customer service outages, these are likely to be brief if recent change is designed and implemented properly. The system also could be designed so that the outages occur in the middle of the night, which is preferable for most customers. And while there is always a risk of a significant outage if the system fails or malfunctions and the reconnect message is not received or properly processed, the risk of failure in an automated system is lower than for a manual system.

58. Based on my experience and my knowledge of the evolution of networks, I am certain that the recent change proposal is a better method for connecting elements than any of the methods involving new jumpers at the MDF proposed by Bell Atlantic. This is true with respect to each of the engineering design criteria I identified above. Specifically, recent change is more reliable than the MDF process, because it eliminates the possibility for human error in doing cross-connections at the frame. It is more efficient than the MDF process, because it does not require the needless expenditure of human and equipment resources, and allows changes to be made quickly. Finally, it provides more functionality than the MDF process, because it allows CLECs to compete for customers served by IDLC, and allows compliance with warm dial tone requirements during the cutover. In addition, by taking advantage of the intelligence residing in the switch, using recent change to connect elements is also consistent with the evolution of network design. The function of connecting the elements of the network is and always has been the function of the switch; that function, originally performed manually, is now performed and controlled electronically under program control.

CONCLUSION

59. Having reviewed the MDF and the recent change methods proposed for combining network elements, for me, the choice among them is clear cut. I cannot recommend using the various MDF jumper methods to separate and recombine network elements. Those methods add significant amounts of manual processing and rely

heavily on outdated equipment. At best, they would make the network less reliable, delay provisioning, and add needless cost; they also seem unlikely to be able to support an active, competitive market. Given the long history of efforts by engineers to eliminate manual processes and replace reliance on equipment with reliance on software, the MDF jumper methods will impose upon CLECs trying to compete in the 21st century a network design based upon 19th century ideas. Because it does not further any of the criteria for evaluating changes in network design, but actually undermines them, it is not an acceptable engineering solution.

60. The recent change process, by contrast, seeks to capitalize on the improvements and efficiencies engineers have introduced into the network. As a solution that takes advantage of the enhanced functionality of the switch made possible by stored program control, it is consistent with current approaches to network engineering. It is more reliable, more functional, and more efficient than the MDF approach, and is therefore, in every important respect, a preferable solution. Moreover, it will allow CLECs to use the same software-based tools to combine elements that Bell Atlantic and its customers can use today.

I declare under penalty of perjury that the foregoing is true and accurate to the best of my knowledge and belief.

Executed on June 15, 1998.

Amos E. Joel, Jr.

Amos E. Joel, Jr.

SUBSCRIBED AND SWORN TO BEFORE ME this 15th day of June, 1998.

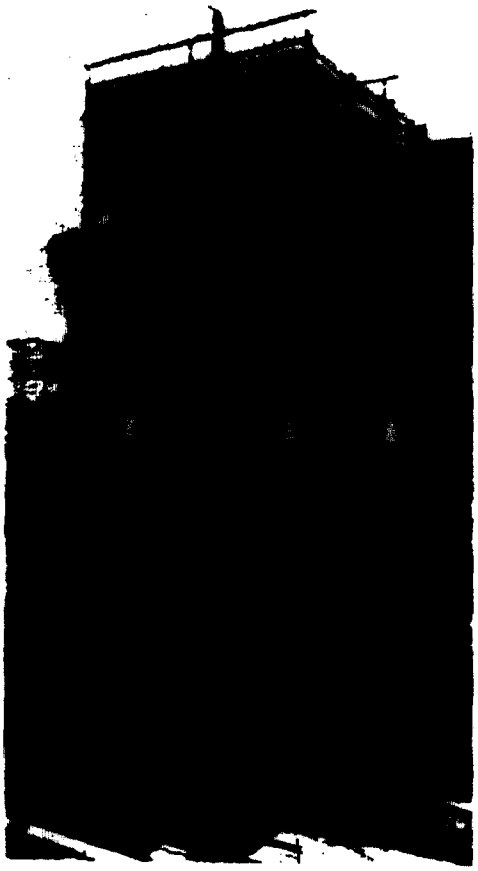
Patricia A. Perhac

Notary Public

My Commission Expires:

4/8/2002

ATTACHMENT 1



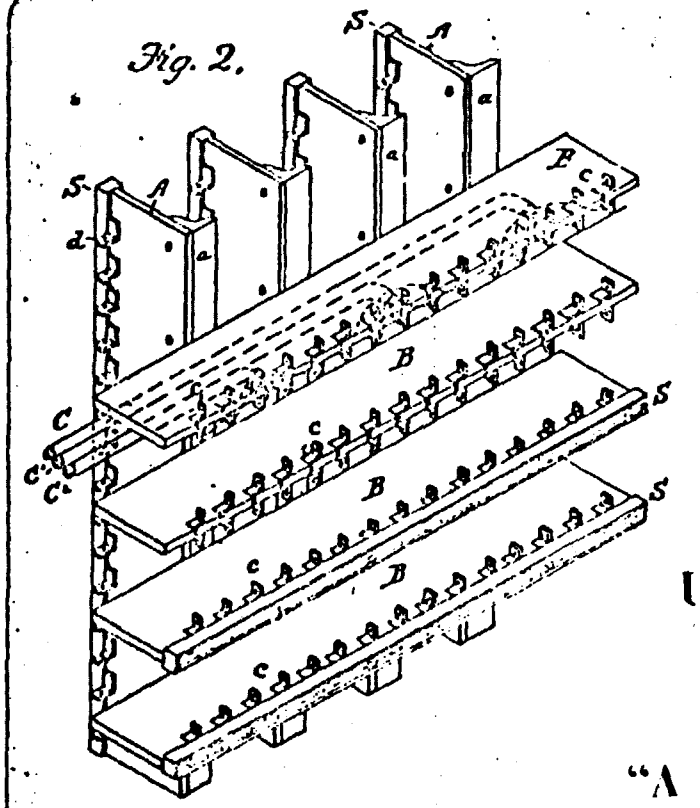
Wisconsin Bell's Milwaukee telephone exchange in 1883 can be identified by the scaffolding supporting the wires that converged on the building from all points of the city.

TELEPHONE DESPATCH CO

ATTACHMENT 2

FIG. 447.—OLD ST. LOUIS DISTRIBUTING FRAME.

ATTACHMENT 3



U. S. PATENT 507,424
OCTOBER 24, 1893
CLAIM 1

"A distributing frame having on one side vertical ledges or supports, and on the opposite side horizontal ledges or supports, and metallic terminals extending along the edges of said ledges or supports, substantially as described."

A maze of wires obscures the sky in Pratt, Kansas, in 1909. Independent telephone companies often strung wires on each others' poles when there was no space at street level to add a pole of their own. Each locality determined the right to set poles and run wire.

ATTACHMENT 4

ATTACHMENT 2

BEFORE THE

GEORGIA PUBLIC SERVICE COMMISSION

In Re:	)	
	)	
Request for Approval of the Interconnection Agreement Negotiated by BellSouth Telecommunications, Inc. and Teleport Communications Group Inc., Pursuant to Section 251, 252 and 271 of the Telecommunications Act of 1996	)	DOCKET NO. 6903-U
	)	
Complaint of Teleport Communications Group Inc. Against BellSouth Telecommunications, Inc. and Request for Immediate Relief	)	

FORMAL COMPLAINT NO. 2

COMES NOW Teleport Communications Group Inc., on behalf of itself and its wholly-owned subsidiaries (collectively "TCG"), and hereby files with the Georgia Public Service Commission (the "Commission") this Formal Complaint No. 2 ("Complaint") against BellSouth Telecommunications, Inc. ("BellSouth") in connection with BellSouth's violation of the physical collocation provisions contained within the Interconnection Agreement between TCG and BellSouth which was approved by the Commission on November 8, 1996 in the above-referenced docket (the "Agreement"). In support therefor, TCG states as follows:

I. INTRODUCTION

1. Federal law requires incumbent local exchange carriers, such as BellSouth, to provide physical collocation to competitive local exchange carriers ("CLECs"), such as TCG, at reasonable rates, terms and conditions. Pursuant to such federal law, TCG and BellSouth entered into the Agreement which sets forth rates, terms and conditions for physical collocation of TCG's switching equipment on BellSouth's premises for purposes of interconnection. After the parties entered into

the Agreement, this Commission issued its *Cost Study Order* which established rates, terms and conditions in connection with BellSouth's provision of physical collocation to CLECs.[1] Under the Agreement, which incorporated the *Cost Study Order's* newly-established collocation rates pursuant to a more favorable provisions clause, TCG requested that BellSouth provide it with physical collocation in three (3) central offices in the metropolitan Atlanta area. While BellSouth has offered to provide TCG with physical collocation at these central offices, BellSouth's collocation charges and practices violate the Agreement, federal law, state law, and the Commission's *Cost Study Order*.

2. TCG has been unable to resolve this physical collocation dispute through negotiation with BellSouth. Accordingly, TCG requests that the Commission adjudicate this dispute pursuant to the Agreement's dispute resolution provision.[2]

II. STATEMENT OF FACTS GIVING RISE TO COMPLAINT

3. TCG is a Delaware corporation headquartered at Two Teleport Drive, Suite 300, Staten Island, New York 10311. TCG's wholly-owned subsidiary, Teleport Communications Atlanta, Inc., holds a certificate from this Commission to provide intrastate, facilities-based, local exchange service in the State of Georgia.[3]

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[1]Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Services, Order Establishing Cost-Based Rates, Docket No. 7061-U (Dec. 16, 1997) [hereinafter *Cost Study Order*].

[2]The Agreement's dispute resolution provision states, in pertinent part, 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 for resolution of the dispute." Agreement § XXV.

[3]Application of Teleport Communications Atlanta, Inc. For A Certificate of Authority to Provide Local Exchange Service, *Interim* Certificate of Authority to Provide Competitive Local Exchange Telecommunications Service, Certificate No. L-057, Docket No. 7678-U (issued October 7, 1997).

4. BellSouth is a Regional Bell Operating Company that provides switched local exchange and other telecommunications services in nine states, including Georgia, Alabama, Florida, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. BellSouth is an incumbent local exchange carrier as defined in Section 251(h) of the Telecommunications Act of 1996 ("1996 Act").

5. On November 8, 1996, the Commission approved the Agreement between TCG and BellSouth.[4] Since that date, TCG and BellSouth have been operating in Georgia pursuant to the Agreement. Relevant excerpts from the Agreement are attached hereto at Exhibit "A".

6. The Agreement establishes, *inter alia*, the terms and conditions for interconnecting TCG's network with BellSouth's network pursuant to a physical collocation arrangement. Specifically, Section IV(G) of the Agreement requires BellSouth to "accept and provide any of the . . . [following] methods of interconnection" set forth in Section IV(F) of the Agreement:[5]

> [t]he parties agree that there are four appropriate methods of interconnecting facilities: (1) virtual collocation where physical collocation is not practical for technical reasons or because of space limitations; *(2) physical collocation;* and (3) interconnection via purchase of facilities from either party by the other party; and (4) upon mutual agreement as to technical feasibility, the parties may also interconnect on a mid-span basis. *Rates and charges for collocation are set forth in Attachment C-13, incorporated herein by this reference.* Facilities may be purchased at rates, terms and conditions set forth in BellSouth's intrastate Switched Access (Section E6) or Special Access (Section E7) services tariff or as

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[4]Request for Approval of the Interconnection Agreement Negotiated by BellSouth Telecommunications, Inc. and Teleport Communications Group Inc. Pursuant to Section 251, 252 and 271 of the Telecommunications Act of 1996, Order Approving Negotiated Interconnection Agreement, Docket No. 6903-U (Nov. 8, 1996) [hereinafter *Order Approving Negotiated Interconnection Agreement*].

[5]Agreement § IV(G).

> contained in Attachment B-1 for local interconnection, incorporated herein by this reference.[6]

Section IX(A) of the Agreement also imposes an obligation upon BellSouth to provide TCG with physical collocation, stating that:

> [t]he parties agree that each shall provide to the other physical collocation services pursuant to Attachment C-13, incorporated herein by this reference.[7]

7. Attachment C-13, which sets forth the rates and charges for physical collocation, consists of two items: an introductory page and BellSouth's Reference Handbook for Collocation ("Collocation Handbook"). The introductory page provides a general description of physical and virtual collocation, sets forth pertinent information regarding rates, terms and conditions for such collocation and lists the states in which BellSouth offers both types of collocation. The introductory page states that BellSouth's rates, terms and conditions for physical collocation will be those in the Collocation Handbook.[8] The Collocation Handbook sets forth both the procedures under which TCG orders physical collocation from BellSouth, and the fees BellSouth is permitted to charge TCG for space preparation, space construction, cable installation, floor space, power and other aspects of physical collocation.

8. TCG and BellSouth intended that the collocation provisions of the Agreement comply with each carrier's obligations under the 1996 Act. Specifically, Section II states that:

> [t]he parties intend that the rates, terms and conditions contained within this Agreement, including all Attachments, comply and

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[6]Agreement § IV(F) (emphasis supplied).

[7]Agreement § IX(A).

[8]Agreement, Attachment C-13.

> conform with each party's obligations under sections 251, 252 and 271 of the [1996 Act].[9]

Furthermore, Section IV(A) provides that:

> [t]he parties intend that the interconnection of their equipment, facilities and networks pursuant to this section will comply with the requirements of sections 251, 252 and 271 of the [1996 Act] upon successful implementation of this Article.[10]

9. Moreover, as indicated in Section XXIII(B) of the Agreement regarding more favorable provisions, TCG and BellSouth intended to incorporate new, more favorable collocation rates, terms and conditions into the Agreement when such provisions resulted from the final action of an "appropriate regulatory agency" (either the FCC or this Commission) or a "judicial body".[11]

10. On December 16, 1997, after TCG and BellSouth executed the Agreement, the Commission issued its *Cost Study Order* establishing, *inter alia*, rates for physical collocation provided by BellSouth.[12] In the *Cost Study Order*, the Commission established the charges BellSouth could impose upon CLECs for space preparation and for space construction in connection with physical collocation. Specifically, the Commission ordered BellSouth to charge CLECs $100 per square foot (minimum of 100 square feet with additional space available only in 50 square foot increments) for space preparation and $45 per square foot for space construction.[13] On February 9, 1998, BellSouth filed a Motion for Clarification with the Commission pertaining to these collocation

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[9]Agreement § II.

[10]Agreement § IV(A).

[11]Agreement § XXIII(B).

[12]*Cost Study Order* at 57-62.

[13]*Cost Study Order* at 62.

charges.[14] In its Motion, BellSouth requested that the Commission modify the *Cost Study Order* to allow BellSouth to recover costs associated with construction of shared common space from collocating CLECs on pro-rata basis.[15] In its *Order on Clarification* issued April 9, 1998, the Commission clarified the *Cost Study Order* regarding BellSouth's pro-rata assessment of space preparation charges upon CLECs, stating that:

> *BellSouth shall not charge a collocating CLEC a pro-rated amount based on the actual cost of renovating or upgrading the central office space and support mechanisms.* Nor shall BellSouth charge the collocating CLECs for shared common space in the central office.[16]

The Commission further clarified the *Cost Study Order's* requirements regarding space preparation charges, stating that:

> BellSouth shall be allowed to charge a non-recurring space preparation charge of $100 per square foot to recover the cost of renovating or upgrading support mechanisms. These costs could include 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.[17]

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[14]Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Services, Motion for Clarification of BellSouth Telecommunications, Inc., Docket No. 7061-U (Feb. 9, 1998).

[15]*Id.*

[16]Review of Cost Studies, Methodologies, and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Services, Order on Clarification, Docket No. 7061-U, at 2 (April 9, 1998) [hereinafter *Order on Clarification*] (emphasis supplied).

[17]*Id.*

Finally, the Commission directed BellSouth to reflect these fee clarifications in all collocation agreements and in BellSouth's Collocation Handbook.[18] BellSouth did not appeal the Commission's *Order on Clarification* and no other party petitioned the Commission for reconsideration of its decision regarding collocation pricing.

11. The current dispute arises from BellSouth's violation of its contractual and legal obligations to provide TCG with physical collocation at reasonable rates, terms and conditions. Specifically, BellSouth has impeded TCG's efforts to obtain physical collocation by imposing application procedures and charges not contained in the Agreement and by charging exorbitant fees for space preparation and space construction.

12. On February 2, 1998, pursuant to the interconnection provisions in the Agreement, TCG submitted three (3) applications to BellSouth requesting 200 square foot enclosures for physical collocation of TCG's switching equipment at BellSouth's central offices in Dunwoody, Georgia ("Dunwoody"), East Point, Georgia ("East Point") and Atlanta, Georgia ("Courtland Street").

13. On March 18, 1998, Nancy K. Nelson of BellSouth provided TCG with responses to TCG's requests for physical collocation at BellSouth's Dunwoody and Courtland Street central offices. In the responses, BellSouth proposed the following fees for space preparation and space construction:

		Dunwoody	Courtland Street
a.	Space Preparation Fee:	$ 81,401.43	$ 92,690.00
b.	Space Construction Fee:	$ 9,000.00	$ 9,000.00

[18] *Id.*

Using identical language in both responses, BellSouth explained the excessive fees for space preparation as follows:

> [p]er your agreement *this includes your prorated cost estimates* for demolition, wall construction, lighting, electromechanical, floor treatment, A&E fees, HVAC, ingress/egress, OSHA compliance, local code compliance, cable support structure, power, grounding plane, etc.[19]

Copies of BellSouth's physical collocation responses for Dunwoody and Courtland Street (dated March 18, 1998) are attached hereto at Exhibit "B".

14. In the March 18, 1998 responses, BellSouth also imposed a new collocation application procedure upon TCG which is not part of the Agreement. Specifically, both BellSouth responses stated that "[a]n executed BellSouth Physical Collocation Master Agreement, including rates, terms and conditions for Physical Collocation is a requirement" to process an order for physical collocation.[20]

15. Thereafter, on March 25, 1998, BellSouth provided TCG with a proposed amendment to the Agreement entitled "Collocation Amendment By and Between BellSouth Telecommunications, Inc. and Teleport Communications Group Inc. for the state of Georgia." This time, along with the fees for space preparation and construction listed in the Agreement, which implemented the Commission's collocation mandates from the *Cost Study Order* and *Order on Clarification*, the proposed BellSouth amendment contained a newly-created, additional engineering

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[19]BellSouth Application Response for Physical Collocation Including Service Interconnection (SI) and Expanded Interconnection Service, Project Reference ATLNGACS.TPM.06, at 4 (March 18, 1998) [hereinafter *BellSouth Courtland Street Response*]; BellSouth Application Response for Physical Collocation Including Service Interconnection (SI) and Expanded Interconnection Service, Project Reference DNWDGAMA.TPM.06, at 4 (March 18, 1998) [hereinafter *BellSouth Dunwoody Response*] (emphasis supplied).

[20]*BellSouth Courtland Street Response* at 1; *BellSouth Dunwoody Response* at 1.

fee priced on an individual case basis. BellSouth's amendment describes the additional engineering fee as:

> 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.[21]

A copy of BellSouth's proposed amendment to the Agreement (dated March 23, 1998) is attached hereto at Exhibit "C".

16. Despite BellSouth's excessive space preparation charges for physical collocation at the Dunwoody and Courtland Street central offices, on April 3, 1998, TCG requested BellSouth to begin construction of its collocation enclosures due to concerns over the limited amounts of collocation space remaining at each site.

17. On April 15, 1998, Ms. Nelson of BellSouth responded to TCG's request for 200 square feet of physical collocation space at BellSouth's East Point central office. In the response, BellSouth proposed the following fees for space preparation and space construction:

		East Point
a.	Space Preparation Fee:	$ 139,368.53
b.	Space Construction Fee:	$ 9,000.00

Again, BellSouth explained the excessive fees for space preparation as follows:

> [p]er your agreement *this includes your prorated cost estimates* for demolition, wall construction, lighting, electromechanical, floor treatment, A&E fees, HVAC, ingress/egress, OSHA compliance,

[21]Draft Collocation Amendment By and Between BellSouth Telecommunications, Inc. and Teleport Communications Group, Inc. for the state of Georgia, at 19 (March 23, 1998).

> local code compliance, cable support structure, power, grounding plane, etc. $133,350 is for Power.[22]

In this response, BellSouth again imposed a requirement that TCG execute a comprehensive collocation agreement in order to obtain physical collocation.[23] A copy of BellSouth's physical collocation response for East Point (dated April 15, 1998) is attached hereto at Exhibit "D".

18. TCG immediately responded to BellSouth's East Point proposal via telephone call to Ms. Nelson of BellSouth, demanding an explanation for the excessive space preparation charges. On April 26, 1998, Ms. Nelson informed TCG via electronic mail that a written explanation of the charges would be forthcoming in a revised East Point response. A copy of the electronic mail message from Nancy K. Nelson of BellSouth (dated April 26, 1998) is attached hereto at Exhibit "E".

19. On April 28, 1998, Ms. Nelson of BellSouth provided TCG with a revised response to TCG's request for physical collocation at BellSouth's East Point central office. In the revised response, BellSouth stated that the space preparation charge of $139,368.53 represented TCG's "*prorated cost estimates* for demolition, wall construction, lighting, electromechanical, floor treatment, A&E fees, HVAC" and other costs associated with physical collocation. In addition, BellSouth increased its charge for space construction from $9,000 to $59,488.00. BellSouth's explanation for this excessive charge was that "[p]er [TCG's] agreement this fixed rate includes material and enclosure construction in increments of one hundred square feet at $29,744.00 each."

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[22]BellSouth Application Response for Physical Collocation Including Service Interconnection (SI) and Expanded Interconnection Service, Project Reference ATLNGAEP.TPM.04, at 4 (April 15, 1998) [hereinafter *BellSouth East Point Response*] (emphasis supplied).

[23]*Id.* at 1.