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CONVERGENCE AND CONTROVERSY IN EARLY INTERCONNECTION AGREEMENTS

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This paper is one of a series of NRRI analyses of issues in state telecommunications policy that derive from passage of the Telecommunications Act of 1996. The views and opinions expressed herein are those of the authors. They are not necessarily those of The National Regulatory Research Institute, the National Association of Regulatory Utility Commissioners (NARUC), or any NARUC member commissions.

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Introduction

The central thrust of the Telecommunications Act of 1996 is to clear away the tangle of regulation that grew up to control monopoly providers of telecommunications service and replace it with government oversight that allows competition to quickly grow and thrive. For some time to come, the facilities of the incumbent local exchange carriers (ILECs) are likely to serve as the platform that other carriers will use, at least in part, to reach customers. To get competition going, the Act envisions interconnection of existing networks and resale of services as alternatives to facilities-based competition and makes provision for the nurture of interconnection and resale.

Agreements on interconnection are being negotiated now. In this paper we examine trends in the negotiations. Our investigation found *substantial agreement* on the following issues:

- Points of interconnection
- Exchange access services to interexchange carriers (IXCs)
- Directory listing and distribution
- Directory assistance terms
- Access to poles, ducts, and rights-of-way

We found *substantial controversy* on:

- Call termination pricing
- Unbundling
- Compensation for emergency services
- Number portability
- Resale

Without the option of interconnection, competitive local exchange carriers (CLECs) are likely to encounter critical disadvantages from the outset. First, ILECs, through their fully equipped, highly reliable networks, currently can provide incremental services at prices significantly below the newcomers. Second, entrants' customers cannot call the ILEC's customers without interconnection: customers will not

discontinue their relationship with their existing provider if they are unable to complete calls with the incumbents' customers. Finally, interconnection is useful as a bridge between an entrant's facilities when the incumbent's facilities lie between those of the entrant.

The Act makes interconnection a central requirement: "Each telecommunications carrier has the duty...to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers."[1] Local exchange carriers must provide resale, number portability, dialing parity, access to rights-of-way, and reciprocal compensation.[2] ILECs bear additional burdens for interconnection, unbundled access to their networks, and resale.

The Act provides a strong incentive for Bell operating companies (BOCs) in particular to reach agreements on interconnection. To be able to provide in-region interLATA service, the BOC must enter into at least one binding agreement approved by the state commission and specifying the terms and conditions of access and interconnection for a competing provider. It must also satisfy all the requirements of a "competitive checklist."[3] The competitive checklist requires:

- Interconnection
- Non-discriminatory access to network elements
- Non-discriminatory access to poles, ducts, conduits, and rights-of-way
- Unbundled local loop transmission from the central office to the customer's premises
- Unbundled local transport from the trunk side of a wireline LEC switch
- Unbundled local switching

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1 Public Law 104, 104th Cong., 2nd sess. (8 February 1996), § 251(a)(1).

2 Ibid., § 251(b).

3 Ibid., § 271 (c)(2)(b).

- Non-discriminatory access to 911 and E911 services, directory assistance, and operator call completion services
- White pages directory listings for customers of the other carrier's telephone exchange service
- Non-discriminatory access to telephone numbers
- Non-discriminatory access to services or information needed for dialing parity
- Reciprocal compensation arrangements
- Availability of services for resale.

For the state commissions, review of interconnection agreements is a crucial responsibility under the Act, particularly considering the precedent-setting nature of the first round of agreements. Commissions are currently immersed in the process of reviewing or arbitrating interconnection agreements under section 252 of the Act. A companion piece to this paper describes the procedures states are using to reach decisions on interconnection and gives the status of negotiations.[4] Here we look at the substance of several agreements.[5] We describe what various players started out wanting, what they were getting through July and, briefly, the constraints imposed by federal rules issued in August.[6]

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[4] Vivian Witkind Davis and Nancy Zearfoss, *State Commission Mediation and Arbitration of Interconnection Agreements: Procedures and Status under the Telecommunications Act of 1996* (Columbus, Ohio: NRRI, 1996). For other 1996 NRRI papers on interconnection issues, see Robert E. Burns, Vivian Witkind Davis, and David Wirick, *Some Issues in Commission Mediation and Arbitration of Interconnection Agreements: Defining and Staffing the Administrative Process*, Michael E. Clements, *Most-Favored Nation Clauses and Telecommunications Interconnection: Making the Safeguards Safe*, and David Gabel, *Competition-Enhancing Costing and Pricing Standards for Telecommunications Interconnection*. Other papers are forthcoming.

[5] The authors wish to thank Dr. Edwin Rosenberg for helpful comments on a draft of this paper.

[6] Federal Communications Commission, First Report and Order, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket 96-98, *Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket 95-185 (August 8, 1996).

Early on, many observers speculated that the terms and conditions of interconnection agreements might converge. As a way of simplifying new negotiations, companies and states might look to decisions made in the earliest agreements for baseline provisions. The major purpose of this paper is to examine the proposition that convergence is already happening and to see where there is continued conflict. Are we heading towards one national template for agreements or are there likely to be areas (geographical or otherwise) where differences will continue in the first round of agreements? We do not attempt to analyze arguments for one approach or another with respect to individual interconnection elements. Neither do we attempt to analyze the new federal rules. The intention is merely to discern trends in resolution of conflicting bargaining positions. We hope that, by giving insight into which issues have been going smoothly and which continue to pose difficulties, the discussion will help state regulatory commissions as they review interconnection agreements.

Proposed Interconnection Agreements

Table 1 provides an overview of interconnection agreements proposed last spring by MCI and U S West. These "model" agreements established the parties' initial bargaining positions. Not surprisingly, the proposals diverge widely.[7]

MCI and other CLECs want swift market access and few barriers. They want to place the burden upon the incumbent to accommodate them. The MCI model focuses on the incumbent's responsibilities and rate and compensation issues. In fact, the MCI model follows the "competitive checklist" item for item. U S West and other ILECs want to continue to protect and control their networks. U S West's initial proposal would

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[7] See MCI Telecommunications Corporation, *MCI Requirements for Intercarrier Agreements* (Washington, D.C.: MCI Telecommunications Corporation, 1996, photocopy) and U S West Communications, Inc., *Agreement for Local Wireline Network Interconnection and Services Resale* (Englewood, CO: U S West, Inc., 1996, photocopy).

place the burden on entrants to adapt to its system. The U S West model focuses on technical system concerns and less on market access and rate or compensation concerns.

State Commission Interconnection Goals

Table 2 illustrates the outcomes the Washington Utilities and Transportation Commission believes would result in viable interconnection agreements that satisfy the terms of the Act. The aims that the Commission identifies are broad and do not address such specifics as what services and restrictions will apply for resale, how the interconnecting parties will implement number portability, the unbundling of network elements and its cost, and service quality standards.

Early Actual Interconnection Agreements

Tables 3 through 14 compare eight actual interconnection agreements concluded from April through July of 1996. The agreements include a broad array of participants. The parties include six BOCs, a cable company, an IXC, and three CLECs. These early agreements tended to be quite short, averaging about 60 pages. While the agreements are similar in several areas, many differences are present and in some areas the parties have not yet reached agreement. For example, Pacific Bell and MCI lack agreement on unbundling, resale, and number portability, and five of the eight agreements do not contain complete accords on rates, terms, and conditions for unbundling and resale.

Federal Rules

Table 15 illustrates portions of the new federal interconnection rules issued in August 1996 that relate to categories identified in the earlier interconnection agreements. Interestingly, some issues that were emphasized in the early interconnection agreements receive less attention in the FCC rules and vice versa. The early interconnection agreements devote considerable attention to operational issues, including exchange access services to IXCs (for example, what party will provide different services and bill the IXCs), 911/E911 services, directory assistance, and directory listing and distribution. The FCC rules do not directly discuss these issues. On the other hand, the FCC rules provide significant guidance on rate and pricing mechanisms and service quality standards.

Trends Towards Convergence in Interconnection Agreements

From an examination of the progression from model interconnection agreements to early actual agreements to the federal rules, it is possible to see early convergence on several issues.

Points of Interconnection

The model and actual interconnection agreements exhibit general similarity regarding the terms and conditions of the interconnection method. Here, the focus is where and how the carriers will interconnect their networks. Generally, the carriers will establish one point of interconnection (POI) in each local calling area; more than one POI is typically subject to further negotiation. While the agreements stipulate that a POI can occur at any technically feasible point, most specify either an end office switch or a tandem office switch. Finally, no non-recurring charges (NRCs) will apply for rearrangement or reconfiguration.

The FCC rules establish a *minimum* set of five technically feasible points for interconnection, allowing fairly broad latitude in an area where there was a tendency towards agreement. The FCC's rules establish POI locations that closely match the MCI model agreement. For state commissions, this should mean, on the whole, relatively smooth negotiations on POI.

Exchange Access Services to Interexchange Carriers

The exchange access services to IXCs provisions are similar in the agreements we examined. Here, the central concern is how the carriers will provide services and bill the IXCs. Meet-point billing on a multi-bill, multi-tariff basis is the standard provision. Under this arrangement, each party will bill the IXC for their portion of jointly provided telecommunication services based on their tariff rate.

The FCC rules emphasize that telecommunications carriers (which include IXCs) may request interconnection under Section 251(c)(2) to provide telephone exchange or exchange access service, or both, and the incumbent must provide interconnection in accordance with the Act and the commission rules.[8] The rules specify that meet-point arrangements must be available to entrants on request.[9] Under such an arrangement, each party pays its portion of the costs to build out facilities to the meet point. The FCC concludes that such an arrangement makes sense for interconnection pursuant to section 251(c)(2), where entrants will be exchanging traffic with ILECs, but not for unbundled access under section 251(c)(3), where the interconnection point is part of the entrant's network. In the latter situation, the entrant is required to build out facilities for meet-point arrangements. The FCC suggests that the parties and state

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[8] Federal Communications Commission, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* First Report and Order, CC Docket No. 96-98 (1996) (to be codified at 47 C.F.R. § § 1 and 51), ¶ 126.

[9] Ibid., ¶ 553.

commissions are in a better position than it is to determine the appropriate distances that incumbents should be required to build out facilities for meet-point arrangements.

The FCC rules leave considerable flexibility to the states on appropriate interconnection charges. The states will have to develop detailed interpretations and applications to put the Act's requirements into effect.

Directory Listing and Distribution

Significant commonality exists in directory listing and distribution. Both model agreements stipulate White and Yellow Page directory listing and distribution. In seven of eight actual agreements, the ILEC will list CLEC customers and distributed White and Yellow Page directories. Further, in five agreements the ILEC will include CLEC information numbers (for example, installation, repair, and customer service) in an information page. Generally, no charges apply for basic listing and distribution, although tariff rates will apply for special services (for example, non-listing).

The unbundling provisions of the FCC rules discuss directory listing. An ILEC must provide non-discriminatory access to "all features, functions and capabilities of the [local] switch...[including]...White pages listing."[10] However the rules do not discuss Yellow Page listing or directory distribution. Since Yellow Pages listings already have prices, this should not be a problem. Furthermore, the rules do not clearly address compensation. Thus, state commissions must resolve several critical issues. For example, will directory listing include both White and Yellow Pages listings? Will directories include information pages and at what rate? And what compensation, if any, will the ILECs receive? Given the solutions that have already been crafted for this problem, it is likely to be less difficult to reach accommodation on directory listings than in other areas.

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[10] Federal Communications Commission (to be codified at 47 CFR 51.311(c)(1)(C)).

Directory Assistance

Moderate agreement exists in directory assistance services. Here, the concern is access to operators and directory databases. Branding could also be an issue: if the ILEC provides these services, will they be identified to the customer as services of the CLECs? In its model agreements, MCI seeks unbundled, branded directory assistance and data sharing between the ILEC and MCI databases; there would be no charge for data storage and reciprocal charges for directory assistance. Alternatively, U S West proposes that it will maintain a proprietary directory assistance database and will charge the CLEC on a per-call basis. In the actual agreements, the ILECs will include CLEC customer information in the ILEC database at no charge. Generally, the directory assistance compensation rate is a tariff rate.

As with directory listing, the FCC rules address directory assistance through the unbundling provisions. The rules specify non-discriminatory access to unbundled operator services and directory assistance. The rules establish constraints, quality of service, and compensation standards. The section below on unbundling provides greater detail on the FCC's standards.

Access to Poles, Ducts, Rights-of-Way

The parties generally find agreement on access to poles, ducts, and rights-of-way. Typically, the agreements provide for non-discriminatory access to poles, ducts, and rights-of-way at the ILEC's tariff rate.

The FCC rules are similar to the model and actual agreements. The rules require non-discriminatory access to poles, ducts, conduits, and rights-of-way. In addition, the rules establish the grounds for denial of access. These grounds include insufficient capacity, safety or reliability concerns, or generally applicable engineering purposes. Finally, the rules identify the compensation mechanism and require that the ILEC impute its charges for access to rights-of-way into its own retail rates.

Furthermore, the rules place restrictions on the ability of an ILEC or other party controlling rights-of-way to deny access on insufficient capacity or safety grounds. If necessary to accommodate a CLEC, the owner must expand the facility, although the CLEC is responsible for costs of expansion. The determination of individual cases is left to the states. States will be responsible for deciding whether capacity does indeed exist when it is requested. This will require considerable time and effort.

Other Issues

Several additional provisions significantly influence interconnection obligations. First, all eight completed agreements include a "most-favored-nation" provision. The Act requires that once a carrier enters into an agreement, whether by negotiation or arbitration, it must "make available any interconnection, service, or network element...to any other telecommunications carrier upon the same terms and conditions as those provided in the agreement."[11] Generally, the agreements stipulate that the new rates, terms, and conditions can arise from a negotiated or arbitrated agreement, a state commission or FCC rule, or a court order. Typically, the other party can avail itself of either the new agreement in its entirety or the rates, terms, and conditions of specific sections in the new agreement. Second, two actual agreements include a liquidating damages section. In these agreements, liquidated damages will apply if a party misses a performance standard three consecutive months. These performance standards include unbundled link installation, interim number portability installation, and out-of-service repairs.

The FCC's interconnection rules provide guidance on the general availability of provisions already present in existing interconnection agreements. At the request of any telecommunications carrier, the incumbent must make available any interconnection, service, or network element contained in any agreement approved by a

[11] Public Law 104, § 251 (i).

state commission. The rates, terms, and conditions must be consistent with the existing agreement. The rules establish a role for state commissions. These "most-favored-nation" provisions will not apply if the ILEC can prove to a state commission that the cost of implementing the agreement with a new carrier is greater than the initial agreement costs or that the provision with a new carrier is not technically feasible. Thus, state commissions can expect mediation and arbitration requests in this area.

Liquidated damages are not mentioned in the FCC order but are a provision worth considering for negotiated agreements to assure there is recourse, particularly for service quality problems.

Areas of Continuing Controversy

Call termination fees, unbundling of network elements, compensation for emergency services, number portability, and resale continue to be thorny issues as incumbents and entrants attempt to reach agreement, with the states often serving as arbitrators.

Call Termination Fee

The interconnection call termination fee methodology is similar across agreements; however, the rates exhibit some variability. In its model agreement, MCI proposes a "bill and keep" methodology, while U S West identifies numerous items the local traffic termination rate must include. In the actual agreements, the methodology is generally a reciprocal flat per-minute rate. For local call termination, the modal rate is $.01 per minute with a $.007 to $.019 range. In addition, five agreements include a netting feature combined with either a collar (that is, no payment occurs unless the net balance exceeds the collar) or a payment cap. For example, each BellSouth agreement includes a payment cap equal to 105 percent of the lower party's fee. For transient traffic (that is, traffic traversing a carrier's network yet originating from and

terminating at other carriers' networks), the modal rate is $.002 per minute. IntraLATA toll and interLATA interexchange billing generally occurs at the parties' tariffed rate. Finally, the originating party generally bills the terminating party for 800/888 calls; these charges include call termination and database inquiry fees.

The FCC rules provide that, at the election of the state commission, rates for transport and termination of local telecommunications traffic shall be consistent with forward-looking economic cost, default proxies, or a bill and keep arrangement. In addition, the rate must be symmetrical. This area will remain controversial, not only because of conflict among companies but because states must work out appropriate implementation within their own boundaries and within the context of their evolving relationship with the FCC. The FCC rules include provisions favorable to both ILECs and IXCs. Forward-looking economic cost can favor CLECs. However, this depends on the costs included in the forward-looking economic cost determination. Alternatively, the IXCs desire a "bill and keep" methodology. Thus, this rule establishes a critical role for state commissions.

Unbundling

The Act requires ILECs to provide non-discriminatory access to unbundled network elements for any requesting telecommunications carrier at any technically feasible point. Rates, terms, and conditions must be just, reasonable, and non-discriminatory and the incumbent must allow the entrant to combine network elements.[12]

From the beginning, the terms of unbundling have been controversial. The model agreements staked out significantly different positions. MCI seeks access to all physical and logical network elements at any technically feasible point at rates representing total service long-run incremental cost (TSLRIC). U S West proposed a

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[12] Section 251(c)(3).

narrow list of unbundled network elements with rates including NRCs, monthly charges, and USOC charges.[13] The actual interconnection agreements preceding the FCC's interconnection rules fare little better. Two agreements explicitly state the parties have no agreement on unbundling. Three agreements include vague references to unbundling upon request and rates, terms, and conditions subject to future negotiation. The three remaining agreements include unbundling provisions. However, the agreements include a limited number of elements. Rates are generally element-specific and consist of NRCs and monthly charges.

The FCC rules lay down detailed guidelines that will no doubt make clear what is acceptable and what is not in this critical area. The rule lists technically feasible points; calls for interconnection quality equal to that which the ILEC provides itself; says that for collocation the preferred order is physical, virtual, or other means; establishes the requirements of just, reasonable, and non-discriminatory terms and conditions; and establishes forward-looking economic costs using total element long-run incremental costs (TELRIC) or proxy ceilings .

Despite the FCC guidelines, state commissions can expect to be called on to make crucial decisions on unbundling issues.

Emergency Services

For 911/E911 services, the agreements' physical processes and methodologies are similar, although there are significant differences in compensation provisions. Generally, CLECs will interconnect to the ILECs' 911/E911 selective routers or 911 tandem office. The CLEC will route calls to the appropriate POI and the ILEC will subsequently route the call to the appropriate public safety answering point (PSAP). Further, the CLEC will update the ILEC's automated location identifier (ALI) database;

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[13] USOC is an acronym for Universal Service Order Code, "[a]n old Bell system term identifying a particular service or equipment under tariff." Harry Newton, *Newton's Telecom Dictionary*, 9th edition (New York: Flatiron Publishing, Inc., 1995), 1198.

generally, the updating is automated. While these processes are consistent, the compensation is varied. In the three BellSouth agreements, when the municipality pays for 911/E911 service no charges will apply. The remaining agreements include compensation. Two agreements specify tariff rates; two agreements include monthly charges and NRCs; and one agreement includes a range of rates contingent upon the system configuration and the specific PSAP.

In the FCC interconnection rules, access to 911 appears in the general requirement that ILECs provide local switching as an unbundled network element.[14] The rules conclude that access is technically feasible for call-related databases used in the ILEC's advanced intelligent network[15] but that mediation mechanisms may be necessary to protect proprietary or confidential data.[16] For the states, issues about 911 service may be more salient than they were in the broad sweep of the initial federal rules and are likely to come under careful scrutiny in arbitrations and negotiated agreements.

Number Portability

Number portability remains a fluid area. In their "model", MCI requested initial number portability provision via remote call forwarding (RCF), direct inward dialing (DID), or route indexing with competitively neutral cost recovery (no retail rates, NRCs, or incremental path charges). Alternatively, U S West proposed provision via RCF with fees including NRCs, monthly per-number charges, and coordination and rescheduling charges. In the actual agreements, RCF is most common, appearing in seven agreements, followed by DID, appearing in three agreements. Rates vary significantly over the agreements. Half the agreements include NRCs; the median rate is $20. Six

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[14] FCC, ¶ 412.

[15] Ibid., ¶ 486.

[16] Ibid., ¶ 488.

of seven agreements include a monthly charge. The median monthly charge is $1.87 with a range of $1.00 to $3.25 for a median of 3.8 paths. The median residential rate is $1.48 (2.8 paths) and the median business rate is $2.25 (4.8 paths). Five of seven agreements include an additional per-path charge; the median rate is $.41 per path with a range of $.25 to $.75. Finally, Pacific Bell and MCI have no agreement regarding number portability.

The FCC's order on number portability adopts minimum performance criteria for a numbering plan adopted by a state.[17] It is up to states to devise number portability plans that fit the criteria.[18] The number portability provisions of interconnection agreements are thus an important area for state resolution of controversy.

Resale

Resale is another area of significant difficulty. MCI's model interconnection agreement proposes resale for all services offered in any fashion to retail customers, including promotions, special pricing plans, grandfathered services, and trial offerings. The resale services rate would be a wholesale rate based on avoidable cost. U S West proposes resale for basic exchange services at a percentage discount from tariff rates. Generally, the parties are encountering difficulty arriving at resale agreements. In half the agreements, the parties either explicitly concede they do not have agreement on resale or include vague references to future separately negotiated agreements or future resale requests. Where parties have resale agreements, resale generally includes all telecommunication services with some exceptions. These exceptions include promotions, grandfathered services, and contract services. Typically, the resale rate is

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[17] Federal Communications Commission, First Report and Order and Further Notice of Proposed Rulemaking, *Telephone Number Portability,* CC Docket 95-116 (July 27, 1996), ¶ 48-61.

[18] Raymond Lawton, Stella Rubia and Nancy Zearfoss, *Federal and State Number Portability Policies*, Sept. 5, 1996, unpublished xerox, p. 3, forthcoming as an NRRI research paper.

a discount from the tariff rate. The median discount is 8 percent with a 6 percent to 10 percent range.

The FCC rules help confine the debate while maintaining state commission discretion in this difficult area. First, the ILEC must provide resale on any service it offers on a retail basis. The rule provides for several restrictions including cross-class selling, short-term promotion, and sales to limited groups. Second, the ILEC must provide branded and unbranded services. Third, the state commission will select the rate mechanism, which must be a wholesale rate consistent with either avoidable cost or interim wholesale rates. Through their rules, the FCC provides direction on several critical resale issues that are impeding current negotiations. This should help facilitate agreement. At the same time, the FCC rules provide state commissions with discretion to establish rates consistent with their unique state needs.

Conclusion

Completing arbitrations of interconnection agreements under Section 252 within the deadlines can mean, first of all, winnowing down the issues presented from several hundred to a manageable set of those that are most controversial and most important to the public interest. With numerous proceedings before the commissions at the same time, we have highlighted issues that might be settled easily and those where more effort will be needed.

Areas where extensive state effort will be required include resale, rights-of-way rules, number portability, unbundling, call termination, and interconnection. In general, ILECs can be expected to prefer interconnection unbundling, resale, and other areas to be more restricted, and subject to more or higher charges than the CLECs would like. The CLECs can be expected to argue for a much greater burden on the ILECs.

TABLE 1
MODEL INTERCONNECTION AGREEMENTS

Issue	MCI	U S West
Interconnection Method	1. Each interconnecting carrier must designate at least one POI on the other carrier's network for each local calling area; this does not preclude a carrier from designating more than one POI. 2. The POI may be at any technically feasible point, including tandem switches, end office switches, and other wire centers. Each carrier can designate the POI at the most efficient point for its purposes. 3. The ILEC cannot impose the inefficiencies of its network design on interconnecting parties (i.e., the ILEC must bear these costs). 4. The ILEC cannot impose any restrictions on the traffic type (local exchange, exchange access, IXC transit, other transit functions, intelligent network, and other services). 5. No charge will apply for the POI.	1. The POI is subject to negotiation between the parties; the POI is limited to the interconnection facilities between one party's end office and/or tandem switch and the other party's tandem switch. 2. Where facilities are not available, USW will build facilities and construction charges will apply. 3. Traffic will be segregated according to trunk group (intraLATA toll and switched access, local trunk, directory assistance, 911/E911 trunk, operator service trunks, non-USW toll, and non-USW local). 4. Each party will pay for its own expenses when network redesign occurs.
Interconnection Call Termination Fees	1. "Bill and keep"; this option ensures compensation is mutual, reciprocal, and symmetrical. 2. If traffic flows are persistently out of balance, the parties should implement explicit compensation equal to TSLRIC that is unitary, mutual, reciprocal, and uniform between carriers.	The local traffic termination rate will consist of the following components: • interconnection facility, • transit and transport, • end office, • transitional rate, and • miscellaneous items.

TABLE 1
MODEL INTERCONNECTION AGREEMENTS, Continued

Issue	MCI	U S West
Unbundling	1. The ILEC must offer unbundling access to all physical and logical network elements at any technically feasible point. 2. Unbundled network elements include local loop, local switching, tandem/transit switching, ancillary services, transport, data switching, and intelligent network. 3. The ILEC must provide non-discriminatory access. 4. All unbundled network elements and their unbundled functional components must be priced at TSLRIC. 5. The burden is placed on the ILEC for problems and costs associated with installation, repair, and customer care.	1. USW will provide unbundled access to the local loop, end office ports, and ancillary services. 2. Unbundled rates will consist of non-recurring charges, monthly rates, and USOC charges. 3. The burden is placed on the CLEC for problems and costs associated with installation, repair, and customer care.
911/E911	1. The ILEC must provide interconnection to the 911 selective routing switch to route MCI calls to the correct PSAP. 2. The ILEC must provide an automated interface and access to the ALI database (in NENA format). 3. Cost sharing must be equitable, non-discriminatory, and at TSLRIC.	1. USW will maintain the 911/E911 database. 2. The CLEC will furnish documentation for the ALI database (in NENA format). 3. The CLEC must indemnify USW for any CLEC errors.
Directory Assistance	1. MCI must have access to unbundled ILEC directory assistance services (with the MCI brand salutation). 2. MCI data must be available to the ILEC directory assistant and ILEC data must be available to the MCI directory assistant. 3. There will be no charge for data storage; reciprocal charges will apply to unbundled directory assistance elements.	1. USW will maintain proprietary directory assistance service. 2. USW will bill the CLEC on a per-call basis.

TABLE 1
MODEL INTERCONNECTION AGREEMENTS, Continued

Issue	MCI	U S West
Directory Listing and Distribution	1. The ILEC must provide non-discriminatory publication of MCI subscribers in the White and Yellow Pages directories. 2. The ILEC must provide non-discriminatory distribution of directories to MCI customers. 3. There will be no charge for directory listing or distribution.	1. USW will include CLEC subscribers in the White and Yellow Pages directories. 2. There will be no charge for directory listings or distribution.
Number Portability	1. The ILEC must immediately implement RCF, Flexible DID, or Route Indexing. 2. The ILEC must implement a LRN solution by September 1, 1997; after this date, the ILEC would pay for all RCF, Flexible DID, or Route Indexing costs. 3. Cost recovery must be competitively neutral (i.e., no retail rates, non-recurring charges, or incremental path charges).	1. USW will provide number portability via RCF. 2. The RCF service is subject to the following conditions: technically feasible, within the same NXX, the customer's account is current, and the RCF cannot be resold. 3. The number portability fee will include non-recurring charge (NRC) installation, monthly per-number charges, coordination charges, and rescheduling charges.
Resale	1. The ILEC must provide resale for all services offered in any fashion to retail customers (includes promotions, special pricing plans, grandfathered services, trial services). 2. The ILEC must impose no conditions on resale except between classes of customers (i.e., § 251 (c)(4)(B)). 3. The resale charge must be the wholesale rate based on avoidable costs. 4. The ILEC must provide non-discriminatory service quality. 5. MCI must have automated read and write access to the ILEC maintenance report system.	1. Resale will cover Basic Exchange Telecommunications Services. 2. The CLEC can resale services only for their intended purpose and not between customer classes. 3. USW will provide resale services at a percentage discount from tariff rates. 4. Resale service provision will be consistent with USW tariffs and standard service interval.

TABLE 1
MODEL INTERCONNECTION AGREEMENTS, Continued

Issue	MCI	U S West
Poles, Ducts, and Rights-of-Way	1. The ILEC must provide equal and non-discriminatory access to poles, pole attachments, ducts, conduits, ROW, equipment rooms, cable vaults, telephone closets, and any other pathway. 2. Rates must be based on TSLRIC and any improvement/expansion costs prorated on a non-discriminatory basis to all users.	USW tariff rates will apply; if necessary, construction charges will apply.
Telephone Numbering	1. Administration and assignment of telephone numbers should be moved to a neutral third party. 2. In the interim, the ILEC must assign NXXs on a non-discriminatory basis and the ILEC must impose no restrictions on the ability to assign NXXs per Rate Center.	1. USW will assign NANP resources, including NXX codes, pursuant to the Central Office Assignment Guidelines. 2. The CLEC shall adopt the Rate Center areas and Rate Center points approved by state commissions. 3. The CLEC shall assign whole NPA-NXX codes to each Rate Center.
Other Issues	1. For resold and other services provided by the ILEC, the carrier's quality of service should be equal to the ILEC's quality of service. 2. The carrier must have unbundled access to all ILEC databases (e.g., directory assistance, 911/E911, CLASS features, and the maintenance and trouble reporting system); the rates must be at TSLRIC. 3. The ILEC must establish dedicated carrier order and carrier service centers.	1. No party's operation can negatively impact another party's operation; impairment could require discontinuance of circuit use. 2. USW will control proprietary databases and will provide services for a fee. 3. Each party must establish offices to manage interconnection issues.

Sources: MCI Telecommunications Corporation, *MCI Requirements for Intercarrier Agreements.*
U S West Communications, Inc., *Agreement for Local Wireline Network Interconnection and Service Resale.*

TABLE 2 WASHINGTON UTC PREFERRED OUTCOMES FOR INTERCONNECTION AGREEMENTS	
Issue	**Preferred Outcome**
Interconnection Method	1. Mutually agreed upon meet points with each company responsible for its own facilities up to the meet point. 2. Virtual collocation should not cost more than physical collocation. Overhead loading factor of 1.2.
Interconnection Call Termination Fees	Capacity-based charge or bill and keep.
Directory Assistance	Same terms and conditions as they are provided to other incumbent LECs.
Directory Listing and Distribution	Directories and databases should include listings of all telephone subscribers submitted to them.
Number Portability	Provided at the incumbent's TSLRIC for that service until a true number portability solution is implemented.
Resale	Bona fide request procedure for bundled and unbundled services.
Pricing	Rates and conditions should reflect costs; TSLRIC.
Intercarrier Relationship	New entrants should be recognized as co-carriers and treated accordingly.
Calling Areas	EAS part of local calling. Carriers should establish efficient means, either through engineering or accounting, to distinguish between toll and local traffic.

Source: Washington UTC, *Draft Interpretive Policy Statement*, Appendix B.

TABLE 3
COMPLETED INTERCONNECTION AGREEMENTS: DATE, SCOPE, AND COMMISSION INVOLVEMENT

Agreement	Agreement Date	Scope	Commission Involvement
BellSouth-MCI	May 15, 1996	BellSouth Region	
Bell Atlantic-Jones	May 31, 1996	Virginia	
Pacific Bell-MCI*	June 2, 1996	California	
BellSouth-Time Warner	June 4, 1996	BellSouth Region	Submitted to the Florida Public Service Commission (Docket 960719-TP)
BellSouth-Hart	June 17, 1996	Alabama	Submitted to the Alabama Public Service Commission
Nynex-MFS	June 26, 1996	Massachusetts	Submitted to the Massachusetts Department of Public Utilities (Docket 96-72)
Ameritech-Time Warner	July 12, 1996	Ohio	Submitted to the Public Utilities Commission of Ohio
Southwestern Bell-Time Warner	July 17, 1996	Austin, Texas	Submitted to the Public Utilities Commission of Texas

Note: *The Pacific Bell-MCI agreement is not complete subject to § 252; the parties lack agreement on unbundling, resale, and number portability.

Sources: BellSouth Telecommunications, Inc. and MCImetro Access Transmission Services, Inc., *Interconnection Agreement.*
Bell Atlantic-Virginia, Inc. and Jones Telecommunications of Virginia, Inc., *Agreement for Network Interconnection and Resale.*
Pacific Bell and MCImetro Access Transmission Services, Inc., *Local Interconnection Agreement.*
BellSouth Telecommunications, Inc. and Time Warner Communications, *Master Interconnection Agreement.*
BellSouth Telecommunications, Inc. and Hart Communications Corporation, *Interconnection Agreement.*
New England Telephone and Telegraph Company, d/b/a Nynex and MFS Intelenet of Massachusetts, Inc., *Interconnection Agreement under Sections 251 and 252 of the Telecommunications Act of 1996.*
Ameritech Information Industry Services and MFS Intelenet of Illinois, Inc., *Interconnection Agreement under Sections 251 and 252 of the Telecommunications Act of 1996.*
Southwestern Bell Telephone Company and Time Warner Communications of Austin, L.P., *Interconnection Agreement under 251 and 252 of the Telecommunications Act of 1996.*

TABLE 4 COMPLETED INTERCONNECTION AGREEMENTS: INTERCONNECTION METHOD	
Agreement	**Interconnection Method**
BellSouth-MCI (BellSouth region)	1. MCI will designate a POI at each BS access tandem; MCI may designate additional POIs within a BS local calling area. 2. BS will designate a POI at one or more MCI local switching centers. 3. No additional charges for interconnection, trunking, or reconfiguration.
Bell Atlantic-Jones (Virginia)	1. Interconnection at any technically feasible point. 2. For this agreement, interconnection will occur at the terminating end office, a capable tandem office, a serving wire center, and/or other points. 3. Interconnection equal in quality offered to itself or any other carrier.
Pacific Bell-MCI (California)	In each LATA, interconnection will occur between the MCI end office and every PB access tandem.
BellSouth-Time Warner (BellSouth region)	1. Interconnection will occur between any BS Central Office and a TW Central Office. 2. BS will provide notice of network reconfiguration. 3. No charges will apply for reconfiguration.
BellSouth-Hart (Alabama)	Reciprocal connectivity at each any every BS access tandem within the local calling area or direct interconnection at the end office. BS will connect at each end office or tandem inside the local calling area.
Nynex-MFS (Massachusetts)	1. Interconnection at MFS's routing point in the LATA and Nynex's nearest tandem office wire center. 2. Also, additional interconnection at mutually agreeable, technically feasible points.
Ameritech-Time Warner (Ohio)	1. Interconnection will occur between TW's central office and the Ameritech central office. 2. No charges apply for additional rearrangement, reconfiguration, disconnection, or any other NRC associated with reconfiguration of TW's interconnection arrangement.
Southwestern Bell-Time Warner (Austin, Texas)	1. Interconnection will occur between a SWBT central office and a TW central office. 2. No charges will apply for rearrangement, reconfiguration, disconnection, or other NRCs for interconnection. 3. Virtual and physical collation at tariff rates.

Sources: See Table 3.

TABLE 5
COMPLETED INTERCONNECTION AGREEMENTS: CALL TERMINATION FEES

Agreement	Interconnection Call Termination Fees
BellSouth-MCI (BellSouth region)	1. Reciprocal, state specific flat rate. The per-minute rates are: • Alabama $.01 • Florida $.011 • Georgia $.01 • North Carolina $.013 • Tennessee $.019 2. Fees capped at 105% of lower party's total. 3. Transient traffic rate $.005 per minute in Florida and $.002 per minute in the remaining states.
Bell Atlantic-Jones (Virginia)	1. Each party is responsible for delivering traffic to the other party's POI. 2. Reciprocal compensation rates: • End office: $.007 per minute • Tandem office or serving wire center: $.009 per minute 3. IntraLATA toll and interLATA interexchange billed at BA or Jones tariff rates.
Pacific Bell-MCI (California)	1. Local traffic: "bill and keep" 2. Toll traffic: based on each party's tariff rate 3. Transient traffic: $.006 per minute 4. 800 calls charged by originator
BellSouth-Time Warner (BellSouth region)	1. Reciprocal and non-discriminatory $.01 per-minute (BS's average territory rate) flat rate. No payment will occur unless the net balance exceeds a collar amount. Fees capped at 105% of lower party's total. 2. Toll call completion reciprocal and based on BS's tariff rate.
BellSouth-Hart (Alabama)	1. Reciprocal and non-discriminatory $.01 per-minute (BS's average territory rates) flat rate. Fees capped at 105% of lower party's total. 2. Transient traffic rate $.002 per minute plus the local interconnection rate. 3. Toll call completion reciprocal and based on BS's tariff rate.

TABLE 5
COMPLETED INTERCONNECTION AGREEMENTS: CALL TERMINATION FEES, Continued

Agreement	Interconnection Call Termination Fees
Nynex-MFS (Massachusetts)	1. Reciprocal, $.008 per-minute rate adjusted bi-annually. 2. Switched access service and intraLATA toll traffic based on tariffs. 3. For 800/888 calls, terminating party pays: • reciprocal compensation rate • $.05 per-message database inquiry charge 4. Transient traffic fees: • Nynex will bill MFS $.0035 per minute plus the other CLEC's termination fee • MFS will charge Nynex its termination fee (passed on to the other CLEC).
Ameritech-Time Warner (Ohio)	1. Until 6/30/97, mutual traffic exchange (PUCO Case No. 96-66-TP-CSS). 2. After 6/30/97: • Termination at Ameritech tandem switch = $.009 per minute • Termination at TW end office = $.007 per minute • No payment unless 24 month imbalance exceeds $80,000. 3. Exchange access and intraLATA toll subject to tariff rates. 4. Transient traffic: $.002 per minute.
Southwestern Bell-Time Warner (Austin, Texas)	1. For local traffic, reciprocal flat rate. No payments during the initial 9 months. Subsequent periods' payments based on the net balance and subject to a de minimus collar amount. The per-minute rates are: • tandem routed = $.00975 • end office routed = $.0072 2. Transient traffic rate: $.0025 per minute. 3. IntraLATA interexchange optional calling area compensation rate: $.0183 per minute. 4. Wireless traffic rates: • land to wireless = $.0025 per minute • wireless to land = either the local tandem or end office routed or optional calling are per-minute rate.

Sources: See Table 3.

TABLE 6
COMPLETED INTERCONNECTION AGREEMENTS: EXCHANGE ACCESS SERVICE TO IACS

Agreement	Exchange Access Service to IXCs
BellSouth-MCI (BellSouth region)	1. Meet-point billing. 2. BS charges the IXC for entrance facility, tandem switching, and a proportion of non-interconnection transport charge. 3. MCI charges the IXC for residential interconnection charge and/or other applicable rate elements.
Bell Atlantic-Jones (Virginia)	1. Meet-point billing. 2. BA and Jones will each bill the IXC for their portion of jointly provide telecommunications services based on their tariff.
Pacific Bell-MCI (California)	Meet-point billing.
BellSouth-Time Warner (BellSouth region)	1. Meet-point billing. 2. BS and TW will split access revenue based on either actual minutes or BS/TW ARMIS filings.
BellSouth-Hart (Alabama)	Each party will provide their own access services to the IXC on a multi-bill, multi-tariff meet-point basis.
Nynex-MFS (Massachusetts)	Meet-point billing.
Ameritech-Time Warner (Ohio)	Meet-point billing at each party's applicable switched access rate.
Southwestern Bell-Time Warner (Austin, Texas)	1. Meet-point billing via the multiple bill/multiple tariff method. Each party will bill the IXC its own network access service rate. 2. Meet-point billing will apply to 900, 800, and 888 calls.

Sources: See Table 3.

TABLE 7
COMPLETED INTERCONNECTION AGREEMENTS: UNBUNDLING

Agreement	Unbundling
BellSouth-MCI (BellSouth region)	No Agreement
Bell Atlantic-Jones (Virginia)	1. Initial unbundling into 2 separate packages: • ULL elements plus cross-connect element • Port element plus cross-connect element 2. Interconnection via collocation arrangement at the applicable wire center. 3. Other unbundled elements subject to negotiation. 4. Rates consist of NRCs and monthly charges depending on the specific service.
Pacific Bell-MCI (California)	No agreement
BellSouth-Time Warner (BellSouth region)	1. Upon TW request, BS will provide non-discriminatory access to any and all network elements at any technically feasible point. 2. Rates, terms, and conditions subject to negotiation.
BellSouth-Hart (Alabama)	1. BS will provide unbundled access to the following: the local loop, loop channelization system service, local transport, and local switching. 2. Rates consist of NRCs and monthly charges depending on the specific service.
Nynex-MFS (Massachusetts)	1. Local link at $16.50 per link, an EUCL charge, and all NRCs; or a tariff rate set by the DPU. 2. Ports at $8 per month. 3. Private lines, special access, and switched transport at tariff rates. 4. Other network elements based on MFS request and negotiations.

TABLE 7
COMPLETED INTERCONNECTION AGREEMENTS: UNBUNDLING, Continued

Agreement	Unbundling
Ameritech-Time Warner (Ohio)	Upon TW request, Ameritech will provide unbundled access to network elements pursuant to § 251 (c)(3).
Southwestern Bell-Time Warner (Austin, Texas)	1. Upon TW request, SWBT will provide non-discriminatory access to its network elements including: loop, loop cross connect, switched port, local switching, and common transport. Rates, terms, and conditions negotiated at the time of request. 2. Upon TW request, SWBT will provide Usage Sensitive Local Connection pursuant to terms and conditions in the SWBT Local Access Service Tariff.

Sources: See Table 3.

TABLE 8 COMPLETED INTERCONNECTION AGREEMENTS: 911/E911	
Agreement	**911/E911**
BellSouth-MCI (BellSouth region)	1. MCI will accept and route 911/E911 calls to the appropriate BS tandem or end office. 2. MCI will install at least 2 dedicated trunks originating from its wire center and terminating at the appropriate E911 tandem. 3. If BS maintains the system and a municipality pays for the service, no charges will apply.
Bell Atlantic-Jones (Virginia)	1. Jones will interconnect to the BA 911/E911 selective routers or 911 tandem office for PSAP access. 2. Rates: • No charge for data entry and database maintenance • BA tariff rate for entrance facility plus applicable transport or collocation arrangement at 911 tandem.
Pacific Bell-MCI (California)	1. PB and MCI agree to interconnect. 2. Rates, terms, and conditions based on PB's tariff.
BellSouth-Time Warner (BellSouth region)	1. TW will supply database information and BS will incorporate within 24 hours. 2. If BS maintains the system and a municipality pays for the service, no charges will apply.
BellSouth-Hart (Alabama)	1. BS will provide access to its 911/E911 Emergency network. 2. Hart will install at least 2 dedicated trunks originating from its wire center and terminating at the appropriate E911 tandem. 3. Services billed to the appropriate municipality.
Nynex-MFS (Massachusetts)	1. MFS will interconnect to the Nynex 911/E911 selective router/911 tandem for PSAP access. 2. Nynex will provide database access. 3. The monthly rate will include: • $252 for unequipped DS1 port • $100 per voice grade trunk activated and equipped on the DS1 port

TABLE 8
COMPLETED INTERCONNECTION AGREEMENTS: 911/E911, Continued

Agreement	911/E911
Ameritech-Time Warner (Ohio)	1. Ameritech will provide dedicated trunks to the appropriate E911 tandems and deliver the ANI to the designated PSAP. 2. TW will update the E911 information by direct electronic connection to Ameritech's database facility. 3. The per-access line rate will include: • $.08 monthly charge per access line • $2,000 NRC
Southwestern Bell-Time Warner (Austin, Texas)	1. SWBT will provide non-discriminatory access to 911 and E911 service. 2. TW will maintain its end user records in the SWBT DBMS. 3. Compensation consists of a monthly charge and a NRC (both per 1,000 lines). Compensation rate varies by configuration (ANI, ANI/SR, ANI/ALI, or ANI/ALI/SR) and PSAP.

Sources: See Table 3.

TABLE 9
COMPLETED INTERCONNECTION AGREEMENTS: DIRECTORY ASSISTANCE

Agreement	Directory Assistance
BellSouth-MCI (BellSouth region)	1. BS will include MCI customers in the BS directory assistance database at no charge. 2. Directory assistance provided at tariff rates.
Bell Atlantic-Jones (Virginia)	At Jones' request, the parties will negotiate.
Pacific Bell-MCI (California)	Directory assistance call completion charges based on PB and MCI tariff rates.
BellSouth-Time Warner (BellSouth region)	BS shall include TW customers in the BS directory assistance database.
BellSouth-Hart (Alabama)	1. BS will include Hart customers in the BS directory assistance database at no charge. 2. Specific services offered at per-call and tariff rates.
Nynex-MFS (Massachusetts)	1. Rates per message: • unbranded: $.27 • branded: $.32 • unbranded with directory assistance call completion: $.52 • branded with directory assistance call completion: $.57 2. MFS will have on-line access to the Nynex directory assistance database when available.
Ameritech-Time Warner (Ohio)	Ameritech will include TW customers in the Ameritech directory assistance database.
Southwestern Bell-Time Warner (Austin, Texas)	SWBT will include TW customers in the SWBT directory assistance database at no charge.

Sources: See Table 3.

TABLE 10
COMPLETED INTERCONNECTION AGREEMENTS: DIRECTORY LISTING AND DISTRIBUTION

Agreement	Directory Listing and Distribution
BellSouth-MCI (BellSouth region)	1. BS will list MCI customers and distribute White and Yellow Page directories. 2. No charges will apply.
Bell Atlantic-Jones (Virginia)	1. BA will list Jones customers and distributed White and Yellow Page directories. 2. Directories will include an information page with Jones installation, repair, and customer service numbers. 3. Rates: • $5 NRC per primary listing number • Changes, additional listing, non-listing, and other services at tariff rates
Pacific Bell-MCI (California)	PB will accord MCI directory listings the same level of confidentially which PB accords its own directory listings.
BellSouth-Time Warner (BellSouth region)	1. BS will list TW customers and distribute White and Yellow Page directories. 2. Directories will include an information page with TW installation, repair, and customer service numbers. 3. No charges will apply.
BellSouth-Hart (Alabama)	1. BS will list Hart customers and distribute White and Yellow Page directories. 2. Directories will include Hart information in the customer guide pages. 3. Excluding special services, no charges will apply.
Nynex-MFS (Massachusetts)	1. Nynex will list MFS customers and distribute White and Yellow Page directories. 2. Directories will include an information page with MFS installation, repair, and customer service numbers. 3. No charges will apply.

TABLE 10
COMPLETED INTERCONNECTION AGREEMENTS: DIRECTORY LISTING AND DISTRIBUTION, Continued

Agreement	Directory Listing and Distribution
Ameritech-Time Warner (Ohio)	1. Ameritech will list TW customers and distribute White and Yellow Page directories. 2. Excluding special services (e.g., non-listing), no charges will apply. For special services, charges will be same as Ameritech's customer charges.
Southwestern Bell-Time Warner (Austin, Texas)	1. SWBT will include TW customers in the White pages directories. 2. SWBT will distribute one White pages directory to each TW customer. • Rate = $6.50 per end user listing (if TW supplies listing information via mechanical or manual feed) • Per-book charges apply for additional and subsequent directory delivery. 3. At TW's request, SWBT will include an "Information Page." The rate is $3,500. 4. At TW's request, SWBT will include TW office numbers in an index-like information page at no charge.

Sources: See Table 3.

TABLE 11
COMPLETED INTERCONNECTION AGREEMENTS: NUMBER PORTABILITY

Agreement	Number Portability
BellSouth-MCI (BellSouth region)	Remote call forwarding. The rates include: • Residential $1.25 per month (one path) • Business $1.50 per minute (one path) • $.50 per additional path. • $25.00 NRC for establishing multiple residential and business lines.
Bell Atlantic-Jones (Virginia)	1. Reciprocal remote call forwarding. 2. Rates: • $6 NRC per service order, $4 NRC per number • $3 per month for 2 paths • Each additional path $.50 per month
Pacific Bell-MCI (California)	No agreement
BellSouth-Time Warner (BellSouth region)	1. Reciprocal remote call forwarding or direct inward dialing. Migrate to permanent number portability as practically feasible. 2. Monthly rates: • Residential $1.15 per line (6 call paths) • Business $2.25 per line (10 call paths) • Each additional path $.50
BellSouth-Hart (Alabama)	1. Number portability provided via remote call forwarding or direct inward dialing. 2. Service offered where technically feasible, subject to facility availability, and only from properly equipped central offices. 3. Rates vary by service and state. Alabama remote call forwarding rates include: • $25.00 NRC • $1.50 per month • $.75 per additional path

TABLE 11
COMPLETED INTERCONNECTION AGREEMENTS: NUMBER PORTABILITY, Continued

Agreement	Number Portability
Nynex-MFS Massachusetts)	1. Reciprocal remote call forwarding. 2. Rates: • $20 NRC • Residential $1 per month • Business $2 per month • No additional per-path charge
Ameritech-Time Warner (Ohio)	1. Reciprocal remote call forwarding, direct inward dialing, or NXX migration. Migrate to permanent number portability as practically feasible no later than 12/31/98. 2. Monthly rates: A. Until 12/31/97 (PUCO Case No. 96-66-TP-CSS): • Residential $1.00 per line (4 call paths) and each additional path $.37 • Business $3.25 per line (10 call paths) and each additional path $.25 B. After 12/31/97: • Residential $2.00 per line (2 paths) and each additional path $.37 • Business $3.00 per line (20 paths) and each additional path $.25
Southwestern Bell-Time Warner (Austin, Texas)	1. Reciprocal interim number portability. 2. Rates, terms, and conditions pursuant to the Public Utilities Commission of Texas Docket No. 14940.

Sources: See Table 3.

TABLE 12
COMPLETED INTERCONNECTION AGREEMENTS: RESALE

Agreement	Resale
BellSouth-MCI (BellSouth region)	No agreement
Bell Atlantic-Jones (Virginia)	1. BA to provide resale for all telecommunications services offered to retail customers. 2. Wholesale rates represent 6% residential and 9% business discounts from retail rates. 3. BA and Jones will permit resale by the other of all services offered primarily or entirely to other telecommunications carriers at rates already applicable.
Pacific Bell-MCI (California)	No agreement
BellSouth-Time Warner (BellSouth region)	1. All telecommunications services offered to retail customers (excluding promotions, grandfathered services, lifeline or link up services, 911 and E911 services, contract service arrangements, etc.) 2. Rates subject to further negotiation.
BellSouth-Hart (Alabama)	1. Hart may resell BS tariffed local exchange and toll telecommunications services. 2. Resale excludes the following services: grandfathered services, promotions and trial offerings, lifeline and linkup services, 911 and E911 services, contract service arrangements, etc. 3. Rates represents a discount from BS's retail rate. The discount varies by state and by customer class. Alabama discount rates are 10% for business and residential.
Nynex-MFS (Massachusetts)	1. Nynex will offer resale for local exchange telecommunications services. 2. Rates: Reductions in line and a percentage discount: 1997 — Line $.90, Residential 6.5%, Business 6.6% 1998 — Line 1.05, Residential 8.1, Business 8.0 1999 — Line 1.25, Residential 9.5, Business 9.4

TABLE 12 COMPLETED INTERCONNECTION AGREEMENTS: RESALE, Continued	
Agreement	**Resale**
Ameritech-Time Warner (Ohio)	Local exchange telecommunications services subject to a separate agreement.
Southwestern Bell-Time Warner (Austin, Texas)	Upon request, SWBT and TW will provide certain services for resale in accordance with applicable federal and state laws and regulations.

Sources: See Table 3.

TABLE 13
COMPLETED INTERCONNECTION AGREEMENTS:
POLES, DUCTS, AND RIGHTS-OF-WAY AND TELEPHONE NUMBERING

Agreement	Poles, Ducts, and Rights-of-Way	Telephone Numbering
BellSouth-MCI (BellSouth region)		
Bell Atlantic-Jones (Virginia)	Reciprocal access at tariff rates.	Until a third party assigns numbers, BA will assign NXX codes in accordance with the Central Office Code Assignment Guidelines.
Pacific Bell-MCI (California)		
BellSouth-Time Warner (BellSouth region)	BS will provide non-discriminatory access to poles, ducts, conduits, and ROW.	BS will provide non-discriminatory access to numbering resources.
BellSouth-Hart (Alabama)	1. Non-discriminatory access to poles, ducts, conduits, and ROW. 2. Rates based on Standard License Agreement.	Non-discriminatory access to numbers.
Nynex-MFS (Massachusetts)	Based on tariff rates.	1. Nynex will assign numbers in accordance with national guidelines. 2. No charges will apply.
Ameritech-Time Warner (Ohio)	Rates and conditions based on tariffs, standard agreements, and/or agreement with another party.	Non-discriminatory access to numbering resources.
Southwestern Bell-Time Warner (Austin, Texas)	1. Each party will provide non-discriminatory access to poles, ducts, conduits, and ROW. 2. Subject to negotiating a stand alone agreement.	If SWBT serves as the Central Office code Administrator, SWBT will assign NXX codes in a neutral and non-discriminatory manner consistent with the Central Office Assignment Guidelines.

Sources: See Table 3.

TABLE 14
COMPLETED INTERCONNECTION AGREEMENTS: OTHER ISSUES

Agreement	Other Issues
BellSouth-MCI (BellSouth region)	1. BLV and BLVI mutually provided at each party's tariff rate. 2. BS will enter MCI line information into the BS line information database.
Bell Atlantic-Jones (Virginia)	1. BLV and BLVI provide at each party's tariff rate. 2. Non-discriminatory local dialing parity will apply.
Pacific Bell-MCI (California)	1. Interconnection facility use charges will apply: • If POI is an EIS arrangement other than a wire center, MCI will pay PB. • If POI is an EIS arrangement at a wire center, PB will pay MCI. 2. BLV and BLVI provided at each party's tariff rate. 3. The agreement is not pursuant to § 252; the parties lack agreement on unbundling, resale, and number portability.
BellSouth-Time Warner (BellSouth region)	Reciprocal dialing parity will apply.
BellSouth-Hart (Alabama)	BLV and BLVI mutually provided at each party's tariff rate.
Nynex-MFS (Massachusetts)	1. Includes a performance breach and liquidated damages section. Missing a performance standard 3 consecutive months constitutes a performance breach. • Nynex must pay $75,000 per breach. • MFS forfeits a Nynex payment for a breach. 2. BLV rate is $1.00 and BLVI rate is $1.50 3. Dialing parity applies.

TABLE 14
COMPLETED INTERCONNECTION AGREEMENTS: OTHER ISSUES, Continued

Agreement	Other Issues
Ameritech-Time Warner (Ohio)	1. Reciprocal dialing parity will apply. 2. BLV and BLVI provided at each party's tariff rate.
Southwestern Bell-Time Warner (Austin, Texas)	1. BLV and BLVI provided at each party's tariff rate. 2. SWBT and TW will provide local dialing parity and SWBT will provide IntraLATA toll dialing parity. 3. Liquidated damage payments for performance breach. A performance breach is the failure by a party to meet the performance criterion for any specified activity for 3 consecutive months. The liquidated damage payment is $75,000 for each performance breach.

Sources: See Table 3.

TABLE 15
FCC INTERCONNECTION AGREEMENT RULES

Issue	FCC Rule
Interconnection Method	1. Interconnection at any technically feasible point including, at a minimum: • line-side of a local switch • trunk-side of a local switch • trunk interconnection points for a tandem switch • central office cross-connect point • out-of-band signaling points necessary to exchange traffic and access call-related databases 2. Interconnection quality equal to what the ILEC provides itself, a subsidiary, an affiliate, or any other party. Unless, a telecommunications carrier requests and to the extent technically feasible interconnection quality superior to what the ILEC provides itself, a subsidiary, an affiliate, or any other party. 3. For collocation, the preferred order is physical, virtual, or other means. 4. Just, reasonable, and non-discriminatory terms and conditions. 5. Rates consistent with either forward-looking economic cost or proxy ceilings and ranges (at the election of the state commission). Forward-looking economic cost consists of: • total element long-run incremental cost (based on efficient network configuration, forward-looking cost of capital, and economic depreciation rates). • reasonable allocation of forward-looking common costs. Forward-looking economic cost excludes embedded cost, retail cost, opportunity cost, and revenues to subsidize other services.
Interconnection Call Termination Fees	1. At the election of the state commission, rates will be consistent with: • forward-looking economic cost • default proxies • bill and keep 2. Rate for transport and termination should be symmetrical.

TABLE 15
FCC INTERCONNECTION AGREEMENT RULES, Continued

Issue	FCC Rule
Unbundling	1. Non-discriminatory access to network elements at any technically feasible point. The network elements include: • local loop • network interface device (cross-connect device) • switching capability (local and tandem switching) • interoffice transmission facilities • signaling networks, call-related databases (LIDB, Toll Free Calling databases, downstream number portability databases, and AIN databases), and service management systems • operations support systems functions • operator services and directory assistance 2. ILEC may impose no limitation, restrictions, or requirements that would impair the ability of a requesting telecommunications carrier from offering telecommunications services. 3. Quality of unbundled network elements and access to network elements equal to what the ILEC provides itself. Unless, a telecommunications carrier requests and to the extent technically feasible quality of unbundled network elements and access to network elements superior to what the ILEC provides itself. 4. For collocation, the preferred order is physical, virtual, or other means. 5. Just, reasonable, and non-discriminatory terms and conditions. 6. Rates consistent with either forward-looking economic cost or proxy ceilings and ranges (at the election of the state commission). Forward-looking economic cost consists of: • total element long-run incremental cost (based on efficient network configuration, forward-looking cost of capital, and economic depreciation rates). • reasonable allocation of forward-looking common costs. Forward-looking economic cost excludes embedded cost, retail cost, opportunity cost, and revenues to subsidize other services.

TABLE 15
FCC INTERCONNECTION AGREEMENT RULES, Continued

Issue	FCC Rule
Resale	1. Any telecommunication service the ILEC offers on a retail basis. Restriction can apply to: • cross-class selling • short-term promotions (less than 90 days) • for sales to a limited groups, resale will apply only to the same limited group 2. The ILEC must provide unbranded or branded service. 3. Resale must be equal in quality, subject to the same conditions, and provided within the same time intervals that the LEC provides to others. 4. Reasonable and non-discriminatory terms and conditions. 5. Wholesale rates consistent with either an avoidable cost methodology or interim wholesale rates (at the election of the state commission). With the avoidable cost methodology, wholesale rate equals the retail rate less avoided retail costs (product management, sales, product advertising, call completion services, number services, and customer services).
Poles, Ducts, and Rights-of-Way	1. Non-discriminatory access to poles, ducts, conduits, and ROW. Denial of access contingent upon showing: insufficient capacity, safety or reliability concerns, or generally applicable engineering purposes. 2. Modification cost borne by all parties that directly benefit. Each party will share proportionally in the costs.

Source: Federal Communications Commission, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* First Report and Order, CC Docket No. 96-98 (1996)(to be codified at 47 C.F.R. § § 1 and 51).