COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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| THE TARIFF FILING OF SOUTH CENTRAL BELL TELEPHONE COMPANY TO ESTABLISH PULSELINK PUBLIC PACKET SWITCHING NETWORK SERVICE AND DATA TRANSPORT ACCESS CHANNEL SERVICE | ) ) ) ) | CASE NO. 10321 |

# O R D E R

On June 29, 1988, South Central Bell Telephone Company ("South Central Bell") made a tariff filing to establish PulseLink Public Packet Switching Network Service and Data Transport Access Channel Service. The Commission suspended this tariff filing by Order dated July 20, 1988. MCI Telecommunications Corporation ("MCI") subsequently filed a motion for full intervention in this proceeding, which was granted by Order dated August 18, 1988. On August 22, 1988, a procedural schedule was issued, which provided for discovery, prefiled testimony, and a hearing date. Testimony was prefiled by John F. Dorsch, manager of the Rates and Economics Department of South Central Bell, and by Loren D. Burnett, senior manager of Telco Cost Management for the Southeast Division of MCI.

On October 31, 1988, MCI filed a motion to amend the procedural schedule and to postpone the hearing date, originally scheduled for November 7, 1988, on the grounds of a discovery dispute between MCI and South Central Bell. MCI also filed a motion to compel South Central Bell to provide certain

information and to cause depositions to be taken. On November 15, 1988, South Central filed its response to MCI's motion and filed a letter agreeing to extend the suspension period in this case to May 29, 1989. The Commission subsequently issued an Order establishing a new procedural schedule and granting MCI's motions in part and denying in part, to the extent that the information being sought was of a commercially sensitive nature. On March 15, 1989, the Commission ordered that depositions be taken, by and through its staff. On April 6, 1989, MCI filed a motion that recommended further amendment of the procedural schedule. Subsequently, on April 17, 1989, MCI filed a motion to compel South Central Bell to provide a fully-allocated, embedded, cost-of-service study to support the PulseLink filing. South Central Bell filed its response on April 19, 1989. On April 20, 1989, the Commission denied MCI's motion and ruled that a hearing was unnecessary and should be cancelled, with the concurrence of all parties involved. Briefs were filed by South Central Bell and MCI on May 1, 1989.

In its brief, South Central Bell indicated that PulseLink rate levels are market priced, determined by an assessment of the value of the service to a subscriber. South Central Bell asserts that this assessment includes factors such as prices of comparable services offered by existing packet switching network providers and reflects the relative worth of an intraLATA[1]

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[1] Local Access and Transport Area.

service compared to the interLATA, interstate offerings of other providers. South Central Bell also indicated that since the service will be offered within the nine states served by BellSouth companies, the pricing was also designed for consistency among the nine states. South Central Bell further noted that the proposed rates exceed Kentucky-specific direct costs.

South Central Bell supported its tariff filing with a forward-looking incremental cost-of-service study in order to demonstrate that PulseLink service covers all direct costs. South Central Bell was also of the opinion that the service provides a significant contribution to common costs.

In its brief filed on May 1, 1989, MCI expressed its concerns whether South Central Bell is providing adequate cost information to the Commission for the Commission to determine whether PulseLink is truly recovering its costs of service. MCI questions the appropriateness of using a cost-of-service study based on forward-looking incremental costs, as such a study does not include the recovery of joint or common costs. MCI stated that:[2]

> This Commission should no longer allow South Central Bell to allocate joint and common costs to local service, and represent to the Commission that local service is priced below cost; and then allocate a minimum, if any, of joint or common costs to PulseLink, and represent to the Commission that PulseLink is priced above cost.

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[2] Brief of MCI, filed May 1, 1989, page 2.

MCI further stated that:[3]

> If each of [South Central Bell's] competitive services provides only minimal contribution above incremental costs, a deficiency of contribution toward common costs exists just as it would for a fully competitive firm. Where an unprotected firm would face the reality of operating losses which potentially could lead to bankruptcy, South Central Bell can roll unrecovered common costs into its overall revenue requirement and then recover these costs through access charges. The ultimate result is that if South Central Bell is allowed to price based on this cost methodology, it can (and must) use access charges paid by the IXCs to subsidize competitive services such as PulseLink.

MCI proposed that the PulseLink tariff be approved; however, it requested the Commission to simultaneously establish a generic Cost-of-Service Methodology investigation to examine all South Central Bell services, such as local exchange, toll, access, PulseLink, MegaLink, LightGate, and others. To support this request MCI indicated that:[4]

> MCI believes that all services offered by South Central Bell should be priced based on one consistent costing methodology. A cost methodology should not be dependent on whether the service is offered in a competitive market or protected monopoly market. The economic cost to the company of providing a service is the cost of providing the service; it is not necessary to know how the service will be sold in order to make this determination.

## DISCUSSION

Packet switching is a form of digital data communications which enables data to be transported more efficiently than by the use of the conventional voice message network. In conventional voice communications, circuits are established in both directions

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[3] Ibid., page 7.

[4] Ibid., page 9.

for the entire duration of the call, even though there may be pauses in the conversation and only one person usually speaks at a time. Since data communications typically occurs with brief bursts of information, followed by long pauses in which no data is being transmitted, the use of the conventional telecommunications network results in unnecessary inefficiencies. This led to the development of packet switching, in which data is disassembled into units called packets. Identification and addressing information is added to each packet that identifies where to send the packet, where it is from, and where the packet fits in a sequence of packets, which allows each packet in a message to be transmitted independently of other packets. At the final destination, packets are reassembled into their original sequence. A packet switching network is composed of several nodes, or switching locations, which are capable of storing packets until a communications path is available. Circuits between nodes are established only for the brief amount of time needed to transmit a packet. Packet routing is usually handled by a network controller, which monitors the network. The controller can detect network congestion and failures, and can reroute packets if necessary. Packets also contain error identification information. The network is capable of retransmitting a packet that is in error.

In the July 20, 1988 suspension Order, the Commission indicated its concerns that the filing involves substantial issues of possible cross-subsidy between regulated and nonregulated telecommunications operations, cost allocation

procedures, open network architecture rules, and comparably efficient interconnection requirements. These concerns arise from the complex regulatory structure relating to packet switching services, in which regulated, basic telecommunications services are closely integrated with unregulated, enhanced services.[5] This occurs because in order to use a packet switching network, it is necessary for data to conform to a specific format, or protocol. The X.25 synchronous protocol is the generally accepted set of rules for use within a packet switching network; however, most computers transmit data using asynchronous protocols. Using these computers with a packet switching network will require asynchronous to X.25 protocol conversion, a process which has been termed an enhanced service, and as such, is unregulated by the Federal Communications Commission ("FCC"). The FCC has devised several procedures designed to promote competition and to prevent cross-subsidies from occurring between regulated and unregulated services. Pursuant to the Second Computer Inquiry[6] and Section 64.702 of

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[5] Section 64.702 of the FCC's rules defines "enhanced services" as "services offered over common carrier transmission facilities which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide to the subscriber additional, different or restructured information; or involve subscriber interaction with stored information."

[6] Second Computer Inquiry, Final Decision, 77 FCC 2d 384, modified on reconsideration, 84 FCC 2d 50 (1980), further modified on reconsideration, 88 FCC 2d 512 (1981), aff'd sub nom. Computer and Communications Indus. Ass'n v. FCC, 693 F. 2d 198 (D.C. Cir. 1982), cert. denied, 461 U. S. 938, aff'd on second further reconsideration, FCC 84-190, released May 4, 1984.

the FCC's rules, a common carrier may offer enhanced services only through a structurally separate subsidiary or affiliate, and it must obtain by tariff its own basic telecommunications services which are used to provide these services. These procedures require that enhanced services ordinarily must be implemented in facilities outside of regulated central offices. Certain of the Bell Operating Companies[7] ("BOCs") requested waivers of the structural separation requirements so that they can perform conversion from asynchronous protocols to X.25 packet switching network protocols in facilities located in their central offices. In the Protocol Waiver Order,[8] the FCC granted these waivers, subject to three conditions that were imposed to prevent the BOCs from competing unfairly against other enhanced services providers. These conditions are:

1. The BOCs must make available to other providers of asynchronous/X.25 packet switched services, the interoffice channels the BOCs will be using to support their own services, without discrimination.

2. The tariffed service of X.25/X.25 transmission must include a separate network utilization rate element to be applied

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[7] Pacific Bell, Southern Bell Telephone and Telegraph Company, South Central Bell Telephone Company, Southwestern Bell Telephone Company, New York Telephone Company, New England Telephone and Telegraph Company, New Jersey Bell Telephone Company, Northwestern Bell Telephone Company, Pacific Northwest Bell Telephone Company, and Ameritech Operating Companies.

[8] Petitions for Waiver of Section 64.702 of the FCC's Rules and Regulations, 100 FCC 2d 1057 (1985).

to the use of any port operating on an asynchronous protocol. This requirement was subsequently abolished.

3. Equal access to the packet switching networks of competitors. For example, the BOCs cannot allow abbreviated dialing to access their own packet switching networks unless this capability is offered to its competitors. The BOCs also cannot provide special packages of local telephone service and enhanced services, nor provide special incentives such as faster installation times.

The FCC has devised other rules which relate to the provision of unregulated services by regulated common carriers, or their affiliates, and which also relate to this proceeding. In the Third Computer Inquiry,[9] the FCC established its rules for Open Network Architecture ("ONA"), which is a concept designed to prevent the BOCs from using their monopoly control of basic telecommunications services to provide an unfair advantage to their unregulated operations. ONA tariffs allow competitors to use the telephone network to provide enhanced services under equal terms, rates, and conditions as the BOCs provide to their own unregulated operations. South Central Bell has yet to file its Kentucky ONA tariff, but has indicated[10] that its ONA tariff

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[9] Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), Report and Order, 104 FCC 2d 958 (1986), Memorandum Opinion and Order on Reconsideration, 2 FCC Rcd 3035 (1987); Report and Order, 2 FCC Rcd 3072 (1987).

[10] Testimony of John F. Dorsch, filed September 30, 1988, page 9.

will reference the proposed tariffs in this filing. South Central Bell has further indicated that approval of the tariffs proposed in this filing will in no way preclude consideration of the ONA proposal and any modifications to the PulseLink offering which may result from that investigation.[11] In the February 6, 1987 Report and Order in CC Docket 86-111, the FCC established cost allocation principles for separating the costs of regulated and nonregulated activities for all local exchange carriers and dominant interexchange carriers. These cost allocation principles are based on fully distributed cost allocation methods, which result in portions of common or overhead costs being allocated to nonregulated operations. In the December 29, 1987 Order in Administrative Case No. 321,[12] the Commission adopted for intrastate use on an interim basis, the cost allocation manuals as filed with the FCC.

The Commission's primary concern in this proceeding is to ensure that South Central Bell's regulated operations are not subsidizing its nonregulated ventures. South Central Bell estimates that over 70 percent of the PulseLink market will require protocol conversion services. These services will occur in the regulated packet switching equipment; however, as these services are unregulated, they will be marketed to the public

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[11] Ibid., page 10.

[12] Administrative Case No. 321, Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities.

through South Central Bell's affiliate, BellSouth Advanced Network, Inc. ("BSAN"). Several of the rate elements in the PulseLink tariff will be used solely by BSAN, primarily because they relate to asynchronous access and transport, which cannot be used with PulseLink without protocol conversion. Theoretically, protocol conversion services are open to competition; however, it is doubtful that other enhanced services providers will be able to compete with BSAN. Not only is BSAN the only enhanced services provider that can collocate equipment in South Central Bell's central offices, it is also obtaining protocol conversion services at nominal cost.[13] The Commission is in agreement with the FCC's determination that it is appropriate to allocate costs to nonregulated activities on the basis of fully distributed cost allocation methods. The fact that services are provided to an affiliate through tariffs should not alter these principles, particularly if the tariffed services are primarily, or solely, used by the affiliate. Therefore, the Commission will reject the proposed tariffs as filed and will require that rates be based on fully allocated costs, with the exception of the Network Utilization Rate Element, the Dial Access Line, and transport costs that are reflected by tariffed rates.

The Network Utilization Rate Element was originally intended to reflect the relative inefficiency of transmissions requiring protocol conversions. This relative inefficiency has been

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[13] BSAN is charged a Network Utilization Rate Element for protocol conversion services, which is a 7 percent surcharge added to basic transport rates.

eliminated, primarily because of the use of intermediate protocols, which requires that all protocols be converted. However, there is a market value associated with asynchronous to X.25 protocol conversions which should be reflected in the charges to BSAN. In lieu of requiring South Central Bell to support a market price for this service, which may be impossible at this time, the Commission will allow the use of a 7 percent surcharge added to basic transport rates.

The Dial Access Line element is used to provide switched, asynchronous access to the PulseLine network. An individual business line could be used for this purpose; however, the Dial Access Line rate is intended to reflect the efficiencies of equipment collocation and therefore the proposed rate reflects savings of not requiring a local loop. The rate was calculated by substracting statewide average loop costs from the statewide average flat rate for an individual business line, while adding in the costs of central office wiring. Although the efficiencies of collocation are acknowledged, the Commission is of the opinion that this method fails to adequately quantify these efficiencies. Furthermore, in Kentucky, rates for Basic Local Exchange Service are related to the total number of main station lines in the local calling area. There are five rate groups, with rates increasing as the number of main station lines increase. The primary rationale behind this rate structure is that the more telephone numbers that are accessible without a toll charge, the more value the service has. The Commission is of the opinion that the Dial Access Line rate should also reflect this value of

service concept exactly as it is applied to individual business lines, because the more main stations that have local access to Dial Access telephone numbers, the more valuable the service is. Therefore, the Commission will require that Dial Access Line rates be equivalent to individual business line rates unless South Central Bell can adequately support a different rate structure.

South Central Bell reflected some transport costs by using tariffed rates, which is acceptable to the Commission. However, although South Central Bell was able to identify state-specific costs, it chose to allocate these costs to each South Central Bell state[14] on the basis of forecasted demand in order to achieve rate uniformity among the five states.[15] The Commission is of the opinion that it would be more appropriate to base Kentucky rates on Kentucky-specific costs.

In response to MCI's motion to compel South Central Bell to provide a fully allocated cost study, South Central Bell responded that a fully allocated study cannot be done because PulseLink demand is a forecasted demand and therefore would require the use of speculative variables instead of actual known costs. There would be some validity to this opinion if PulseLink represented a large portion of South Central Bell's operations,

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[14] Alabama, Kentucky, Louisiana, Mississippi, and Tennessee.

[15] Response to Item 6, Oral Data Request of KPSC to SCB, filed April 10, 1989.

in which case errors in the forecasted demand could cause inaccuracies in the allocation process. However, as PulseLink demand represents only a small fraction of South Central Bell's total demand, or other units used to distribute costs, differences resulting from forecasting errors should be insignificant. It should also be noted that when costs are not a direct function of usage, as is the case with some PulseLink costs, distortions could occur from forecasting errors even in an incremental study.

South Central Bell also contended that a fully allocated cost study would require significant efforts to prepare. The Commission is of the opinion that in the case of PulseLink, a fully allocated study would not involve significant difficulties. This is because PulseLink is provided using primarily dedicated investments and because of the methods used by South Central Bell to determine costs. When dedicated investments are used, there is little difference in investment amounts between an incremental study and a fully allocated study. South Central Bell determines annual costs by the use of annual cost factors that reflect costs as a function of investment. Therefore, a fully allocated cost study would require the replacement of incremental cost factors with factors that included overhead and administrative expenses. These factors should be readily available, and since it is not the Commission's intention to require South Central Bell to devote significant resources in modifying the PulseLink cost

study, it will accept the investment amounts included in the incremental study provided in this case for use in the fully allocated study.

## FINDINGS AND ORDER

The Commission, having considered the evidence of record and being sufficiently advised, is of the opinion and finds that:

1. The proposed PulseLink Public Packet Switching Network Service and Data Transport Access Channel Service tariffs should be rejected.

2. If South Central Bell chooses to refile these tariffs, rates should be supported as described in this Order.

IT IS THEREFORE ORDERED that the proposed PulseLink Public Packet Switching Network Service and Data Transport Access Channel Service tariffs be and hereby are rejected.

Done at Frankfort, Kentucky, this 26th day of May, 1989.

PUBLIC SERVICE COMMISSION

Chairman

Vice Chairman

Commissioner

ATTEST:

Executive Director