.g., (1) electronic provisioning vs. manual provisioning; (2) additional loop lengths and additional connections; (3) additional possible points of failure?

BellSouth is not aware of any provisioning/service parity issues associated with BellSouth's collocation proposal.

BellSouth does not electronically provision BellSouth customers on its own mainframe. This is a manual process requiring the use of BellSouth work forces to run jumpers.

BellSouth is not aware of any provisioning/service parity issue associated with BST's unbundled loop lengths. No additional loop lengths should be added on unbundled loops. The unbundled loop will be handed off to the CLEC at its

"Combinations" consist of multiple Network Elements that are logically related to enable AT&T to provide service in a geographic area or to a specific customer and that are placed on the same order by AT&T.

"Commission" means State Commission as Defined in the Act.

"Common Transport" has the meaning set forth in Attachment 2, Section 9.1.

"Conduit" has the meaning set forth in Attachment 3, Section 3.

"Confidential Information" means confidential or proprietary technical or business information given by the Discloser to the Recipient and further defined in Section 18.1 of the General Terms and Conditions.

"Contract Year" means a twelve (12) month period during the term of the contract commencing on the Effective Date and each anniversary thereof.

"Cooperative Testing" has the meaning set forth in Attachment 2, Section 16.1.1.

"CRIS/CLUB" means Customer Record Information System/Customer Local Usage Billing.

"Customer Proprietary Network Information (CPNI)" is as defined in the Act.

"Customer Usage Data" means the local Telecommunications Services usage data of an AT&T Customer, measured in minutes, sub-minute increments, message units, or otherwise, that is recorded by BellSouth and forwarded to AT&T.

"Dark Fiber" has the meaning set forth in Attachment 2, Section 15.1.1.

"Databases" has the meaning set forth in Attachment 2, Section 13.1.1

"Dedicated Transport" has the meaning set forth in Attachment 2, Section 10.1.1.

"Defaulting Party" is a Party in breach of a material term or condition of the Agreement.

"Digital Cross-Connect System" has the meaning set forth in Attachment 2, Sections 10.5.1.1 and 10.5.1.2.

collocation space through a tie cable that replaces the tie cable that would normally route the loop to the switch. Additional connections may or may not be applicable on the BST side of the collocation space; however, the element delivered to the collocation space will perform in accordance with the industry standards and service performance parameters found in Attachment 2 of the Interconnection Agreement.

29. Will BellSouth allow a CLEC to collocate in a BellSouth remote switching site (location where it has a remote switching module)?

BellSouth will allow a CLEC to collocate on a BellSouth Premises (as "Premises" has been defined by the FCC's rules and regulations). BellSouth's position regarding collocation is the same regardless of the type of switching system used at a given central office.

30. Will BellSouth require AT&T to execute a "Master Collocation Agreement" or other agreement(s) before BellSouth will make collocation available to AT&T? If so, please provide a copy of this agreement(s). Are there any modifications needed to AT&T Interconnection Agreement(s) with BellSouth in any states before BellSouth will make collocation available to AT&T? If so, what are they?

AT&T will not be required to execute a "Master Collocation Agreement", as collocation is already incorporated into the AT&T Interconnection Agreements with BellSouth. BellSouth believes that no additional modifications are required to the existing collocation section of the Interconnection Agreement. If AT&T's opinion differs, BellSouth will be glad to discuss this issue.

31. What intervals will BellSouth commit to as to the provision of requests for collocation?

Request for collocation will be provisioned in accordance with Attachment 3, Section 2.2.18 of the Interconnection Agreement.

32. Has BellSouth tested, deployed facilities and/or personnel to assure itself that these intervals can be met? What remedies, if any, does BellSouth propose for CLECs if these intervals are not met?

BellSouth has negotiated interval dates with the CLECs and has been meeting those dates. BellSouth requests that CLECs provide all information required on the application to design the collocation space and obtain a building permit. BellSouth will stay in constant communication with the CLEC. If there is any problem with meeting the negotiated dates, BellSouth will notify the CLEC.

AGREEMENT

BETWEEN

BELLSOUTH TELECOMMUNICATIONS, INC.

AND

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.

TENNESSEE

2/24/97

Pursuant to the AT&T/BellSouth Interconnection Agreement, BellSouth will reimburse AT&T in an amount equal to the AT&T expenditure incurred as a direct result of delays caused by BellSouth in the negotiated completion and turnover dates.

33. What costs are associated with BellSouth's collocation proposal? Please itemize all individual costs. What information will BellSouth provide to establish that such costs are "just, reasonable and nondiscriminatory?"

The costs associated with BellSouth's collocation proposal were provided in various proceedings throughout the BellSouth states. AT&T participated in all those proceedings. Collocation rates are contained in the interconnection agreement entered into between BellSouth and AT&T.

34. Does BellSouth have any actual commercial usage data from any of its states using physical collocation arrangements for purposes of allowing CLECs to combine UNEs? In other words, what testing has been done?

No unique testing is needed for the delivery of UNEs to a CLEC's collocation space. BellSouth has accepted orders and successfully delivered unbundled network elements to collocator's space for the purpose of the CLEC providing telecommunication services to end user customers.

35. How will BellSouth provision individual loops that currently are provisioned using integrated digital loop carriers for combining with local ports?

BellSouth will provision individual loops that currently are provisioned using integrated digital loop carriers for combining with local ports pursuant to Attachment 2, Section 3 of the Interconnection Agreement. Thus, BST will "roll" the loop from the IDLC onto a universal DLC or other alternate facility at no extra charge. If no alternate facility exists, BST will utilize its existing Special Construction Process to determine what additional costs would be required to provide an unbundled loop to that end-user's location. Once these loops are "un-integrated" they would be provisioned to the CLEC's collocation space to be combined with other elements as the CLEC chooses to combine them.

the main distribution frame, this process would require that all CLECs have direct access to BellSouth s switch translations. Such access would lead to an unacceptable higher risk of disruption and would impact of quality and reliability of service being provided to all end user customers. In addition, this proposal does not result in provision of unbundled elements individually, in effect BellSouth would under this methodology be providing a combination of two unbundled network elements

3. AT&T's third proposal provided for the use of a joint CLEC/BellSouth vendor to disconnect and reconnect loops at the Main Distribution Frame (MDF). BellSouth will not permit CLECs to have direct access to the BellSouth MDF The MDF was not designed for multiple users and such access would lead to an unacceptable higher risk of disruption of service to a larger population of telecommunications users when technicians from a number of different telecommunications companies have access to the network and facilities of all telecommunications companies providing service to end users from that location Further, BellSouth's inventory systems are not equipped to handle access to the MDF. The inventory systems are not equipped to track circuit paths through the central offices and thus, would not be able to provide accurate and timely information for provisioning, maintenance and repair activities.

4. The fourth proposal offered by AT&T allows for the use of pre-wired connector blocks at the Main Distribution Frame. As BellSouth stated in response to option 3, BellSouth will not permit CLECs to have direct access to the BellSouth MDF

Collocation remains the most efficient manner in which to combine unbundled network elements and BellSouth continues to offer collocation as the means to combining such elements. In addition to BellSouth's collocation proposal, BellSouth is still available to discuss the opportunity of a professional service arrangement with AT&T in which BellSouth would combine UNEs for AT&T at market rate.

Sincerely,

cc: Scott Schaefer
Joe Baker

BellSouth Interconnection Services
Suite 200
1960 West Exchange Place
Tucker, Georgia 30084

770 492-7560
Fax 770 621-0629

Quinton E Sanders
Sales Assistant Vice President
AT&T Regional Account Team

March 17, 1998

Mr. Raymond G. Crafton
Division Platform Manager
AT&T - Local Services Organization
1200 Peachtree Street, N.E.
Atlanta, Georgia 30309

Dear Ray:

In Jim Carroll's January 6, 1998 letter to Duane Ackerman, AT&T proposed four additional methods of delivery of unbundled network elements. BellSouth stated in its February 10, 1998 letter to Mr. Carroll that it would review AT&T's additional methods. BellSouth has concluded its review of these four methods of delivery

1. AT&T's first proposal permitted CLECs to use an electronic cross-connect system for access to a loop and switch port combination (at UNE rates) BellSouth has evaluated this proposal internally and with several vendors of such equipment. Based upon BellSouth's understanding of the proposal, the electronic cross-connection equipment would be inserted in the loop path between the main distributing frame (MDF) and the central office switch Therefore, the loop/port combination would be accomplished in the digital domain, and thus require analog to digital conversions. Such conversions would add additional expense that is not present in the other methods of delivery. It is not clear to BellSouth if AT&T is suggesting that all central office loops be connected to this system, or merely a predetermined subset of loops. If the alternative requires that only a subset of available loops be accessible by the new system, then certainly AT&T has the responsibility to specify those loops. If the alternative requires that all loops have access to the new system, then security and liability become greater issues, since access to the system would have to be opened to all CLECs In both scenarios, a firewall or mediation device would be required In either case, initial manual cross-connects to the new equipment would be required, resulting in labor costs in addition to the cost associated with the new electronic system and mediation device(s). In conclusion, there is a great deal of expense associated with this delivery method and as such BellSouth does not endorse the delivery method as a generic methodology.

2. The second proposal submitted by AT&T permitted CLECs to combine loops and ports (at UNE rates) through use of the "recent change" process In order for CLECs to utilize the "recent change" process, as with the method that proposes access to

BellSouth Telecommunications

Negotiations Handbook

for

Collocation

Collocation

Handbook

Version 6.0

10-28-97

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Preface

This handbook describes BellSouth's Collocation offerings, *providing* general information regarding the terms and conditions, ordering, provisioning and maintenance of BellSouth's Collocation Offerings. By design, this document does not contain detailed descriptions of network interface qualities, network capabilities, local interconnection or product service offerings. This document does not represent a binding agreement in whole or in part between BellSouth and subscribers of BellSouth's Collocation services. For actual Terms and Conditions of BellSouth's Physical Collocation offering, please refer to BellSouth's Standard Physical Collocation Agreement. For actual Terms and Conditions of BellSouth's Virtual Collocation offering, please reference BellSouth's FCC #1 Tariff, section 20 or BellSouth's Florida Access Tariff (E20).

Introduction

BellSouth offers Virtual Expanded Interconnection Service as a tariffed service offering. BellSouth will negotiate Physical Collocation on an individual contract basis. Both Virtual and Physical collocation will be made available on a first come, first served basis, depending on space availability for interconnection to unbundled network elements, access services and state tariff services necessary for use by telecommunications service providers. You will find a list of contacts included for your convenience in discussing the above items.

Service Descriptions

Virtual Expanded Interconnection Service (VEIS)

VEIS, or Virtual Collocation, is a tariffed service offering which provides for the placement of collocator-owned transmission equipment and facilities in BellSouth Central Offices for the interconnection to the BellSouth network. Collocation arrangements may interconnect to designated BellSouth tariffed services, local interconnection trunks and/or unbundled network elements.

With VEIS, the collocator places fiber optic cable from outside the central office to an interconnection point designated by BellSouth, *(e.g. a serving manhole)*. The entrance facility is pulled into the central office cable vault by BellSouth, spliced into pre-terminated, fire-retardant riser cable and connected to the collocated equipment. Multiple entrance facility points will be made available where such entrances exist and capacity is available. The collocator must directly contract with its selected BellSouth Certified vendor for engineering and installation of the collocation equipment arrangement.

To ensure the compatibility of the facilities and equipment used to provision Virtual Collocation, collocated equipment and cabling facilities will be provided by the collocator. This includes, but is not limited to terminal transmission equipment and associated plug-ins/line cards, software, test equipment, the pre-terminated, fire-retardant riser cable, cabling from the equipment arrangement to the BellSouth cross-connect point, cabling from the arrangement to the BellSouth-provided power source, and any unique tools required to provision, maintain or repair the arrangement.

BellSouth will lease the collocator's entrance fiber, cabling and equipment arrangement for the nominal fee of one dollar. For this reason, VEIS equipment arrangements are most commonly located in the BellSouth equipment line-up. Performance monitoring and alarming of the collocated equipment is the responsibility of the collocator and must be performed remotely. BellSouth will perform all maintenance and repair on VEIS equipment once the collocator requests such work. For additional information regarding BellSouth's Virtual Expanded Interconnection Service, please reference Section 20 of BellSouth's FCC #1 tariff or section 20 of BellSouth's Florida Dedicated Access Tariff.

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Service Descriptions, cont.

Physical Collocation

Physical Collocation is a negotiated contract arrangement for the placement of collocator-owned facilities and equipment in BellSouth Central Offices. Physical Collocation is available as either **Expanded Interconnection Service** (EIS) or **Service Interconnection** (SI). Expanded Interconnection Service includes placement of equipment connected to private fiber entrance facilities and cross-connected to BellSouth's network. Service Interconnection provides for the placement of collocator equipment, interconnected to BellSouth network, without the use of private fiber entrance facilities.

Unlike VEIS, Physical Collocation arrangements will be placed in floor space separated from BST equipment. Where space permits, BellSouth will construct a common area for all collocators, including separate ingress/egress where feasible. The cost of such construction will be shared by all collocators at that location on a pro-rated basis. Equipment ownership, maintenance and insurance is the full responsibility of the collocator or their approved agent. The equipment compliment may include transmission equipment, terminating equipment, switching equipment, power and battery equipment (under special conditions only), PCs and test access modems. A Point of Termination Bay (POT Bay) serves as the demarcation point between the collocator's equipment arrangement and BellSouth's network.

All equipment placed as part of a collocation arrangement must be installed by a BellSouth authorized vendor and must meet Bellcore/NEBS standards. A collocation arrangement enclosure may be purchased from BellSouth to house the equipment arrangement at the request of the collocator for an additional fee. A collocator has the option of arranging directly for the construction of the enclosure following BellSouth specifications. Under certain conditions, the collocator may be permitted to construct power plant. Power equipment installed by the collocator must be enclosed within fire rated walls, constructed to BellSouth and local building code specifications.

General Terms and Conditions

Application for service

The application for collocation is a two-phase process consisting of the Application Inquiry phase and the bona fide Firm Order phase. Both phases use BellSouth's BSTEI forms. For copies of BellSouth's BSTEI forms and line by line instructions, a collocator may contact their BellSouth Interconnection Services Account Team contact noted on page 14 of this Handbook. A collocator must submit the inquiry document for review and planning by BellSouth equipment engineers, space planners and facility planners. Based on the feedback from these sources, BellSouth will respond to the application inquiry in writing. An application fee must accompany each Application Inquiry as indication of a bona fide request.

Following the collocator's review of BellSouth's Application Response, a Firm Order may be submitted for each location for which the collocator wishes to proceed. The Firm Order may be submitted on the same form used during the Application Inquiry phase, provided all necessary revisions are clearly marked to indicated the applicant's finalized plans. A detailed equipment drawing must accompany the Firm Order request along the pre-payment of applicable fees. Once the Firm Order is placed, the collocator may negotiate with a BellSouth Certified Vendor for equipment placement.

Assignment of space

BellSouth assigns space for collocation based on space availability on a first come, first served basis. For Virtual Collocation, space is assigned within the BellSouth equipment line-up based on the rack requirements for the equipment installation. Physical Collocation space is assigned per the customer's request, with equipment arrangements placed in separated floor space.

With Physical Collocation, a collocator may opt for an arrangement enclosure. Enclosures are available as a 100 square foot minimum based on space availability within the area designated for physical collocation. A collocator requesting more than a 100 square foot enclosure will be offered contiguous space where available. Where contiguous space is unavailable, the collocator may elect the construction of two separate enclosures and may interconnect its arrangements via direction connection or through the purchase of BellSouth cross-connects.

If BellSouth determines there is insufficient space within a central office to accommodate Physical Collocation, BellSouth will refund the Physical Collocation Application Fee. The requesting collocator may request Virtual Collocation, in lieu of Physical Collocation and in accordance with existing regulatory requirements, at the same premises by submitting a Virtual Collocation BSTEI form along with the appropriate Application Fee.

Equipment installation

The collocator must select an equipment installation vendor who has achieved BellSouth Certified/Authorized Vendor status to perform all engineering and installation work associated with the equipment collocation arrangement. This ensures BellSouth's standards for safety and quality are met. The Certified Vendor is responsible for installing the collocation

General Terms and Conditions (cont.)

Equipment installation (cont.)

equipment and components, running power feed(s) to the BellSouth Bus Distribution Fuse Bay (BDFB), performing operational tests after the equipment installation is completed, and notifying the local BellSouth Equipment Engineer and the Collocator upon successful completion of the installation and acceptance testing. Arrangements must be made such that the Collocator is billed directly by the Certified Vendor for activities associated with the arrangement installation. The lists of certified vendors effective the issue date of this document are contained on pages 16-18. For the most current list, a collocator may contact their BellSouth Interconnection Services Account Team contact noted on page 14 of this Handbook.

Occupancy of space

The collocator must complete the collocation equipment installation within 180 days from the date space is made available by BellSouth or forfeit the right to use the space. BellSouth may, at its discretion, extend this interval when best efforts have been demonstrated in attempting to meet this interval.

Alarm and monitoring

The collocator is responsible for the placement and remote monitoring of their equipment, environmental alarms, and/or power alarms. BellSouth will place environmental alarms in collocation areas for its own use and protection. Upon request, BellSouth will provide remote monitoring circuits at the tariff rate for the service requested.

Inspections

BellSouth will conduct an inspection of the collocator's equipment and facilities between the time of the initial turn-over of the space and the activation of cross-connect elements. Subsequent inspections may occur with equipment additions or on a predetermined interval basis. For such inspections, BellSouth will provide a minimum of 48 hours advance notification. BellSouth reserves the right to conduct inspections without prior notification to ensure compliance to the terms and conditions of the tariff or agreement. Collocator personnel have the right to be present for inspections.

A collocator may inspect their virtual collocation arrangement upon completion of the arrangement installation. A security escort is required for these inspections. Additional inspections must be coordinated with BellSouth and also require a security escort. Only collocators or their certified vendors are permitted for such inspections.

General Terms and Conditions (cont.)

Commencement Date

The date which the collocator, the collocator's vendor, and BellSouth jointly certify the interconnector's equipment is operational and is connected to BellSouth's network will be the commencement date.

Access to BellSouth Central Offices

Only BellSouth employees, BellSouth certified vendors, Collocator employees and their authorized agents are permitted in BellSouth Central Office collocation sites. Access to Virtual Collocation is permitted for BellSouth employees and certified vendors. Virtual Collocator's are permitted to view the completed installation for inspection only as referenced in the preceding paragraphs.

Access to Physical Collocation is permitted for Collocator employees and their authorized agents, BellSouth certified vendors, and BellSouth employees. All physical collocators are required to provide their employees and authorized agents a picture identification. This identification must have the employee name and company name clearly printed and must be visible at all times while the individual is inside a BellSouth facility. Manned offices will afford 24 hour, 7 day per week access, but may require a security escort to the collocation area depending on building configuration. Unmanned offices may require prior arrangement for the dispatch of a BellSouth employee or security escort for building access.

Liability

The collocator is responsible and accountable for the actions of their employees and their agents. The collocator will be required to pay damages to BST for damage to BST property, equipment or facilities as a result of the actions or behaviors of either the collocator employees or their agents.

Insurance

For Physical Collocation, BellSouth requires the following coverage: (1) $10 million in commercial general liability insurance or a combination of commercial general liability and excess umbrella coverage totaling $10 million; (2) workers compensation coverage/employers liability coverage with limits not less than $100,000 each accident; (3) $100,00 each employee by disease, $500,000 policy limit by disease. BellSouth will review requests for self insurance on a case by case basis.

Insurance coverage for Physical Collocation must be in effect on or before the date work commences or equipment is delivered, whichever is sooner, and must remain in effect until departure of all collocator personnel and property from the central office.

General Terms and Conditions (cont.)

Insurance (cont.)

Insurance for Virtual Collocation is the responsibility of BellSouth per the arrangement lease agreement. Virtual Collocator's should submit annually to BellSouth an updated list of facilities and equipment contained in their Virtual Collocation arrangement to assist BellSouth in ensuring adequate insurance coverage is in place should a disaster occur.

Ordering Interconnected service

Virtual Collocation may interconnect to BellSouth's network at the DS3, DS1, 2-wire and 4-wire DS0 cross-connect levels. (DS0 equivalent is available in Florida only.) Interconnection to Physical Collocation is available at the 2-wire or 4-wire, DS1, DS3 or Fiber Optic interface levels on a negotiated basis only. Please ask your BellSouth contact for specific information.

Services to be interconnected to a collocation arrangement must be submitted on Access Service Request (ASR) forms or Local Service Request (LSR) forms using industry standards and code sets for accurate and complete requests. For information regarding the ASR ordering process and field definitions, please reference the Access Service Ordering Guide, Bellcore's Special Reports SR STS-471001 and 471004. For information regarding the LSR ordering process and field definitions, please reference BellSouth's Local Interconnection and Facility Based Ordering Guide.

Assignment of facilities

BellSouth assigns facilities within its network to the collocation interconnection demarcation point. BellSouth provides this facility interconnection information on the Design Layout Record (DLR) for DS1 and DS3 interconnection and on the Cable and Pair Assignment Matrix for 2-wire and 4- wire (DS0) interconnection. The customer must specify this interconnection information as circuit facility assignment (CFA) or cable and pair/channel assignment, respectively, on the Access Service Request or Local Service Request when ordering cross-connects to unbundled network elements or tariffed services.

Conversion of VEIS to Physical Collocation

Collocators who have existing VEIS arrangements may convert these arrangements to physical collocation provided the terms and conditions for Physical Collocation are met. The collocator will be responsible for the issuance of service order requests and the payment of fees associated with Physical Collocation, rearrangement of existing services and vendor costs for the relocation/removal of equipment.

General Terms and Conditions (cont.)

Recovery of extraneous expenses

Should BellSouth discover, upon beginning construction for physical collocation space, that unexpected major renovation or upgrade will be required to one of the following in order to facilitate physical collocation, BST will share the costs of these expenses among collocators based on the number of square footage being requested: ground plane addition, asbestos abatement, mechanical upgrade, major HVAC upgrade, separate egress, ADA compliance.

Cancellation of a request in progress

If a collocator cancels an in-progress request, the collocator will be responsible for reimbursing BellSouth for expenses incurred to date. If the collocator has prepaid all or a portion of the non-recurring fees, BellSouth will refund the amount not expended as of the date of the cancellation.

Disconnection/Relocation of an in-service arrangement

When a collocation arrangement is disconnected or relocated, the collocator must contract directly with its selected BellSouth Certified Vendor to remove/relocate all equipment and facilities associated with the decommissioned arrangement at the expense of the collocator.

Special Reports

BellSouth will negotiate with requesting parties for the development of administrative reports, based on the availability of the data being requested. A fee structure will be based on the complexity of the request and resources required to produce the report(s).

Rate Components

Virtual Collocation

The rate element components of Virtual Collocation are contained in BellSouth's FCC #1 tariff, Section 20 and in the Florida Dedicated Services tariff, Section 20. Please refer to these references for the application of charges for Virtual Collocation.

Physical Collocation

Physical Collocation offers a menu-style ordering provision so you may select only the items required for your individual arrangement(s). Some components are required for all physical collocation arrangements as indicated by an **(R)** designation next to the item in the descriptions following.

Application fee **(R)**
The application fee is required for each application to cover the engineering and administrative expense associated with assessing the Application Inquiry request. This fee is a one time charge per location, per request and must accompany the Application Inquiry document before BellSouth will begin assessing the request. A subsequent request by the same customer in the same premises will be treated as "new" if the initial collocation installation request is complete. A Subsequent Application fee may apply in lieu of the Application fee when subsequent requests by the same customer in the same premises do not require BellSouth to expend capital and the collocator has this option negotiated as part of the contract arrangement.

Floor Space **(R)**
This component covers the square footage requirements for the equipment rack(s) and POT bay for the equipment arrangement. The square footage calculation of an arrangement having an enclosure equals the total square footage contained within the enclosure walls. When an enclosure is not requested, square footage is calculated by the total shadow print of the equipment racks and POT bay plus a factor of 2.50 to compensate for the collocator's pro-rated share of OSHA required wiring and maintenance aisle space. BellSouth requires an enclosure if a collocator places power equipment or requires a desk or terminal stand.

The floor space charge covers items such as, but is not limited to the use of lighting, heating, air conditioning, ventilation, emergency back-up for these systems and other allocated expenses associated with the central office building. Billing commences the day the collocation space is turned over to the collocator for occupancy, or the day equipment is delivered to the BellSouth location, whichever is sooner. The floor space element does not include the amperage required to power collocated equipment.

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Rate Components (cont.)

Power **(R)**
Charges for -48V DC power is assessed per ampere per month based upon the certified vendor engineered and installed power feed fused ampere capacity. Rates include redundant feeder fuse positions (A&B), cable rack to the collocated equipment or equipment arrangement enclosure, and emergency back-up power. Fuses and power feed cables (A&B) must be engineered (sized), furnished and installed by a BellSouth certified vendor. The Interconnector's certified vendor must also provide a copy of the engineering power specification prior to the Commencement Date.

When a collocator requests collocation of equipment that requires BellSouth to construct an addition and/or an upgrade to the power plant in a specific central office, these additions and/or upgrades will be part of the Space Preparation charge. The collocator has the option of accepting responsibility for construction of such upgrades or additions per BellSouth specifications and assuming all costs associated with the construction. Power equipment placed by the collocator must be enclosed within fire rated walls.

Cross-connect **(R)**
This elements provides the one-for-one interconnection to Unbundled Network Elements (i.e. 2-wire or 4-wire unbundled loop, unbundled ports) or BellSouth's tariffed service offerings (i.e. DS0, DS1 or DS3 services). It is a flat rate, non-distance sensitive charge and applies on a per loop, circuit or port connection basis. The cross-connect has both a non-recurring and recurring charge.

POT bay **(R)**
BellSouth requires the use of a Point of Termination (POT) bay or frame for demarcation with physical collocation. The charge applies on a per cross-connect basis on a monthly recurring basis only. There is currently no non-recurring charge for this element.

Cable Installation
The cable installation charge applies only to collocators who install private entrance facilities to their collocation arrangement. This is a one time (non-recurring) charge per cable installed to arrange the punch through to the manhole, pull fiber cable length from the serving manhole to the Central Office cable vault, perform splicing to collocator's connectorized fire retardant riser, and pull cable length through cable support structure to the collocation arrangement location.

Cable Support Structure
The component covers the use and maintenance of the Central Office duct, riser and overhead racking structure when the collocator elects to a provide private fiber entrance facility to their equipment.

Rate Components (cont.)

Space Preparation fee
This one time fee applies for physical collocation only, per arrangement, per location and covers the survey, engineering, design, and building / support system modifications for the shared physical collocation area within a central office plus additional "make ready work" specific to the collocator which is not included in the enclosure construction fee. BellSouth will pro rate the common space preparation costs among all collocators at a given central office based on the number of square footage requested per collocator. This charge may vary dependent on the location and type of arrangement requested. A portion of the estimated Space Preparation charge must be paid prior to construction or equipment installation begins.

Should the customer elect to arrange the add/build of DC power plant, the costs for construction of the power equipment enclosure will be included in the space preparation fee when BellSouth performs the construction. Construction of the power equipment enclosure may be directly arranged with a BellSouth certified contractor. Such enclosure, whether constructed by BellSouth or a contracted vendor, will become the property of BellSouth.

Space construction fee
This element applies to physical collocation arrangements only and will vary based on the size of arrangement enclosure requested. The fee covers the materials and installation of an equipment arrangement enclosure. The collocator has the option of accepting responsibility for construction of their equipment arrangement enclosure per BellSouth specifications and assuming all costs associated with the construction. Enclosures constructed for collocation arrangements will become the property of BellSouth.

Security Escort **(R)**
A security escort is required for all equipment inspections under VEIS. A security escort may be required for physical collocation if the collocator or their agent must traverse a restricted area in order to access their collocation space. The charge is billed in half hour increments.

Additional Engineering
BellSouth's engineering and other labor time associated with establishing the equipment arrangement and establishing tie cables will be billed as additional engineering. This charge will also apply for modifications to an application in progress which result in architectural, design or engineering changes. Additional engineering charges may apply for work efforts specific to a collocator's space when an enclosure construction charge does not apply.

Administrative reporting
Collocators who request administrative reports will be assessed a report fee on an individual case basis.

Contacts

Physical Collocation contract negotiation:

Contact Name	Telephone
Jerry Hendrix	404 927-7503

Competitive Access Provider (CAP) and CLEC Applications for collocation: :

Contact Name	Account	Telephone	Fax Number
Nancy Nelson	CAP/CLEC	205 977-1136	205 977-0037
Gretchen Temple	CAP/CLEC	205 977-1122	205 977-0037
Jeanie Ash	MCIm	770 492-7541	770 621-0632
Valerie Gray	AT&T	770 492-7563	
Linda McGrue	SprintMetro	205 988-1719	205 988-1688
Connie Butrill	Wireless	770 454-2983	205 454-2907

For IXC customers:

Contact your Account Representative to obtain the name of your collocation coordinator if not listed above.

To obtain a copy of BellSouth's Application / Inquiry document:

Contact your Account Representative

Example Letter

Customer Request
for
Physical Collocation Negotiations

(Date)

Mr. Jerry Hendrix
Director - Marketing Interconnection Services
BellSouth Telecommunications, Inc.
675 W. Peachtree Street, N.E.
Room 34S91
Atlanta, Georgia 30375

Dear Mr. Hendrix:

(Company name) hereby requests to begin the negotiations process to reach a mutually acceptable Physical Collocation Agreement with BellSouth Telecommunications, Inc. in the state(s) of _____.

Please contact ***(name of your contact)*** at your earliest convenience to establish the appropriate company contacts and the desired procedural schedule necessary to implement the negotiation process.

Sincerely,

Contact Name and Title
Company Name and Address
Contact Phone Number, Fax Number

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Example
BellSouth Certified Transmission Vendor List
Engineering and Installation of Collocation Arrangements

Vendor	Contact	Phone
ADC Communications	Ken Reeves Doug Guildry	800-223-9773 318-684-2860
ADC Da Tel	Basem Anshasi	205-655-9898
Alcatel	Ed Boatwright Alex Baber	770-270-8335 800-869-4869
E F & I Services Co.	Reed Tillis	904-355-7930
Fujitsu Network Communications, Inc., Certified – Collocation (OEM) Fujitsu Equipment Only	J. Quinta Evans	770-246-4102
Lucent Technologies, Inc.	(SC) Adrian Dye (MS)Larry Montgomery GA) Mike Chancey (NFL) Wayne Stricklen (NC) Abe Jenkins NC) (AL) Marc Haze (LA,TN,KY) Unknown	803-926-5213 601-949-8277 404-573-6521 407-636-1421 704-529-0693 910-299-0326 334-265-1291 Use a # above
Mintel	Bill Quinn	770-923-0304
Quality Telecommunications, Inc.	Jerry Miller	770-953-1410
Rapid Response Comm.	Ted Pellaux	423-546-2886
Reltec Services	Woody Bell	770-449-0840
Six "R" Comm., Inc.	Ken Koontz Dick Phillips	704-289-5522
Tele-Tech Company	Rod Trawick	770-389-3043
Telpro Technologies, Inc.	Robert West, Jr.	404-629-1093
Trans Global Comm.	Dale White	904-304-0261
Volt Information Science	George Maquieira	908-245-0100
W. E. Tech, Inc.	Wes Evans	954-587-6996

Note:

The certification status of any listed vendor is subject to change monthly, therefore please ensure you have current information by contacting your BellSouth Collocation Coordinator. @This indicates a Certified Vendor is temporarily unavailable for collocation selection.

Example
BellSouth Certified Switch Vendors
Engineering and Installation for Physical Collocation

Vendor	Contact	Phone
DSC Corporation (STP)	John Mastoras	214-491-1870
Ericsson(STP)	Karen A Caulk	972-583-5158
Fujitsu Network Communications, Inc. Certified – Collocation (OEM) Broadband	J. Quinta Evans	770-246-4102
Lucent Technologies, Inc.	(SC) Adrian Dye (MS)Larry Montgomery (GA) Mike Chancey (NFL) Wayne Stricklen (NC) Abe Jenkins (NC) (AL) Marc Haze (LA, TN, KY) Unknown	803-926-5213 601-949-8277 404-573-6521 407-636-1421 704-529-0693 910-299-0326 334-265-1291 Use a # above
Nortel	Margaret Skeen	770-661-4303
Siemens Stromberg – Carlson	Manfred Schmidtk Installation	407-942-5665
	Karl Hoskins Engineering	561-955-8621

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Note:
The certification status of any listed vendor is subject to change monthly, therefore please ensure you have current information by contacting your BellSouth Collocation Coordinator. @This indicates a Certified Vendor is temporarily unavailable for collocation selection.

Example
BellSouth Certified Power Vendors
Engineering and Installation for Physical Collocation

Note: Installation of Power equipment requires special BellSouth conditions and approval.

Vendor	Contact	Phone
Charles E. Singleton	Sam Wetzel	305-960-0158
Reltec Services	Bob Dietz	216-353-2070
Six R Communications	Ken Kootnz	704-535-7607
Lucent Technologies, Inc.	(SC) Adrian Dye	803-926-5213
	(MS)Larry Montgomery	601-949-8277
	(GA) Mike Chancey	404-573-6521
	(NFL) Wayne Stricklen	407-636-1421
	(NC) Abe Jenkins	704-529-0693
	(NC)	910-299-0326
	(AL) Marc Haze	334-265-1291
	(LA,TN,KY) Unknown	Use a # above

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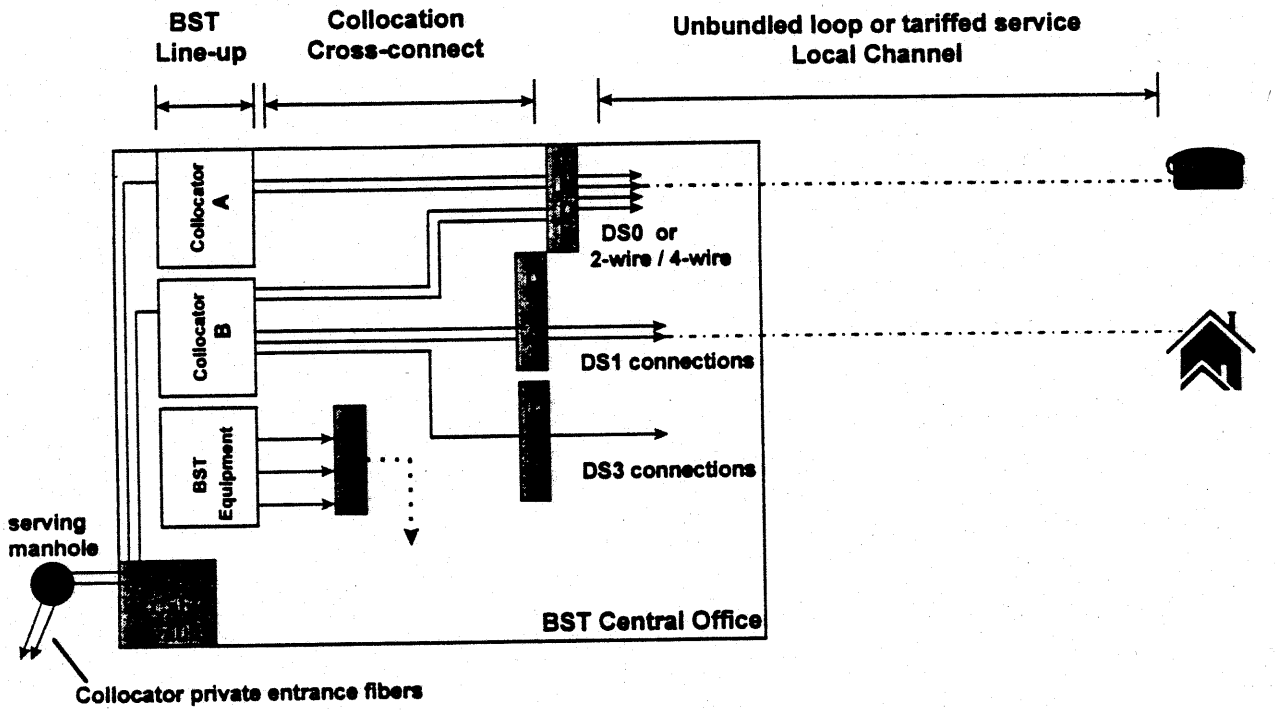
Note:
The certification status of any listed vendor is subject to change monthly, therefore please ensure you have current information by contacting your BellSouth Collocation Coordinator. @This indicates a Certified Vendor is temporarily unavailable for collocation selection.

Virtual Collocation Example Schematic

This schematic shows the placement of the Virtual Collocation equipment within the BellSouth line-up. The interconnection point between the collocator's equipment arrangement and BellSouth's network occurs at the frame (TMDF) or DSX (DSX1 or DSX3), depending on the service being interconnected. The "local channel" is shown as an example of the type of connection which can be made between a collocation arrangement and BellSouth's network but does not constitute the only option for such interconnection.



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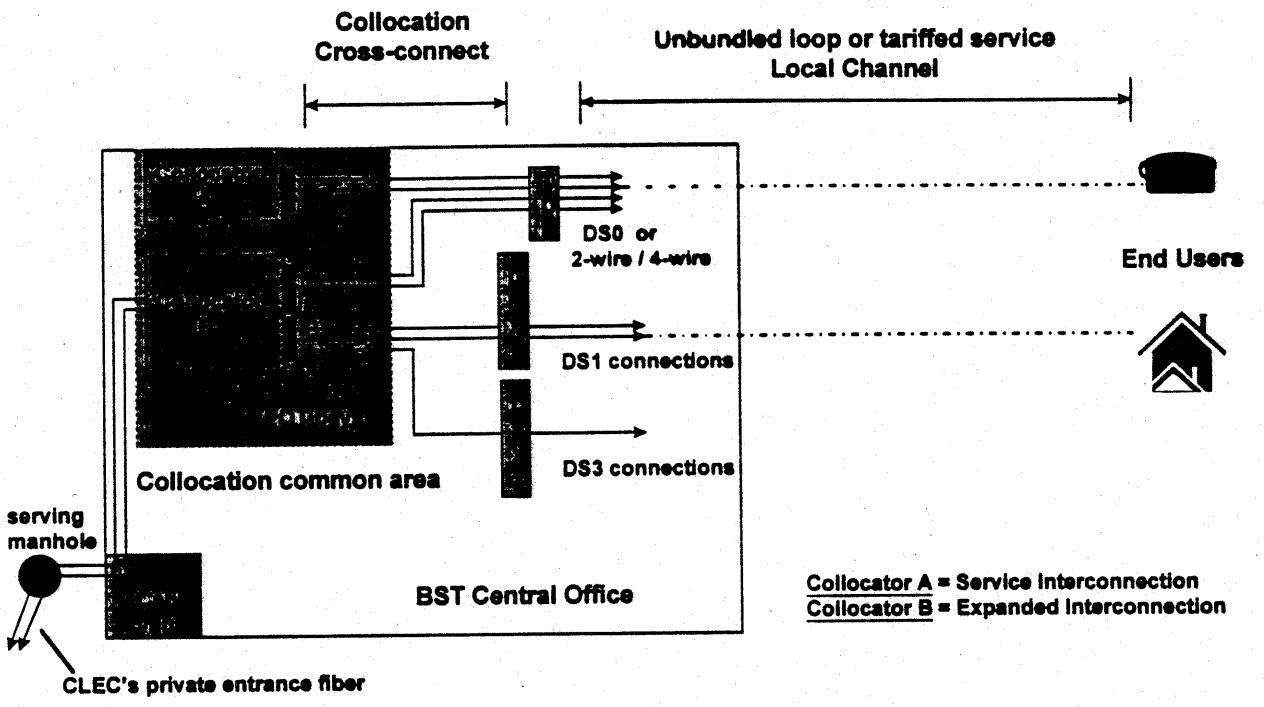
Physical Collocation Example Schematic

The example below illustrates the two types of Physical Collocation offered by BellSouth: Service Interconnection with Collocator "A" and Expanded Interconnection Service with Collocator "B". This Schematic shows the POT bay interconnection point between the collocator's equipment arrangement and BellSouth's network. The "local channel" is shown as an example of the type of connection which can be made between a collocation arrangement and BellSouth's network.



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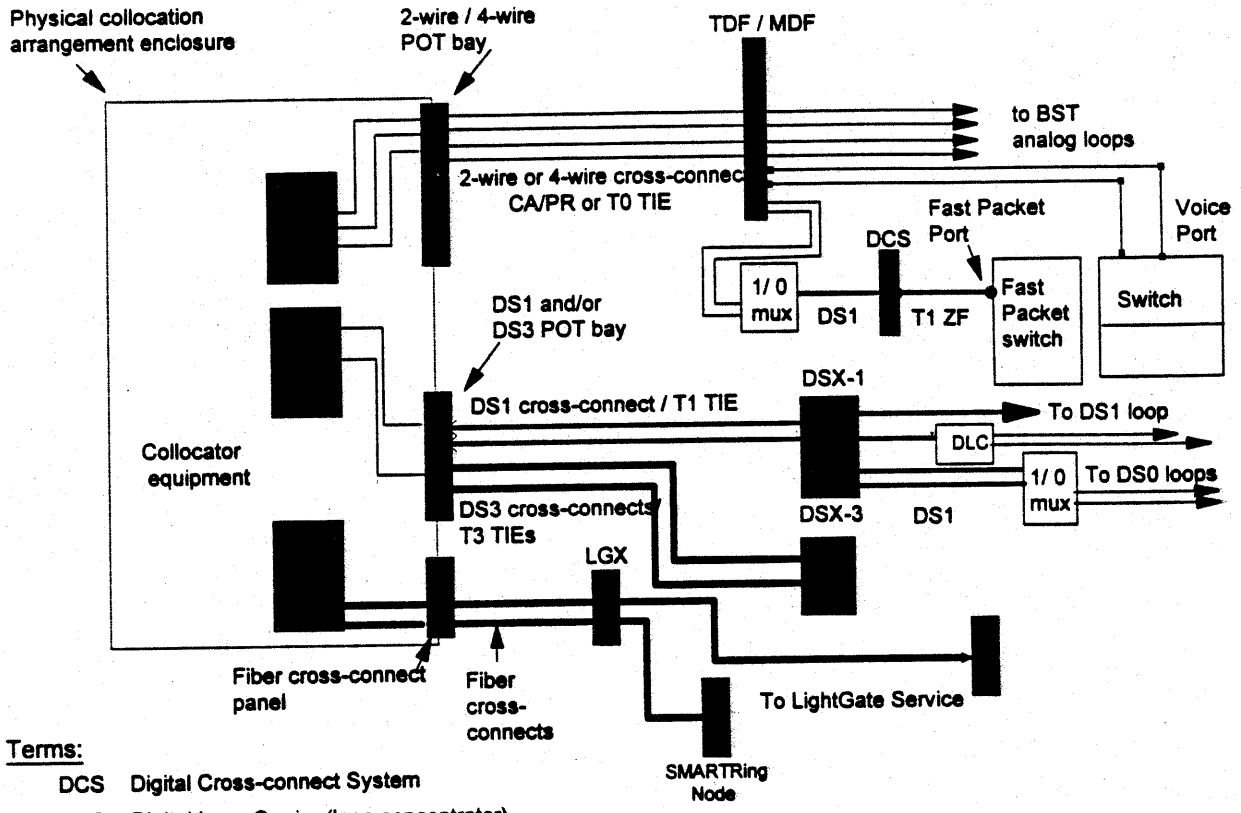
Example Cross-connection Schematic
Physical Collocation



Terms:

DCS	Digital Cross-connect System
DLC	Digital Loop Carrier (loop concentrator)
LGX	Light Guide Cross-connect
MDF	Main Distributing Frame
TDF	Toll Distributing Frame

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Collocation Agreement

By and Between

BellSouth Telecommunications, Inc.

and

BELLSOUTH PHYSICAL COLLOCATION MASTER AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 19___, by and between BellSouth Telecommunications, Inc., ("BellSouth") a corporation organized and existing under the laws of the State of Georgia, and _____, ("Interconnector") a (corporation) organized and existing under the laws of _____;

WITNESSETH

WHEREAS, Interconnector wishes the right to occupy the BellSouth Central Office(s) delineated herein for the purpose of interconnection to BellSouth's facilities;

WHEREAS, BellSouth has space available in its Central Office(s) which Interconnector desires to utilize; and

WHEREAS, BellSouth is willing to make such space available to Interconnector within its Central Office(s) subject to all terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual agreements and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

I. *SCOPE OF AGREEMENT*

A. BellSouth hereby grants to Interconnector a right to occupy that certain enclosed area designated by BellSouth within a BellSouth Central Office, of a size and dimension which is specified by Interconnector and agreed to by BellSouth (hereinafter "Collocation Space"). BellSouth will design and construct at Interconnector's expense, a wall or other delineation to establish a clear division between the Collocation Space and other areas of the Central Office dedicated to BellSouth's use.

B. Interconnector shall use the Collocation Space for the purposes of installing, maintaining and operating Interconnector's equipment (to include testing and monitoring equipment) which is used to interconnect with telecommunications services and facilities provided by BellSouth. Pursuant to Article III, following, Interconnector may place Interconnector-owned fiber entrance facilities to the Collocation Space, in which case the arrangement is designated "Expanded Interconnection." Placement of equipment in the Collocation Space without the use of Interconnector-owned entrance facilities is designated "Service Interconnection." In addition to, and not in lieu of, interconnection to BellSouth services and facilities, Interconnector may connect to other interconnectors within the designated Central Office. The Collocation Space may be used for no other purposes except as specifically described herein or authorized in writing by BellSouth.

C. Interconnector may not provide or make available space within the Collocation Space to any third party. Any violation of this provision shall be deemed a material breach of this Agreement.

D. Interconnector agrees to pay the rates and charges identified at Exhibit A attached hereto.

E. A Collocation Space will be provided to Interconnector at each Central Office identified at Exhibit B attached hereto, which Exhibit shall be updated from time to time as additional Central Offices are made subject to the terms of this Agreement.

II. *TERM OF AGREEMENT*

A. Term. The term of this Agreement shall be for an initial period of two (2) years, beginning on the Agreement date stated above and ending two (2) years later on the month and day corresponding to such date.

B. Commencement Date. The "Commencement Date" shall be the first day after Interconnector's equipment becomes operational as described in Article II.B, following.

C. Occupancy. BellSouth will notify Interconnector that the Collocation Space is ready for occupancy. Interconnector must place operational telecommunications equipment in the Collocation Space and connect with BellSouth's network within one hundred eighty (180) days after receipt of such notice. BellSouth may consent to an extension beyond 180 days upon a demonstration by Interconnector that circumstances beyond its reasonable control prevented Interconnector from completing installation by the prescribed date. If Interconnector fails to place operational telecommunications equipment in the Collocation Space within 180 days and such failure continues for a period of thirty (30) days after receipt of written notice from BellSouth, then and in that event Interconnector's right to occupy the Collocation Space terminates and BellSouth shall have no further obligations to Interconnector with respect to said Collocation Space. Termination of Interconnector's rights to the Collocation Space pursuant to this paragraph shall not operate to release Interconnector from its obligation to reimburse BellSouth for all costs reasonably incurred by BellSouth in preparing the Collocation Space, but rather such obligation shall survive this Agreement. For purposes of this paragraph, Interconnector's telecommunications equipment will be deemed operational when cross-connected to BellSouth's network for the purpose of service provision.

D. Termination. Interconnector may terminate occupancy in a particular Collocation Space upon thirty (30) days prior written notice to BellSouth. Upon termination of such occupancy, Interconnector at its expense shall remove its equipment and other property from the Collocation Space. Interconnector shall have thirty (30) days from the termination date to complete such removal; provided, however, that Interconnector shall continue payment of monthly fees to BellSouth until such date as Interconnector has fully vacated the Collocation Space. Should Interconnector fail to vacate the Collocation Space within thirty (30) days from the termination date, BellSouth shall have the right to remove the equipment and other property of Interconnector at Interconnector's expense and with no liability for damage or injury to Interconnector's property unless caused by the negligence or intentional misconduct of BellSouth.

III. *USE OF COLLOCATION SPACE*

A. Nature of Use. BellSouth shall permit Interconnector to place, maintain and operate in the Collocation Space any equipment that Interconnector is authorized by BellSouth and by Federal or State regulators to place, maintain and operate in collocation space and that is used by Interconnector to provide services which Interconnector has the legal authority to provide. The equipment must at a minimum comply with the BellCore Network Equipment Building System (NEBS) General Equipment Requirements (TR-NWT-000063) and National Electric Code standards. Interconnector may elect to enclose the Collocation Space. Interconnector shall not use the Collocation Space for marketing purposes. Interconnector shall place no signs or marking of any kind (except for a plaque or other identification affixed to Interconnector's equipment and reasonably necessary to identify Interconnector's equipment, and which shall include a list of emergency contacts with telephone numbers), in the area surrounding the Collocation Space or on the grounds of the Central Office housing the Collocation Space.

B. Entrance Facilities. Interconnector may elect to place Interconnector-owned entrance facilities into the Collocation Space. BellSouth will designate the point of interconnection in proximity to the central office building housing the Collocation Space, such as an entrance manhole or a cable vault. Interconnector will provide and place cable at the point of interconnection of sufficient length to be pulled through conduit and into the splice location. No splicing will be permitted in the entrance manhole. Interconnector will provide a sufficient length of fire retardant riser cable, to which the entrance cable will be spliced, which will extend from the splice location to the Interconnector's equipment in the Collocation Space. Interconnector must contact BellSouth for instructions prior to placing the entrance facility cable in the manhole. Interconnector is responsible for maintenance of the entrance facilities. Dual entrance will be permitted where capacity exists. The interconnection point for entrance facilities extending from a rooftop antenna will be designated by BellSouth on the Application/Inquiry response.

C. Demarcation Point. A point-of-termination bay(s) will designate the point(s) of interconnection between Interconnector's equipment and/or network and BellSouth's network. Each party will be responsible for maintenance and operation of all equipment/facilities on its side of the demarcation point. Interconnector may, at its option, provide its own point-of-termination bay(s) in accordance with BellSouth's guidelines and specifications, which BellSouth will provide upon request.

D. Interconnector's Equipment and Facilities. Interconnector is solely responsible for the design, engineering, testing, performance, monitoring, maintenance, and repair of the equipment and facilities used by Interconnector in the Collocation Space. Without limitation of the foregoing provisions, Interconnector will be responsible for servicing, supplying, repairing, installing and maintaining the following: (1) cable(s); (2) equipment; (3) point-of-termination cross-connects; (4) point of termination maintenance, including replacement fuses and circuit breaker restoration, if not performed by BellSouth; and (5) connection cable(s) and associated equipment which may be required within the Collocation Space to the points of interconnection.

E. Easement Space. From time to time BellSouth may require access to the Collocation Space. BellSouth retains the right to access such space for the purpose of making equipment and building modifications (e.g., running, altering or removing racking, ducts, electrical wiring, HVAC, and cables). BellSouth will give reasonable notice to Interconnector when access to the Collocation Space is required. Interconnector may elect to be present whenever BellSouth performs work in the Collocation Space. The Parties agree that Interconnector will not bear any of the expense associated with this work.

F. Access and Administration. Interconnector shall have access to the Collocation Space twenty-four (24) hours a day, seven (7) days a week. A security escort will be required at Central Offices where separate, secured ingress and egress are not available and access would require Interconnector to traverse restricted areas. All employees, agents and contractors of Interconnector having access to the Collocation Space shall comply with BellSouth's policies and practices pertaining to fire, safety and security, and each such employee, agent or contractor shall display an identification badge issued by Interconnector or certified vendor which contains a current photo, the individual's name and company name/logo. Interconnector agrees to comply with all laws, ordinances and regulations affecting the use of the Collocation Space. Upon expiration of this Agreement, Interconnector shall surrender the Collocation Space to BellSouth in the same condition as when first occupied by the Interconnector except for ordinary wear and tear.

G. Interference or Impairment. Notwithstanding any other provisions of this Agreement, equipment and facilities placed in the Collocation Space shall not interfere with or impair service provided by BellSouth or by any other interconnector located in the Central Office; shall not endanger or damage the facilities of BellSouth or of any other interconnector, the Collocation Space, or the Central Office; shall not compromise the privacy of any communications carried in, from, or through the Central Office; and shall not create an unreasonable risk of injury or death to any individual or to the public. If BellSouth reasonably determines that any equipment or facilities of Interconnector violate the provisions of this paragraph, BellSouth shall give written notice to Interconnector, which notice shall direct Interconnector to cure the violation within twenty-four (24) hours or, at a minimum, to commence curative measures within 24 hours and to exercise reasonable diligence to complete such measures as soon as possible thereafter. If Interconnector fails to take curative action within 24 hours or if the violation is of a character which poses an immediate and substantial threat of damage to property, injury or death to any person, or interference/impairment of the services provided by BellSouth, then and only in that event BellSouth may take such action as it deems appropriate to correct the violation, including without limitation the interruption of electrical power to Interconnector's equipment. BellSouth will endeavor, but is not required, to provide notice to Interconnector prior to taking such action and shall have no liability to Interconnector for any damages arising from such action, except to the extent that such action by BellSouth constitutes willful misconduct.

H. Personalty and its Removal. Subject to requirements of this Agreement, Interconnector may place or install in or on the Collocation Space such facilities and equipment as it deems desirable for the conduct of business. Personal property, facilities and equipment placed by Interconnector in the Collocation Space shall not become a part of the Collocation Space, even if nailed, screwed or otherwise fastened to the Collocation Space, but shall retain their status as personalty and may be removed by Interconnector at any time. Any damage caused to the Collocation Space by Interconnector's employees, agents or representatives during the removal of such property shall be promptly repaired by Interconnector at its expense.

I. Alterations. In no case shall Interconnector or any person acting on behalf of Interconnector make any rearrangement, modification, improvement, addition, repair, or other alteration to the Collocation Space or the BellSouth Central Office without the written consent of BellSouth, which consent shall not be unreasonably withheld. The cost of any such specialized alterations shall be paid by Interconnector.

IV. *ORDERING AND PREPARATION OF COLLOCATION SPACE*

A. Application for Space. Interconnector shall submit to BellSouth a complete and accurate Application and Inquiry document, together with payment of the Application Fee as stated in Exhibit A. The Application shall contain a detailed description and schematic drawing of the equipment to be placed in Interconnector's Collocation Space(s) and an estimate of the amount of square footage required. BellSouth will respond to Interconnector's Application in writing following the completion of review, planning and design activities. Such response will include estimates on space availability, space preparation costs and space availability dates. In the event BellSouth cannot provide the requested Collocation Space, BellSouth shall refund the Application Fee to Interconnector.

B. Bona Fide Firm Order. Interconnector shall indicate its intent to proceed with equipment installation in a BellSouth Central Office by submitting a Bona Fide Firm Order to BellSouth. A Bona Fide Firm Order requires Interconnector to complete the Application/Inquiry process described in Article IV.A preceding, submit an updated Application document based on the outcome of the Application/Inquiry process, and pay all applicable fees referenced in Article V, following. The Bona Fide Firm Order must be received by BellSouth no later than thirty (30) days after BellSouth's response to Interconnector's Application/Inquiry. Space preparation for the Collocation Space will not begin until BellSouth receives the Bona Fide Firm Order and all applicable fees.

C. Use of Certified Vendor. Interconnector shall select an equipment installation vendor which has been approved as a BellSouth Certified Vendor to perform all engineering and installation work required in the Collocation Space. BellSouth shall provide Interconnector with a list of Certified Vendors upon request. The Certified Vendor shall be responsible for installing Interconnector's equipment and components, extending power cabling to the BellSouth power distribution frame, performing operational tests after installation is complete, and notifying BellSouth's equipment engineers and Interconnector upon successful completion of installation. The Certified Vendor shall bill Interconnector directly for all work performed for Interconnector pursuant to this Agreement and BellSouth shall have no liability for nor responsibility to pay such charges imposed by the Certified Vendor.

D. Alarm and monitoring. BellSouth shall place environmental alarms in the Central Office for the protection of BellSouth equipment and facilities. Interconnector shall be responsible for placement, monitoring and removal of environmental and equipment alarms used to service the Collocation Space. Upon request, BellSouth will provide Interconnector with applicable tariffed service(s) to facilitate remote monitoring of collocated equipment by Interconnector.

E. Basic Telephone Service. Upon request of Interconnector, BellSouth will provide basic telephone service to the Collocation Space under the rates, terms and conditions of the current tariff offering for the service requested.

F. Space Preparation. BellSouth shall pro rate the costs of any renovation or upgrade to Central Office space or support mechanisms which is required to accommodate physical collocation. Interconnector's pro rated share will be calculated by multiplying such cost by a percentage equal to the amount of square footage occupied by Interconnector divided by the total Central Office square footage receiving renovation or upgrade. For this section, support mechanisms provided by BellSouth may include, but not be limited to heating/ventilation/air conditioning (HVAC) equipment, HVAC duct work, cable support structure, fire wall(s), mechanical upgrade, asbestos abatement, ground plane addition, or separate ingress/egress construction. Such renovation or upgrade will be evaluated and the charges

assessed on a per Central Office basis. BellSouth will make reasonable efforts to provide for occupancy of the Collocation Space on the negotiated date and will advise Interconnector of delays. Interconnector agrees BellSouth shall not be liable to Interconnector for delays in providing possession of the Collocation Space.

G. Space Enclosure. Upon request of Interconnector, BellSouth shall construct an equipment arrangement enclosure of a size and dimension jointly agreed upon by the Parties. Interconnector may request enclosed floor space in increments of one hundred (100) square feet, with a minimum of one hundred (100) square feet. Interconnector may, at its option, arrange with a BellSouth certified contractor to construct the space enclosure in accordance with BellSouth's guidelines and specifications. Such contractor shall directly bill Interconnector for activities associated with the space enclosure construction.

H. Cancellation. If Interconnector cancels its order for the Collocation Space(s), Interconnector will reimburse BellSouth for any expenses incurred up to the date that written notice of the cancellation is received. In no event will the level of reimbursement under this paragraph exceed the maximum amount Interconnector would have otherwise paid for work undertaken by BellSouth if no cancellation of the order had occurred.

V. *RATES AND CHARGES*

Interconnector shall pay for Collocation Space(s) according to the rates contained in Exhibit A attached hereto and pursuant to the following:

A. Non-recurring Fees. In addition to the Application Fee referenced in Article IV preceding, Interconnector shall remit payment of a Cable Installation Fee, Space Construction Fee, as applicable, and one-half (1/2) of the estimated Space Preparation Fee coincident with submission of a Bona Fide Firm Order. The outstanding balance of the actual Space Preparation Fee shall be due thirty (30) days following Interconnector's receipt of a bill or invoice from BellSouth. BellSouth shall provide documentation to establish the actual Space Preparation Fee. Cable Installation Fee(s) are assessed per entrance fiber placed. No Cable Installation Fee is required for Service Interconnection. The Space Preparation Fee will be pro rated as prescribed in Article IV.F preceding. The Space Enclosure Construction Fee will be assessed for the materials and installation cost of the equipment enclosure. BellSouth's engineering and other labor time associated with establishing the Physical Collocation Arrangement will be assessed as Additional Engineering charges, under provisions in BellSouth's F.C.C. Number 1 Tariff, Sections 13.1 and 13.2. An estimate of the Additional Engineering charges will be provided by BellSouth to Interconnector in the Application Response.

B. Floor Space. The floor space charge includes charges for lighting, heat, air conditioning, ventilation and other allocated expenses associated with maintenance of the Central Office but does not include amperage necessary to power Interconnector's equipment. When the Collocation Space is enclosed by walls or other divider, Interconnector shall pay floor space charges based upon the number of square feet so enclosed. When the Collocation Space is not enclosed, Interconnector shall pay floor space charges based upon the number of square feet contained in a shadow print of Interconnector's equipment racks and POT bay, plus a factor of 2.50 multiplied by the shadow print, which represents Interconnector's share of wiring and provisioning aisle space for provisioning and maintenance activities. Floor space charges are due beginning with the date on which BellSouth releases the Collocation Space for occupancy or on the date Interconnector first occupies the Collocation Space, whichever is sooner.

C. Power. Charges for -48V DC power will be assessed per ampere per month based upon the certified vendor engineered and installed power feed fused ampere capacity. Rates include redundant feeder fuse positions (A&B) and cable rack to Interconnector's equipment or space enclosure. Fuses and power feed cables (A&B) must be engineered (sized), furnished and installed by Interconnector's certified vendor. The Interconnector's certified vendor must also provide a copy of the engineering power specification prior to the Commencement Date. In the event BellSouth shall be required to construct additional DC power plant or upgrade the existing DC power plant in a central office as a result of Interconnector's request to collocate in that central office ("Power Plant Construction"), Interconnector shall pay all costs associated with the Power Plant Construction. The determination of whether Power Plant Construction is necessary shall be within BellSouth's sole, but reasonable, discretion. BellSouth will notify Interconnector of the need for the Power Plant Construction and will estimate the costs associated with the Power Plant Construction if BellSouth were to perform the Power Plant Construction. Interconnector shall pay BellSouth one-half of the estimated Power Plant Construction costs prior to commencement of the work. Interconnector shall pay BellSouth the balance due (actual cost less one-half of the estimated cost) within thirty (30) days of completion of the Power Plant Construction. Interconnector has the option to perform the Power Plant Construction itself; provided, however, that such work shall be performed by a BellSouth certified contractor and such contractor shall comply with BellSouth's guidelines and specifications. Where the Power Plant Construction results in construction of a new power plant room, upon termination of this Agreement Interconnector shall have the right to remove its equipment from the power plant room, but shall otherwise leave the room intact. Where the Power Plant Construction results in an upgrade to BellSouth's existing power plant, upon termination of this Agreement, such upgrades shall become the property of BellSouth.

D. Security Escort. A security escort will be required whenever Interconnector or its approved agent desires access to the entrance manhole or must traverse a restricted area within BellSouth's central office. Rates for a BellSouth security escort are assessed in one-half (1/2) hour increments according to the schedule appended hereto as Exhibit A.

E. Rate "True-Up". The Parties agree that the interim prices reflected herein shall be "trued-up" (up or down) based on final prices either determined by further agreement or by final order, including any appeals, in a proceeding involving BellSouth before the regulatory authority for the State in which the services are being performed or any other body having jurisdiction over this agreement (hereinafter "Commission"). Under the "true-up" process, the interim price for each service shall be multiplied by the volume of that service purchased to arrive at the total interim amount paid for that service ("Total Interim Price"). The final price for that service shall be multiplied by the volume purchased to arrive at the total final amount due ("Total Final Price"). The Total Interim Price shall be compared with the Total Final Price. If the Total Final Price is more than the Total Interim Price, Interconnector shall pay the difference to BellSouth. If the Total Final Price is less than the Total Interim Price, BellSouth shall pay the difference to Interconnector. Each party shall keep its own records upon which a "true-up" can be based and any final payment from one party to the other shall be in an amount agreed upon by the Parties based on such records. In the event of any disagreement as between the records or the Parties regarding the amount of such "true-up," the Parties agree that the Commission shall be called upon to resolve such differences.

F. Other. Payment of all other charges under this Agreement shall be due thirty (30) days after receipt of the bill (payment due date). Interconnector will pay a late payment charge of one and one-half percent (1-1/2%) assessed monthly on any balance which remains unpaid after the payment due date.

VI. *INSURANCE*

A. Interconnector shall, at its sole cost and expense, procure, maintain, and keep in force insurance as specified in this Article VI and underwritten by insurance companies licensed to do business in the states contained in Exhibit B attached hereto and having a BEST Insurance Rating of B ++ X (B ++ ten).

B. Interconnector shall maintain the following specific coverages:

1. Commercial General Liability coverage in the amount of ten million dollars ($10,000,000.00) or a combination of Commercial General Liability and Excess/Umbrella coverage totaling not less than ten million dollars ($10,000,000.00). BellSouth shall be named as an ADDITIONAL INSURED on ALL applicable policies as specified herein.

2. Statutory Workers Compensation coverage and Employers Liability coverage in the amount of one hundred thousand dollars ($100,000.00) each accident, one hundred thousand dollars ($100,000.00) each employee by disease, and five hundred thousand dollars ($500,000.00) policy limit by disease.

3. Interconnector may elect to purchase business interruption and contingent business interruption insurance, having been advised that BellSouth assumes no liability for loss of profit or revenues should an interruption of service occur.

C. The limits set forth in Article VI.B above may be increased by BellSouth from time to time during the term of this Agreement upon thirty (30) days notice to Interconnector to at least such minimum limits as shall then be customary with respect to comparable occupancy of BellSouth structures.

D. All policies purchased by Interconnector shall be deemed to be primary and not contributing to or in excess of any similar coverage purchased by BellSouth. All insurance must be in effect on or before the date equipment is delivered to BellSouth's Central Office and shall remain in effect for the term of this Agreement or until all Interconnector's property has been removed from BellSouth's Central Office, whichever period is longer. If Interconnector fails to maintain required coverages, BellSouth may pay the premiums thereon and seek reimbursement of same from Interconnector.

E. Interconnector shall submit certificates of insurance reflecting the coverages required pursuant to this Section a minimum of ten (10) days prior to the commencement of any work in the Collocation Space. Failure to meet this interval may result in construction and equipment installation delays. Interconnector shall arrange for BellSouth to receive thirty (30) days advance notice of cancellation from Interconnector's insurance company. Interconnector shall forward a certificate of insurance and notice of cancellation to BellSouth at the following address:

BellSouth Telecommunications, Inc.
Attn.: Risk Management Coordinator
3535 Colonnade Parkway, S9A1
Birmingham, Alabama 35243

F. Interconnector must conform to recommendations made by BellSouth's fire insurance company to the extent BellSouth has agreed to, or shall hereafter agree to, such recommendations.

G. Failure to comply with the provisions of this Section will be deemed a material breach of this Agreement.

VII. *MECHANICS LIENS*

If any mechanics lien or other liens shall be filed against property of BellSouth, or any improvement thereon by reason of or arising out of any labor or materials furnished or alleged to have been furnished or to be furnished to or for Interconnector or by reason of any changes, or additions to BellSouth property made at the request or under the direction of the Interconnector, Interconnector shall, within thirty (30) days after receipt of written notice from BellSouth either pay such lien or cause the same to be bonded off BellSouth's property in the manner provided by law. Interconnector shall also defend on behalf of BellSouth, at Interconnector's sole cost and expense, any action, suit or proceeding which may be brought for the enforcement of such liens and Interconnector shall pay any damage and discharge any judgment entered thereon.

VIII. *INSPECTIONS*

BellSouth shall conduct an inspection of Interconnector's equipment and facilities in the Collocation Space(s) prior to the activation of facilities between Interconnector's equipment and equipment of BellSouth. BellSouth may conduct an inspection if Interconnector adds equipment and may otherwise conduct routine inspections at reasonable intervals mutually agreed upon by the Parties. BellSouth shall provide Interconnector with a minimum of forty-eight (48) hours or two (2) business days, whichever is greater, advance notice of all such inspections.

IX. *SECURITY*

Only BellSouth employees, BellSouth certified vendors and authorized employees or agents of Interconnector will be permitted in the BellSouth Central Office. Interconnector shall provide its employees and agents with picture identification which must be worn and visible at all times while in the Collocation Space or other areas in or around the Central Office. BellSouth may refuse entry to any person who fails to display the identification required by this section.

X. *INDEMNITY / LIMITATION OF LIABILITY*

A. Interconnector shall be liable for any damage to property, equipment or facilities or injury to person caused by the activities of Interconnector, its agents or employees pursuant to, or in furtherance of, rights granted under this Agreement. Interconnector shall indemnify and hold BellSouth harmless from and against any judgments, fees, costs or other expenses resulting or claimed to result from such activities by Interconnector, its agents or employees.

B. BellSouth shall not be liable to Interconnector for any interruption of Interconnector's service or for interference with the operation of Interconnector's communications facilities, or for any special, indirect, incidental or consequential damages arising in any manner, including BellSouth's negligence, out of the use of the Collocation Space(s) and Interconnector shall indemnify, defend and hold BellSouth harmless from and against any and all claims, demands, causes of action, costs and reasonable attorneys' fees with respect to such special, indirect, incidental or consequential damages.

XI. *PUBLICITY*

Interconnector agrees to submit to BellSouth all advertising, sales promotion, press releases, and other publicity matters relating to this Agreement or mentioning or implying the tradenames, logos, trademarks or service marks (hereinafter "Marks") of BellSouth Corporation and/or any of its affiliated companies or language from which the connection of said Marks therewith may be inferred or implied, or mentioning or implying the names of any personnel of BellSouth Corporation and/or any of its affiliated companies, and Interconnector further agrees not to publish or use such advertising, sales promotions, press releases, or publicity matters without BellSouth's prior written consent.

XII. *DESTRUCTION OF COLLOCATION SPACE*

In the event a Collocation Space is wholly or partially damaged by fire, windstorm, tornado, flood or by similar causes to such an extent as to be rendered wholly unsuitable for Interconnector's permitted use hereunder, then either party may elect within ten (10) days after such damage, to terminate this Agreement, and if either party shall so elect, by giving the other written notice of termination, both parties shall stand released of and from further liability under the terms hereof. If the Collocation Space shall suffer only minor damage and shall not be rendered wholly unsuitable for Interconnector's permitted use, or is damaged and the option to terminate is not exercised by either party, BellSouth covenants and agrees to proceed promptly without expense to Interconnector, except for improvements not the property of BellSouth, to repair the damage. BellSouth shall have a reasonable time within which to rebuild or make any repairs, and such rebuilding and repairing shall be subject to delays caused by storms, shortages of labor and materials, government regulations, strikes, walkouts, and causes beyond the control of BellSouth, which causes shall not be construed as limiting factors, but as exemplary only. Where allowed and where practical in the sole judgment of BellSouth, Interconnector may erect a temporary facility while BellSouth rebuilds or makes repairs. In all cases where the Collocation Space shall be rebuilt or repaired, Interconnector shall be entitled to an equitable abatement of rent and other charges, depending upon the unsuitability of the Collocation Space for Interconnector's permitted use, until such Collocation Space is fully repaired and restored and Interconnector's equipment installed

therein (but in no event later than thirty (30) days after the Collocation Space is fully repaired and restored).

XIII. *EMINENT DOMAIN*

If the whole of a Collocation Space shall be taken by any public authority under the power of eminent domain, then this Agreement shall terminate as of the day possession shall be taken by such public authority and rent and other charges for the Collocation Space shall be paid up to that day with proportionate refund by BellSouth of such rent and charges as may have been paid in advance for a period subsequent to the date of the taking. If any part of the Collocation Space shall be taken under eminent domain, BellSouth and Interconnector shall each have the right to terminate this Agreement and declare the same null and void, by written notice of such intention to the other party within ten (10) days after such taking.

XIV. *FORCE MAJEURE*

Neither party shall be in default by reason of any failure in performance of this Agreement, in accordance with its terms and conditions, if such failure arises out of causes beyond the control of the nonperforming party including, but not restricted to, acts of God, acts of government, insurrections, fires, floods, accidents, epidemics, quarantines, restrictions, strikes, freight embargoes, inability to secure raw materials or transportation facilities, acts or omissions of carriers or any and all other causes beyond the party's control.

XV. *ASSIGNMENT*

Interconnector acknowledges that this Agreement does not convey any right, title or interest in the Central Office to Interconnector. Interconnector may not sublet its rights under this Agreement, nor shall it allow a third party to use or occupy the Collocation Space at any time or from time to time without the prior written consent, and at the sole discretion, of BellSouth. This Agreement is not assignable by either party without the prior written consent of the other party, and any attempt to assign any of the rights, duties or obligations of this Agreement without such consent is void. Notwithstanding the foregoing, either party may assign any rights, duties or obligations of this Agreement to a parent, subsidiary or affiliate without the consent of the other party.

XVI. *NONEXCLUSIVITY*

Interconnector understands that this Agreement is not exclusive and that BellSouth may enter into similar agreements with other parties. Assignment of space pursuant to all such agreements shall be determined by space availability and made on a first come, first served basis.

XVII. *NO IMPLIED WAIVER*

No consent or waiver by either party to or of any breach of any covenant, term, condition, provision or duty of the other party under this Agreement shall be construed as a consent to or waiver of any other breach of the same or any other covenant, term, condition, provision or duty. No such consent or waiver shall be valid unless in writing and signed by the party granting such consent or waiver.

XVIII. *NOTICES*

Except as otherwise provided herein, any notices or demands that are required by law or under the terms of this Agreement shall be given or made by Interconnector or BellSouth in writing and shall be given by hand delivery, or by certified or registered mail, and addressed to the parties as follows:

To BellSouth:	To Interconnector:
_____	_____
_____	_____
_____	_____
ATTN:_____	ATTN:_____

Such notices shall be deemed to have been given in the case of certified or registered mail when deposited in the United States mail with postage prepaid.

XIX. *RESOLUTION OF DISPUTES*

Except as otherwise stated in this Agreement, the Parties agree that if any dispute arises as to the interpretation of any provision of this Agreement or as to the proper implementation of this Agreement, the parties will petition the Commission in the state where the services are provided pursuant to this Agreement for a resolution of the dispute. However, each party reserves any rights it may have to seek judicial review of any ruling made by the Public Service Commission concerning this Agreement.

XX. *SECTION HEADINGS*

The section headings used herein are for convenience only, and shall not be deemed to constitute integral provisions of this Agreement.

XXI. *AUTHORITY*

Each of the parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such party has the full right, power and authority to enter into and execute this Agreement on such party's behalf and that no consent from any other person or entity is required as a condition precedent to the legal effect of this Agreement.

XXII. *REVIEW OF AGREEMENT*

The parties acknowledge that each has had an opportunity to review and negotiate this Agreement and has executed this Agreement only after such review and negotiation. The Parties further agree that this Agreement shall be deemed to have been drafted by both BellSouth and Interconnector and the terms and conditions contained herein shall not be construed any more strictly against one party or the other.

XXIII. *ENTIRE AGREEMENT*

This Agreement contains the full understanding of the Parties (superseding all prior or contemporaneous correspondence between the Parties) and shall constitute the entire agreement between BellSouth and Interconnector and may not be modified or amended other than by a written instrument signed by both parties. If any conflict arises between the terms and conditions contained in this Agreement and those contained in a filed tariff, the terms and conditions of this Agreement shall control.

IN WITNESS WHEREOF, the Parties have executed this Agreement by their duly authorized representatives in one or more counterparts, each of which shall constitute an original, on the day and year first above written.

BELLSOUTH TELECOMMUNICATIONS, INC.	INTERCONNECTOR *(Full Company Name)*
_____	_____
Authorized Signature	Authorized Signature
_____	_____
Print or Type Name	Print or Type Name
_____	_____
Title	Title
_____	_____
Date	Date

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Schedule of Rates and Charges

Rate Element Description		Type of Charge	Charge
Application Fee		NRC (per Arrangement, per C.O.)	$3,850.00
Subsequent Application Fee (Note 1)		NRC (per Arrangement, per C.O.)	$1,600.00
Space Preparation Fee (Note 2)		NRC (per Arrangement, per C.O.)	ICB
Space Enclosure Construction Fee (Note 2)		NRC (per 100 square feet)	$4,500.00
Additional Engineering Fee (Note 3)		NRC	ICB
Cable Installation		NRC (per entrance cable)	$2,750.00
Floor Space	Zone A	RC (per square foot)	$7.50
	Zone B	RC (per square foot)	$6.75
Power		RC (per amp)	$5.00
Cable Support structure		RC (per entrance cable)	$13.35
Cross-Connects	2-wire	RC (per cross-connect)	$0.30
	4-wire	RC (per cross-connect)	$0.50
	DS1	RC (per cross-connect)	$8.00
	DS3	RC (per cross-connect)	$72.00
	2-wire	NRC (first cross-connect)	$19.20
	4-wire	NRC (first cross-connect)	$19.20
	DS1	NRC (first cross-connect)	$155.00
	DS3	NRC (first cross-connect)	$155.00
	2-wire	NRC (each additional cross-connect)	$19.20
	4-wire	NRC (each additional cross-connect)	$19.20
	DS1	NRC (each additional cross-connect)	$27.00
	DS3	NRC (each additional cross-connect)	$27.00
POT Bay	2-wire	RC (per cross-connect)	$0.40
	4-wire	RC (per cross-connect)	$1.20
	DS1	RC (per cross-connect)	$1.20
	DS3	RC (per cross-connect)	$8.00
Additional Security Access Cards		NRC-ICB (each)	$10.00

Schedule of Rates and Charges (cont.)

Rate Element Description	Type of Charge	Charge
Direct Connection (Note 4)		
(1) Fiber Arrangement	RC (per cable, per linear foot)	$0.06
-with Initial Application	NRC (per Arrangement)	n/a
-Subsequent to Application	NRC (per Arrangement)	$246.00
(2) Copper or Coaxial Arrangement	RC (per cable, per linear foot)	$0.03
-with Initial Application	NRC (per Arrangement)	n/a
-Subsequent to Application	NRC (per Arrangement)	$246.00
Security Escort		
Basic - first half hour	NRC-ICB	$41.00
Overtime - first half hour	NRC-ICB	$48.00
Premium - first half hour	NRC-ICB	$55.00
Basic - additional half hour	NRC-ICB	$25.00
Overtime - additional half hour	NRC-ICB	$30.00
Premium - additional half hour	NRC-ICB	$35.00

Notes

NRC: Non-recurring Charge - one-time charge
RC: Recurring Charge - charged monthly
ICB: Individual Case Basis - one-time charge

(1) Subsequent Application Fee. BellSouth requires the submission of an Application Fee for modifications to an existing arrangement. However, when the modifications do not require BellSouth to expend capital (e.g., additional space or power requirements, BST termination/cross-connect equipment, etc.), BellSouth will assess the Subsequent Application Fee in lieu of the Application Fee.

(2) Space Preparation Fee. The Space Preparation Fee is a one-time fee, assessed per arrangement, per location. It recovers costs associated with the shared physical collocation area within a central office, which include survey, engineering, design and building modification costs. BellSouth will pro rate the total shared space preparation costs among the collocators at each location based on the amount of square footage occupied by each collocator. This charge may vary depending on the location and the type of arrangement requested.

Schedule of Rates and Charges (cont.)

Notes (cont.)

(2) (cont.)
Space Enclosure Construction Fee. The Space Enclosure Construction Fee is a one-time fee, assessed per enclosure, per location. It recovers costs associated with providing an optional equipment arrangement enclosure, which include architectural and engineering fees, materials, and installation costs. This fee is assessed in 100 square-foot increments, with a minimum space enclosure size of 100 square feet. Interconnector may, at its option, arrange with a BellSouth certified contractor to construct the space enclosure in accordance with BellSouth's guidelines and specifications. In this event, the contractor shall directly bill Interconnector for the space enclosure, and this fee shall not be applicable.

(3) Additional Engineering Fee. BellSouth's engineering and other labor costs associated with establishing the Physical Collocation Arrangement shall be recovered as Additional Engineering charges, under provisions in BellSouth's F.C.C. Number 1 Tariff, Sections 13.1 and 13.2. An estimate of the Additional Engineering charges shall be provided by BellSouth in the Application Response.

(4) Direct Connection. As stated in Article I.B of the Collocation Agreement, Interconnector may connect to other interconnectors within the designated Central Office in addition to, and not in lieu of, interconnection to BellSouth services and facilities. Interconnector must use its Certified Vendor to place the direct connection. The Direct Connection NRC is assessed when direct connection is the only work requested by Interconnector. If any other work in addition to the direct connection is being requested, whether for an initial installation of a Collocation Space or for an augmentation to an existing Collocation Space, an Application Fee or a Subsequent Application Fee will be assessed in lieu of the Direct Connection NRC. Construction charges may also apply; BellSouth shall provide an estimate of these charges in the Application Response.

Bona Fide Physical Collocation Arrangements

Central Office Name:
Central Office CLLI Code:
City:
State:
Date of Bona Fide Firm Order:

Central Office Name:
Central Office CLLI Code:
City:
State:
Date of Bona Fide Firm Order:

Central Office Name:
Central Office CLLI Code:
City:
State:
Date of Bona Fide Firm Order:

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Central Office CLLI Code:
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OTHER ALTERNATIVES TO COLLOCATION

ALTERNATIVE	DESCRIPTION	ADVANTAGES OVER COLLOCATION	DISADVANTAGES TO LOGICAL SEPARATION AND COMBINATION
Direct Access to the MDF	Qualified third-party vendor would disconnect and reconnect the elements as an agent for both parties.	Eliminates unnecessary delay. Eliminates much of the unnecessary cost. Eliminates additional points of failure. Simplifies manual work to be performed thereby increasing the number of customers who can change their local service provider. All CLEC's can use the same vendor and share costs. Eliminates customer outage.	Adds unnecessary cost. Poor utilization of human resources to remove a wire and immediately reattach it. Fewer customers may change in a given day than could change with logical separation. Does not allow for the transfer of customers served by IDLC.

ALTERNATIVE	DESCRIPTION	ADVANTAGES OVER COLLOCATION	DISADVANTAGES TO LOGICAL SEPARATION AND COMBINATION
Electronic Cross-Connection (not currently available)	Equipment like that currently used to remotely configure digital circuits ("DCS-like equipment") would be deployed in each central office. The equipment would become an electronic version of the MDF to which all carriers would have remote access, allowing all carriers to combine elements electronically rather than physically.	Eliminates need for collocation arrangements. All carriers would have parity access. Once installed, it eliminates manual work to be performed thereby increasing the number of customers who can change their local service provider.	Not currently available and availability cannot be estimated. Cost is unknown. Does not allow for the transfer of customers served by IDLC.