

## Interexchange Carriers

The three IXCs who control the interLATA market also have the facilities, even without partnering with CAPs or cable TV providers, to dominate local exchange markets. These IXCs also are ESPs. If we were to discriminate against them as ESPs, we would simply drive them to build more of their own networks and completely bypass us. If we were to discriminate against other ESPs, we would drive them to these IXCs' networks. Moreover, we normally cannot distinguish between ESP and other traffic, and in order to discriminate against enhanced service traffic we would have to discriminate against all IXC traffic. The tail would be wagging the dog. We would be risking a huge amount of our business (network transport)<sup>89</sup> in order to attempt to improve our chances in a relatively small part of our business (enhanced services). This would make no sense. The Commission can rest assured that we will not voluntarily chase away our business.

MCI, affiliated with BT, has announced that it will enter the local exchange market. According to published reports, MCI intends to spend \$20 billion to upgrade its network. This includes \$2 billion to assemble a network to provide local service in 20 major markets, including Los Angeles and the San Francisco Bay Area, by the end of 1995. MCI Metro already "has turned up local networks in Atlanta, Boston, Dallas, Los Angeles and Washington, D.C."<sup>90</sup> MCI's Chairman, Bert Roberts, said that the company is considering joint ventures and equity investments with cable companies and wireless

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<sup>89</sup> The access fees alone that BOCs collect from IXCs totaled in 1994 "some 30% of the RBOCS' total revenue -- and more than 40% of the long-distance carriers' expenses." "Phone Frenzy," Business Week, February 20, 1995, p. 92.

<sup>90</sup> "MCI Net Income Increases More Than 30 Percent In 1994," PR Newswire, Financial News, January 26, 1995.

carriers to help fund the project.<sup>91</sup> MCI's "goal is eventually to be in every household when the local regulators allow it," according to Gary Parsons, the MCI executive heading up the project.<sup>92</sup>

The firm most likely to dominate telecommunications, however, is AT&T. "AT&T now has the same revenues as the entire Bell system just before the break-up in 1984, when they spun off about 85 percent of their assets."<sup>93</sup> Moreover, "[a]fter the \$11.5 billion takeover of McCaw Cellular Communications in September, cellular phone customers jumped 33 percent to four million during the year from the combined three million the two companies had at the end of 1993."<sup>94</sup>

As Peter Huber recounts in "The Geodesic Network II," AT&T currently enjoys market power in equipment manufacturing, interexchange services, international traffic, and some enhanced services.<sup>95</sup> In the switch manufacturing market, Huber points out that AT&T is one of two equipment manufacturers who together are overwhelmingly dominant in the sale of central office switches, sharing 88 percent of the market.

AT&T, MCI, and Sprint calculate volume discounts over both intraLATA and interLATA traffic. This bundling of traffic encourages customers to move all of their traffic,

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<sup>91</sup> Keller, "MCI Proposes a \$20 Billion Capital Project," Wall Street Journal, p. A3, January 5, 1994.

<sup>92</sup> Eckhouse, "MCI Plans to Compete in Local Markets," San Francisco Chronicle, p. 1, January 5, 1994.

<sup>93</sup> "Talking Point/AT&T Profit," Reuters, Ltd., January 24, 1995.

<sup>94</sup> Id.

<sup>95</sup> Peter W. Huber, et al. The Geodesic Network II, 1993 Report on Competition in the Telephone Industry (1993). While AT&T has not entered cable, it is actively involved with the industry. It has shown interest in acting as a network integrator supporting the national interconnection of cable networks. See Amy Harmon, "AT&T Studies Plan to Link Cable Firms," Los Angeles Times, August 28, 1993, p. D1.

including intraLATA, to the IXCs to increase the level of discount. The effect on Pacific Bell has been dramatic. For outgoing WATS traffic, our revenues climbed steadily from \$74 million per year at divestiture to \$180 million in 1989, the year AT&T's MEGACOM service went to market. Thereafter, Pacific Bell's WATS revenue declined rapidly, generating only \$103 million in revenues in 1993. For intraLATA 800 traffic, the same is true. IXC 800 services grew 9.4 percent in 1992, while LEC services declined by 12.6 percent.<sup>96</sup> The Frost and Sullivan "800 Service Market" report indicates that local exchange carriers have lost about half of their annual flow of 800 revenues over the past four years. The report states:

LECs have seen their ... 800 service ... hemorrhaged, while IECs more and more have been allowed to offer additional attractive switch and dedicated services on an intraLATA as well as interLATA basis.<sup>97</sup>

Most 800 traffic in California is now carried by AT&T's MEGACOM and Readyline services, and the similar services of MCI and Sprint. In 1987, the big three IXCs together had 47 percent of the intrastate 800 market, while we held 56 percent. In 1994, AT&T handled 44 percent of all intrastate 800 traffic, while MCI and Sprint together carried an additional 35 percent, for a total of 79 percent for all three IXCs. In contrast, we handled only 16 percent.

AT&T has reasserted its pre-divestiture control over large national customers. Most of these corporate customers now employ special access in conjunction

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<sup>96</sup> Frost and Sullivan, 800 Service Market, pp. 4-6.

<sup>97</sup> Id.

with their IXC services to bypass our switched services. AT&T's market power in 800 is so complete that the introduction of 800 number portability did not negatively affect AT&T's market share. We now carry only a fraction of the intraLATA traffic of Union Bank, SoCal Edison, Unysis, Marriott Corp., Avis, Hertz, American Airlines, DEC, Wang, ARCO, Pepsico, Farmer's Insurance, Prudential Insurance, Goldman Sacks, and many other of AT&T's Tariff 12 customers. AT&T and other IXCs only need regulatory authority and interconnection agreements with the LECs to extend full local exchange service to these customers. At that point, ESPs will not need to use any of our network to access these customers.

Every significant part of our network -- switching, signaling, transport -- AT&T has already replicated, except for one: our copper loops. That is no accident. AT&T has no interest in replicating these loops. Not only are they technologically obsolete, but we are required to sell them below cost. AT&T's preferred loop strategy seems to be wireless, and they do not need to solely use McCaw to outflank us. Wireless providers are free to bundle their loop services with AT&T's long distance service -- but we are not.

AT&T's attempts to defend against allegations by other IXCs that it has market power in California demonstrate, somewhat by accident, its competitive advantage over us in interoffice facility capacity. In 1994, AT&T estimated that it owned

270 million activated interLATA circuit miles in California.<sup>98</sup> Our network comprises the much smaller amount of 135.5 million interoffice intraLATA activated circuit miles.

When an overwhelmingly dominant firm, such as AT&T, is present in the industry, it is important for regulators to avoid rules, such as structural separation requirements, that restrict the flexibility of competitors and inadvertently turn over market share to the dominant provider. As the most profitable service corporation in the world, AT&T needs no additional, inadvertent funding from regulators in order to remain competitive.

### **Value-Added Networks ("VANs")**

VANs provide network services that directly compete with the network services that the BOCs increasingly use for the transport of enhanced services. In addition to traditional X.25 packet switching services, the VANs now offer frame relay, switched multimegabit data service ("SMDS"), and ISDN.<sup>99</sup> They also are beginning to offer asynchronous transfer mode ("ATM") services at the same time that the BOCs are entering this market.<sup>100</sup>

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<sup>98</sup> See Comments of AT&T Communications of California, Inc., R.93-04-003, I.93-04-002, February 8, 1994, Appendix ("Assessing Transmission Capacity in California").

<sup>99</sup> "VAN Services Still Growing But At Slower Pace," Data Channels, January 31, 1994; "Telecommunications Services Industry Overview," U.S. Department of Commerce, January 1994, p. 29.

<sup>100</sup> "Building a Race of Global Supercarriers," Telecom Perspective, December 1994, p. 64 ("Global Supercarriers").

The VANs are huge global network providers that are getting bigger. British Telecom ("BT") is the fourth largest telecommunications company in the world, with 1992 revenues of \$26.7 billion and 22.5 million access lines, nearly 8 million more than the largest BOC.<sup>101</sup> BT's merger with MCI makes it a true powerhouse in the U.S., where Sprint/Telenet also is flourishing. Advantis plans to use the IBM installed base in 90 countries to build a global ATM network.<sup>102</sup>

VANs also provide the major public data networks for access to the Internet.<sup>103</sup> Use of the Internet is growing rapidly, which is expanding the markets for both network and enhanced services supported by the Internet. In hearings before Congress, the phenomenal growth of the Internet has been described as follows:

The system is doubling annually in users, networks, hosts and traffic. In some parts of the Internet, such as the NSFNet backbone, traffic growth rates as high as 15% per month have been measured. Internet is growing faster than any other telecommunications systems ever built, including the telephone network. Today, over half of the networks registered are associated with business users. Of course, these rates of growth cannot continue indefinitely, but there is reason to expect that the user population will exceed 100M by 1998.

Perhaps even more important, this federal investment in research has created new industries revolving at first around the hardware and software of Internet technology, and more recently, around network and information services supported by the Internet. The new businesses have highly positive

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<sup>101</sup> "The Enduring Myth of the Local Bottleneck," Pacific Telesis ex parte, CC Docket No. 94-1, March 15, 1994, pp. 29-30.

<sup>102</sup> Global Supercarriers, supra.

<sup>103</sup> "Computer networks as a medical resource: accessing and using the Internet," JAMA, The Journal of the American Medical Association, June 22, 1994, p. 1934.

international trade balances and phenomenal growth, commensurate with the rapid growth of the Internet itself.<sup>104</sup>

The VANs dominate electronic messaging enhanced service markets. About 75 percent of consumer online traffic and over 50 percent of public e-mail traffic travels over VANs.<sup>105</sup> Moreover, VANs can interconnect with CAPs and wireless providers, and soon with cable TV providers, to completely bypass the BOCs' networks.

### **The Relevant Market**

The relevant market now is the transport of information from anywhere to everywhere. There no longer is a discrete telephone market, or discrete television or wireless market. What exists today is a single market for the transport of any kind of information from any place to any place. Insight Research has already begun defining a single market in which all types of information (voice, video, data) are transported over local loops. It states:

When local loop revenue is counted including CATV and wireless services, the local telephone companies' market share for residential customers falls to roughly 70% in 1993 and 65% in 1998.<sup>106</sup>

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<sup>104</sup> "Testimony March 22, 1994, Dr. Vinton G. Cerf, President Internet Society, House Science/Science Internet Security," Federal Document Clearing House Congressional Testimony, Capitol Hill Hearing Testimony, March 22, 1994.

<sup>105</sup> Insight Research, pp. 86, 95, 99.

<sup>106</sup> "Competition in the Local Loop: Telcos, Cable TV, and Wireless in the Emerging Telecommunications Network 1993-1998," Insight Reports, Insight Research, February 1993, p. 25.

Even the gas and electric utilities have entered the business. As Chairman Hundt wrote,

Electric and gas companies are well-positioned to become facilities-based competitors in telecommunications markets because of their extensive rights-of-way. Indeed, electric utilities already have made access to their rights-of-way available to interexchange common carriers for the purpose of installing fiber optic cables. According to a 1993 estimate prepared by the FCC's Industry Analysis Division, interexchange carriers have installed over 100,000 fiber miles (4,700 miles of cable) within electric utility rights-of-way (e.g., buried next to transmission towers) throughout the country.<sup>107</sup>

Networks exist today that require only the impending completion of state authority and interconnection arrangements to enable them to fully compete for local exchange traffic. This fierce competition belies any ability on the part of BOCs to provide discriminatory access to ESPs or other customers. Such a strategy would simply drive customers to our competitors.

### **The Lack Of BOC Market Power**

In Docket 90-132, concerning competition in the interexchange market, the Commission recognized that "market share alone is not necessarily a reliable measure of competition, particularly in markets with high supply and demand elasticities."<sup>108</sup> The Commission found that "the relative supply capabilities of competitors in the market" may

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<sup>107</sup> Letter from Reed E. Hundt, Chairman, FCC, to Edward J. Markey, U.S. House of Representatives, March 7, 1994, p. 2.

<sup>108</sup> Competition in the Interstate Interexchange Marketplace, 6 F.C.C. Rcd. 5880, para. 51 (1991).

be "more indicative of the level of competition" than are market share data.<sup>109</sup> The Commission stated:

Relative supply capabilities allow an assessment of supply elasticity, which refers to the ability of competitors in a market to meet additional demand, beyond that which they currently meet. Supply elasticities are important because even if one company enjoys a very high market share, it will be constrained from raising its prices above cost if its competitors have, or could easily acquire, the capacity to serve its customers at current price levels.<sup>110</sup>

The ability to raise prices profitably above the competitive level, or lower the quality of access below the level of technical and cost feasibility, requires that there be inadequate substitutes available for the BOC service and that substitutes not be readily supplied in response to a profitable opportunity. The lack of current substitutes can be remedied if there is ease of entry into the market. In analyzing mergers, the U.S. Department of Justice considers a market to be competitive if entry is expected to occur within two years.<sup>111</sup>

The Commission has applied a "competitive opportunity" test to reduce regulation. In Docket 91-141, the Commission stated that satisfaction of either of the

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<sup>109</sup> Competition in the Interstate Interexchange Marketplace, 5 F.C.C. Rcd. 2627, para. 51 (1990).

<sup>110</sup> Id.

<sup>111</sup> 1992 Merger Guidelines, Section 3.2, reprinted at 4 Trade Reg. Rpt. (CCH) paras. 13,104. In addition, our competitors' lack of significant market share in less attractive markets, and the LECs' high market shares in those markets, do not provide evidence of any BOC market power. Where firms, such as the BOCs, have been "compelled to charge uniform prices in different product or geographical markets despite the different costs of serving the market," it is "improper to infer market power simply from observing the large market share." William M. Landes and Richard A. Posner, "Market Power in Antitrust Cases," 94 Harv. L. Rev. 937, 976 (1981).

conditions that trigger permission for zone pricing discounts "will provide marketplace evidence that the LECs' expanded interconnection tariffs provide a viable competitive opportunity."<sup>112</sup>

Where a properly defined market is competitive, and we lack market power due to the supply and demand elasticities of that market, little or no regulation is warranted. The cost of such regulation -- in lost efficiencies and foregone consumer welfare -- is too steep. Structural separation requirements are strict and obtrusive forms of regulation that the Commission infrequently uses and removes when conditions warrant. These requirements have no legitimate place in the robust markets for network and enhanced services which new competitors are constantly entering. If BOCs were to discriminate against other ESPs in the provision of network services, the ESPs would seek out and easily find network alternatives.

**V. THE CURRENT LEVEL OF UNBUNDLING JUSTIFIES FULL STRUCTURAL RELIEF**

There is no need for any additional unbundling of the BOCs' networks prior to reinstatement of full structural relief. Existing non-structural safeguards and competition among providers of network services ensure that the BOCs will offer ESPs unbundled services that are economically and technically feasible, whether or not the BOCs' enhanced service operations want to use the unbundled services.

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<sup>112</sup> Expanded Interconnection with Local Telephone Company Facilities, Transport Phase I, 8 FCC Rcd. 7374, para. 118 (emphasis added).

The Commission never clearly defined its understanding of "fundamental unbundling," which was, and is, an amorphous concept proposed by some opponents of BOC structural relief. The Commission soon came to realize that no final, flash-cut form of unbundling would serve the telecommunications industry. The Commission recognized that unbundling is an evolutionary process, which must meet both changing customer needs and criteria for economic and technical feasibility.<sup>113</sup>

The Ninth Circuit found that the Commission had not adequately explained why fundamental unbundling was not needed prior to full structural relief. The Court recognized that comparably efficient interconnection ("CEI") requirements would adequately protect against BOC discrimination in the provision of basic network services used by the BOCs' own enhanced service operations.<sup>114</sup> Absent fundamental unbundling, however, the Court found that the Commission had not adequately explained how it would ensure that the BOCs will not discriminate by offering only those network services that are desired by the BOCs' own enhanced service operations, without regard for the desires of other ESPs.

In response to the Ninth Circuit's need for a better explanation of why "fundamental unbundling" is not a prerequisite to full structural relief, the Commission will be able to rely on a record that shows that the enhanced services market has flourished, and continues to grow at an amazing rate, with the current level of unbundling. In the past, the Commission witnessed the earlier stages of this growth and prudently decided that the time had come for the BOCs to be granted full structural

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<sup>113</sup> See Notice, para. 15.

<sup>114</sup> See id. at 11.

relief and for the market and the public to enjoy even greater benefits that would result from additional BOC competition. Now, with a flourishing enhanced services market, the case for full structural relief is even stronger. The record is clear that access discrimination on the part of the BOCs has not occurred and that unaffiliated ESPs have rapidly increasing alternatives to the BOCs' networks.

### **Non-Structural Safeguards Related To Unbundling**

In response to the Ninth Circuit's concern, the Commission correctly can explain that it ensured against discrimination by establishing the "120 day" process under which ESPs request new network services from the BOCs. The BOCs are required to apply economic and technical criteria to the request and respond in detail within 120 days as to whether or not, and if so when, the BOC will meet the request. If the ESP is not satisfied with the response, it may seek redress from the Commission by filing a petition for declaratory ruling. Another option for ESPs wishing to develop new services is the Information Industry Liaison Committee ("IILC"), where the ESP can work with the BOCs, other LECs, and other ESPs to develop detailed specifications for the new services. These specifications can then be submitted to BOCs across the country, through the 120 day process. As the Commission notes, this process has led to new network services, and the Commission has not received any petitions from dissatisfied parties.<sup>115</sup> The Commission also requires that the BOCs continue to

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<sup>115</sup> Id. at paras. 21 and 22.

explore additional unbundling in the IILC. The BOCs are doing so pursuant to IILC issue #026 -- Long Term Unbundling and Network Evolution.

As the Commission points out, the BOCs have consistently created new, unbundled services based on new technologies, and have reported to the Commission annually on their progress.<sup>116</sup> The Commission requires reports every April 15th on new services based on SS7, ISDN, and IN technologies. In addition, our reports have described our progress with other technologies, such as ATM, that allow separation between network and user applications so that new applications can be easily added without additional network modifications. The Commission is able to use the various BOCs' reports as benchmarks to check the progress of each BOC.

These reports show that hundreds of unbundled ONA services are currently available to ESPs from the BOCs collectively, from which services ESPs are free to pick and choose as they see fit. Some ESPs point out that they are not purchasing many interstate ONA services. This, however, is not an indication of whether or not ONA is valuable, and it certainly is not evidence of any access discrimination. It is a pricing issue.

BOCs make ONA services available in both interstate and intrastate tariffs, but the prices differ based on differing jurisdictional pricing requirements. ESPs may avoid access charges by purchasing Basic Serving Arrangements ("BSAs") out of intrastate exchange tariffs (e.g., tariffs for 1 Measured Business service). ESPs often would prefer to buy Basic Service Elements ("BSEs") from interstate tariffs, because

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<sup>116</sup> Id. at paras. 23 and 24.

BSEs tend to be somewhat less expensive at the federal level. The Commission, however, refused ESP requests to "mix and match" BSAs and BSEs.<sup>117</sup> Therefore, ESPs often purchase both BSAs and BSEs from intrastate tariffs in order to avoid access charges.

Regardless of which jurisdiction's tariffs are used, however, ESPs are getting network services they want, even if the BOCs' own enhanced service operations do not want those services. This meets the concerns of the Commission and of the Ninth Circuit by helping to ensure against access discrimination.

These non-structural safeguards, together with competition, are ensuring that BOCs unbundle their networks to meet ESP needs, whenever unbundling is economically and technically feasible. Discrimination against ESPs is deterred, and if a BOC were to discriminate, the discrimination would be detected.

### **Unbundling In Response To Competition**

Competitive alternatives to the BOCs' networks have increased substantially since the Computer III Orders. As discussed above in Section IV, market forces alone require that the BOCs continue developing and offering new, unbundled services desired by ESPs and other customers. If we do not provide these services, the ESPs and others will increasingly move their traffic to our competitors' networks.

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<sup>117</sup> Amendment of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements for Open Network Architecture, CC Docket No. 89-79, Report and Order & Order On Further Reconsideration & Supplemental Notice Of Proposed Rulemaking, 6 FCC Rcd 4524, para. 65 (1991).

Thus, the case for full structural relief is even stronger now than it was when the Commission previously granted that relief.

### **Unbundling For Local Competition**

As discussed above in Part IV, on April 3, 1995, Pacific Bell filed a report at the CPUC entitled "Competition to the Core," in which we seek the implementation of local competition as early as January 1, 1996, with regulatory reform and a universal service funding plan. Our network will be unbundled to enable that competition: we will offer unbundled loops, switching, and access to signalling systems that will allow all competitors to provide local services in full competition with us. In support of local competition in our region, we intend to offer full interconnection to our network to competitive LEC networks and fair and impartial assignment of number resources. We will also provide interim number portability to other service providers, access to E 9-1-1 interconnection, and access to operator services and listing services if desired by the competing LECs.<sup>118</sup>

### **Unbundling For Expanded Interconnection**

Subsequent to the Computer III Orders, the Commission has made it all the easier for ESPs and other customers to use the networks of the BOCs' and other LECs' competitors. The Commission required that Tier 1 LECs provide to CAPs and

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<sup>118</sup> See Proposal of Pacific Bell Concerning Interim Rules for Local Competition, filed January 31, 1995 at the CPUC, p. 14.

others either virtual or physical collocation for expanded interconnection for special access and switched transport. As described above in Section IV, CAPs are growing rapidly in California and across the nation. Expanded interconnection facilitates market entry by competitors, putting additional pressure on us to meet ESP and other customer needs, in order to remain competitive and avoid all the more loss of business.<sup>119</sup>

Expanded interconnection unbundles special access channel terminations from each other and unbundles switched transport entrance facilities from switching. This unbundling allows CAPs, IXCs, ESPs, and others to designate or provide facilities in our central offices so that they may purchase from us only those services that they need in order to reach our customers. For instance, with switched transport expanded interconnection, third parties, including ESPs, are allowed to interconnect their trunks via cross-connects to BOC switches.

This type of unbundling represents the most concrete aspect of the "fundamental unbundling" that was discussed in the Computer III proceedings, namely "the kind of fundamental unbundling that would allow ESPs to connect their own trunks or loops to BOC switching facilities."<sup>120</sup> Thus, subsequent to the record before the Ninth Circuit, an important part of the "fundamental unbundling" concept has been achieved. This achievement makes it all the easier for the Commission to find, and explain its finding, that the current level of unbundling justifies full structural relief.

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<sup>119</sup> We are appealing the Commission's collocation requirements. Pacific Bell v. FCC, Case No. 94-1547 (D.C. Cir.). Regardless of how our appeal turns out, we intend to provide forms of interconnection that ensure that CAPs continue to have a fair opportunity to compete with us.

<sup>120</sup> See Notice, paras. 15 and 30, and n. 43.

## **Intelligent Networks**

Requiring the BOCs to provide mediated access to Service Management Systems ("SMSs") or other Advanced Intelligent Network ("AIN") capabilities is not needed in order to provide further protection against BOC network access discrimination, because the BOCs are not the only providers of intelligent network ("IN") services. Consequently, access to our AIN network is unnecessary for our competitors to compete with us. If mediated access to AIN is ordered, all providers with IN capabilities, not just the BOCs, should be required to provide interconnection on the same terms.

AT&T, MCI, and Sprint all have nationwide intelligent networks which they are using to offer services that compete with ours. McCaw, GTE, and ITN also have SS7 networks with signalling interconnection or database access in California. Where intraLATA competition has not yet been authorized, wireline customers can reach the IN nodes of other carriers by dialing an "800" number or some other access code. AT&T sells SDN and Megacom service, and MCI sells Virtual Private Network service, to businesses. MCI's and AT&T's calling card and 800 services (such as "1-800-COLLECT" and "1-800-OPERATOR") are examples of one way that IN services can be mass marketed to end users. If you dial 1-800-SERVICE, you can get a calling card from LDDS that provides "Call Restrictions By Time of Day Or Area Called, Accounting Codes, Voice Mailboxes With Message Waiting Signal, Message Delivery With Reply, Message Storage and Delivery, Redial on Busy, Personal Speed Numbers, Company Speed

Numbers, Conference Calling Service, 24-Hour Operators, Quick Call Feature, [and] Customer Activation/Deactivation."<sup>121</sup>

In the Intelligent Network proceeding, the Commission's premise for proposing mediated access was that "LECs currently exert control over the interface between intelligent applications and the network."<sup>122</sup> The "interface" apparently is simply our local switch.

Wherever intraLATA competition is authorized, our competitors actually hold themselves out as the first point of switching, so that we do not provide even the "interface." IN services are already available to customers with local exchange service from CAPs. In New York, MFS's Intellenet subsidiary holds itself out as a "full-service" provider of integrated local, long distance, and IN services including least-cost routing, 800 service, and facilities management, as well as customized billing and management reports.<sup>123</sup> CAPs, IXCs, cellular providers, and signalling transport providers are individually and collectively, through partnerships, duplicating parts of our network, including services for call set-up, database access, and non-call associated signalling for cellular roaming and registration. CAPs have already installed end office switches in some of our most lucrative exchanges in order to offer dialtone and IN services to consumers, in addition to the private line services that they have offered for some time. AT&T and other IXCs have had dialtone-capable switches in these exchanges all along.

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<sup>121</sup> Advertisement, Wall Street Journal, October 5, 1993.

<sup>122</sup> Intelligent Networks, CC Docket No. 91-346, Notice of Proposed Rulemaking, FCC 93-380, released August 31, 1993, para. 14 ("IN Notice").

<sup>123</sup> "MFS Rolls Out Integrated Local/Long Distance Service Package in New York," Telco Competition Report, vol. 2, No. 19 (Oct. 14, 1993).

When expanded interconnection is combined with intraLATA competition, they can become primary network providers.

Wireless customers have been free to bypass our local switch for some time now. Wireless customers will be the early adopters of IN services. The IXCs' strategies reflect this fact. It is clear that AT&T/McCaw, for example, will attempt to make cellular the access vehicle of choice for end users<sup>124</sup> by enhancing cellular with easy-to-operate intelligent features like CLASS features and number portability. AT&T/McCaw's cellular service will also be the first wide-area wireless data network. As one McCaw spokesman said, "With our cellular phone service, we're the embodiment of one person, one number and soon that will extend to your portable computer."<sup>125</sup>

Cellular is not the only technology that can be used to deliver IN services to the leading-edge customers who demand mobility and will buy them first. There are at least two competing nationwide wireless networks, one (using paging spectrum) operated by MTEL, the other (using enhanced mobile radio technology) by Nextel Communications Corp.<sup>126</sup> Competition to provide IN services over wireless loops will not await the arrival of PCS. This competition is already here.

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<sup>124</sup> This strategy may be directed at affluent end users first, but only for a time. The price of access to wireline service is rising. In most states where intraLATA competition has been authorized, basic charges have been substantially increased to reflect underlying costs. At the same time, the price of cellular access is rapidly falling and its quality is increasing. Up to now wireless/cellular and wireline service have been complementary. In the near future they will be cross-elastic. PCS will accelerate this trend.

<sup>125</sup> Wall Street Journal, August 18, 1993, p. C1. At present, throughout its licensed areas, McCaw does not depend on LEC switches. Its users receive dialtone directly from McCaw switches.

<sup>126</sup> "Wireless Messaging Service To Be Available This Month," Wall Street Journal, October 6, 1993, p. B6.

It is telling that in support of its tentative conclusion in the Intelligent Networks proceeding the Commission refers only to the old Carterphone and Litton cases.<sup>127</sup> The U.S. telecommunications network is not the network of 1968. It is one of a multiplicity of networks and non-traditional service providers. Not only the structure of our industry, but its regulation have changed radically, in no small part because of the Commission's own actions. (Price cap regulation, for example, assures that investments in "the public switched network" are not underwritten by "the public" anymore.) The BOCs do not have the market power to dictate, through standards-setting or any other means, what IN services will be available or how. The BOCs do not have that power at the wholesale level, because other carriers have their own intelligent networks and will sell IN services in competition with the BOCs. The BOCs do not have power at the retail level, because customers are free today and will be even freer in the future to migrate to fully independent competing networks if they offer more attractive services.

We will not be the only provider of IN services. We do not have the only voice and data network; we do not have the only network intelligence that can create new services. With the restrictions (on pricing, on interLATA transport, on manufacturing) that now hobble our ability to offer convenient, vertically integrated network services like AT&T's, we will be hard pressed to compete as it is. The contrast between the world of Carterphone and today's network of networks could hardly be more stark.

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<sup>127</sup> Intelligent Networks Notice, n. 23.

## Our Open Network

Customers of high-technology services have always demanded standard interfaces, open and transparent networks, and compatible systems and software. Our commitment to standard interfaces and open network technologies is well-documented in annual reports to the Commission. On April 15, 1995, we will describe our further progress in Pacific Bell's and Nevada Bell's Annual Report On Open Network Architecture, to be filed in CC Docket No. 88-2, Phase I. The newest network services being offered today are interconnectable and interoperable among networks, because the market demands it. These services -- we give examples below -- would probably not be profitable if they had been developed as proprietary "island" technologies.

We responded to demand from other providers for internetwork SS7-based services with our Common Channel Signalling Access ("CCSAC") product, which provides out-of-band signalling between interconnecting networks. CCSAC provides a 56 Kbps Dedicated Network Access Link ("DNAL") arrangement between an interconnector's SS7 switch and Pacific Bell's Signal Transfer Point ("STP"), or between an interconnector's STP and Pacific Bell's STP. Since its deployment, the base of customers interested in CCSAC has expanded from IXCs and LECS to ESPs and cellular carriers.

We are expanding SS7 interconnection by deploying SS7/ISDN interworking in LATA 1, San Francisco, and LATA 5, Los Angeles. We expect to complete deployment of this capability in these areas by July 1, 1995. This capability provides ISDN feature interconnection among ISDN switches and ISDN networks using the SS7

network protocol. SS7/ISDN Interworking uses a standard protocol to interconnect switches at 64 Kbps. We plan to offer more SS7-based products to other service providers as demand develops, and as interfaces are defined to protect network reliability and security.

These services are examples of how we will wholesale our IN capabilities to other providers in order to meet customer demands. Our commitment to open networks also is exemplified by our movement toward the new national standard for ISDN, National ISDN 1 ("NI-1"). NI-1 joins ISDN islands connected by proprietary systems into a single continent where interoperability is the rule. Customers, regardless of whether they are using the old or new standards, can migrate to NI-1 at their own pace as their need for new services emerges. NI-1 provides a strong ISDN platform for basic call control, for an initial set of services common among all vendors, and for basic networking capabilities. Another key benefit of NI-1 is terminal portability. This allows end users to relocate without the need to change their ISDN telephone sets. That is, the telephone set will work regardless of the type of ISDN switching machine serving the new location. NI-2 requirements further define standardization of network interfaces to provide uniformity of services. We anticipate that the new accessibility and capability of ISDN will increase all providers' service applications, including Internet and online service access, Group IV fax, LAN to LAN connectivity, dial-up data interfaces for online business transactions, work at home, and desktop conferencing.

We also have developed digital-based network services such as ATM,<sup>128</sup> Synchronous Optical Network ("SONET") service,<sup>129</sup> Frame Relay Service,<sup>130</sup> and

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<sup>128</sup> ATM will help meet the emerging need to provide integrated voice, video, and data services at high speeds. ATM is a standard for cell relay, a packet type of technology that can effectively carry both circuit traffic and bursts of traffic at high speeds,

Switched Multimegabit Data Service ("SMDS"). The salient fact about these services is their ability to interconnect with the networks of our competitors -- who offer many of the same services. No regulator required us to offer them. We did so for competitive reasons and to respond to customer demand. Our vision of the future is that all types of interconnecting network customers, including ESPs, IXC's, end users, wireless providers, and CAPs, will have multiple uses for, and methods of interconnection to, our IN capabilities.

As part of our goal to have a more open network that can more readily meet customer needs, we are striving to deploy AIN. We have introduced the AIN architecture to the public network on a trial basis in order to support limited technology tests for two new services, Customer Virtual Network ("CVN") and Do Not Disturb ("DND").

CVN is a service that allows business customers with multiple locations to interconnect in a way that all their telephone lines will appear to be part of the same system. It provides features typically associated with private networks, without deploying dedicated

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which allows the use of dynamic bandwidth allocation. ATM separates the network from user applications. Asynchronous multiplexing converts different application information into uniform cells. Because the network is simply transporting uniform cells, it is almost irrelevant to the network whether the data originates from video, data, or voice sources. Therefore, the ATM network is relatively application-independent and, consistent with the ONA concept, new applications can be added easily with no additional modifications.

<sup>129</sup> SONET can transport large amounts of digitized voice and data along a single path, and the associated equipment is capable of operating at extremely high speeds. We will initially deploy SONET on a point-to-point basis and intend to evolve progressively towards a broadband infrastructure that will accommodate SONET-based platforms which will satisfy our customers' growing need for services that offer greater bandwidth.

<sup>130</sup> Frame Relay is a high-performance, wide-area data-networking service that allows the customer's data to be transported on a shared-backbone network. Frame Relay provides a packet-mode interface specification between end points on the network. This interface allows communication bandwidth to be shared among multiple users, creating instantaneous bandwidth allocation on demand.

facilities. It ensures economical rates for calls between customer locations. The interLATA portion of the call will be routed by the interexchange carrier designated by the customer. Pacific Bell tested CVN in a captive network environment. Our technology test with two customers located in the San Diego area has proceeded well and will be completed around mid-year. At that time we plan to offer the service on a tariffed basis.

DND is a residence call management/call screening service that allows subscribers to screen incoming calls. DND allows customers to have the ringing on their telephone temporarily suspended. When DND is activated, the call is blocked at the switch. Callers to the subscriber's number hear a message indicating that the called party is not presently accepting calls, and are given the option to leave a message or to hang-up and call back at a later time.

A four digit override access code allows callers, designated by the subscriber, to bypass the blocked status and complete the call. The override access code is maintained by the subscriber, and can be changed at any time. The access code can be entered by the calling party when the DND message is played, or during the short delay following the message. To have the caller leave a message, the DND subscriber must have designated an alternate call routing number when the service was provisioned. The routing number might be a network-based voice mail system, an alternate number with an answering machine, or a pager.

Approximately 200 customers have participated in a technology test of DND. Deployment of DND has been delayed until further network capability and provisioning systems are capable of managing the implementation of the service. We anticipate that this will be sometime in 1996.

We are investigating a number of other potential services for possible deployment on Pacific Bell's AIN platform. We also will continue to work in industry forums to better understand the direction of intelligent networking to meet customer needs. For instance, we will continue to work on the IILC's issue #026, Long Term Unbundling and Network Evolution, as well as on other new intelligent network issues being introduced in the IILC.

### **Unbundling Of The Advanced Intelligent Network ("AIN")**

We want to better meet the needs of third-party providers. In fact, we must meet their needs so that they will continue to use our network in the face of increasing alternatives. Accordingly, we want to provide appropriate access to our AIN on an unbundled basis in order to help other providers create new services for their end users.

Providing third-party access to AIN, however, would create serious technical problems if we were to employ the definition of mediated access proposed by the Commission in the Intelligent Networks proceeding. We have discussed those problems in detail in that proceeding.<sup>131</sup> Simply put, the Commission's proposal would require that we provide third-party access to the service logic, which would eliminate any one company from being in control of overall network service integrity. This lack of network control and integrity would mean that a third-party provider's creation of new services, deployment of generic changes, or other network activity could result in the interruption of

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<sup>131</sup> Comments of Pacific Bell and Nevada Bell, November 1, 1993, Intelligent Networks, CC Docket No. 91-346.