

Policy Issues for the New Global Communications Environment

New Global Network Developments: Regulatory and Trade Challenges

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1. Introduction

In the mid-1990s, the economic forces of supply and demand are generating changes not only in the telecommunications market but in potential network arrangements for international telecommunications as well. The supply of available telecommunications services has changed dramatically due to the liberalizing policies agreed upon by regulators, particularly the provision of international value-added networks (IVANs) and more recently the permission to provide basic services via various forms of international resale. Also, many liberalization opportunities have expanded the provision of traditional services by permitting entry of nontraditional "carrier" operations. The demand for global telecommunications is a reflection of the increasingly multinational nature of business operations (it is estimated that there were 2,500 multinational corporations in the mid-1990s) and the derived demand for intracompany, seamless telecommunications services to support these operations.

In response, the world's major carriers are reshaping business strategies to enter new markets and to go after some portion of this "high-end" multinational business market, which is valued at \$10 billion worldwide. Importantly, no single carrier has sufficient financial resources, the necessary global presence, or the range of capabilities to individually take advantage of the numerous opportunities to serve -- in the traditional sense of telecommunications provision -- its global demand. Accordingly, virtually every major carrier is attempting to expand or extend its network into a global operation through the establishment of new carriers in liberalized markets and/or through strategic alliances and affiliations.

There is a need, however, for the implementation of regulatory and trade policies to facilitate the development of global networks. Regulatory considerations include licensing criteria for entry (either via facilities ownership or resale) and international settlements policy. A major hindrance to the development of global networks is a high, possibly excessive, level of concern for settlement imbalances. While cost-based settlement rates will promote economic efficiency (with a provision for "global" universal service to be discussed later), global networks themselves complicate the interpretation of settlement imbalances and call into question simplistic conclusions. Trade considerations revolve around the manner of use and definition of reciprocity as an entry criterion and whether a bilateral or multilateral approach should be utilized. Even then exactly what constitutes "reciprocity" is an open question and a factor that prevents governments with liberalizing inclinations from proceeding. Finally, although much of the regulatory and trade policy intended to support global market trends has

been determined, there remains a need for governments to fully articulate these policies in order to clarify the ground rules for service providers.

2. Alliances

AT&T, through its expanding World Partners program, is fostering service and marketing arrangements with a number of PTTs (some monopoly operators) and is developing exclusive services that it hopes will provide an advantage in the provision of global products. AT&T also owns 20 percent of UNITEL, the Canadian carrier, participates with numerous PTTs in network restoration through its Pacific Partners, has ownership interests in the PTTs in Venezuela and Ukraine, and has an extensive global IVAN network operating in the United States, Canada, the United Kingdom, Japan, and Hong Kong as well as many other countries.

Even more significantly, AT&T is forming UniWorld, an equity-based joint venture with UniSource, an operator owned by Telefonica, Telia, and the Swiss and Dutch PTTs. AT&T will own 40 percent of UniWorld, with UniSource owning the remaining 60 percent.

MCI has accepted British Telecom (BT) as a 20 percent equity investor and will manage the Concert joint venture with it. Further, MCI has formed an exclusive joint marketing agreement with STENTOR of Canada, in which the two will provide seamless international service between the two countries using an identical intelligent network platform. MCI also has set up long distance and international operations in both New Zealand and Australia.

Sprint operates data networks in thirty-six countries, twenty-two via wholly owned subsidiaries. Sprint has also proposed to enter into a global partnership with France Telecom and Deutsche Telekom (through their Project Atlas) to provide an array of international telecommunications services. Sprint also owns the U.S. end of PTAT (with Cable & Wireless as the U.K. owner), and the two companies have formed a marketing alliance for global products. Further, Sprint has acquired 25 percent of CallNet, the largest resale carrier in Canada. Also, Sprint has accepted a France Telecom/Deutsche Telekom joint venture as a 20 percent equity investor.

Cable & Wireless is, in the words of James Ross, its chief executive officer, the world's "oldest alliance," operating in approximately fifty countries and partnering with such diverse carriers as Bell Canada, BellSouth, U.S. West, Pacific Telesis, and even AT&T. In addition, Cable & Wireless has taken advantage of liberalization opportunities in Sweden and Australia.

Appendix 1, at the end of this chapter, provides further illustrations of the scope of this growing alliance-partnership trend.

3. New "Carriers"

Beyond standard alliances and affiliations, of special interest is the development of the so-called light¹ and, more recently, what might be termed "ultralight" carrier network arrangements. Light carriers establish a presence in a foreign country by utilizing some form of resale, the most common forms being resale of a private line connected into the public switched telephone network (PSTN) at one end only, equivalent to an international FX (e.g., IDB WorldCom, MFS, and Sprint in the United Kingdom) or international simple resale (ISR), which involves full interconnection on both ends. Both of these arrangements are used to provide basic telecommunications services. Light carriers do require facilities -- normally a switch -- in the

country of operation although they do not own transmission capacity along the lines of the traditional half-circuit model.

The newest network arrangements, ultralight carriers, are also beginning to surface. Facilitated by "call-back" operations or through the use of international 800 numbers, carriers are able to originate calls, that is, provide service, in foreign countries *without* establishing any traditional network presence at all -- and often without the need for regulatory authorization or with a complete disregard for local licensing requirements.

Neither regulatory nor trade policy has adequately addressed these new network configurations. Regulation has not consistently kept pace with this globalization of the market. To date, the types of network arrangements described are licensed -- if at all -- in a fairly spotty and often inconsistent manner across a handful of countries. The United States only permits ISR with Canada and the United Kingdom. The United Kingdom has authorized ISR with the United States. In addition, the United Kingdom, Canada, Sweden, and Australia have mutually agreed to permit ISR among those respective countries. Most countries permitting ISR also permit the one end (FX) type of resale, although the United States has imposed an "equivalency" requirement for such services. Policy concerning any necessary refile authority is, at best, unclear. Alliance agreements per se seem to be generally outside regulatory review unless a specific policy (e.g., Section 310 radio licensing issues in the United States) or antitrust considerations are involved. These network developments require stated policy determinations by regulators in order to support growing choice for users of international telecommunications services. Regulators need to expand flexibility into policy making that facilitates rather than hinders the convergence of markets that is occurring because of new network arrangements.

The particular challenge is twofold: first, regulators must continue to focus on eliminating restrictive policies that may currently be hampering the development of these services, and second and perhaps even more importantly, regulators need to take a proactive stance to establish proper policies that will accommodate new services rather than wait until new service arrangements are developed in contradiction to existing, outmoded policies. The significance of such a proactive stance is that the lack of a comprehensive regulatory structure creates uncertainty and risk to the carriers and, in doing so, actually hinders the development of products that may be technically possible and desired by the user community.

The principal policy issues involved are (1) the regulation of accounting rates as they affect the expansion of carrier networks through new approaches to providing multinational services and (2) the appropriate method for licensing foreign carriers to facilitate multinational service development. These issues are relevant to the provision of both traditional and new global telecommunications services.

Two principles should guide policy makers in such a review. First, a distinction must be made between industrywide issues (such as the FCC International Settlements Policy [ISP]) and operator-specific issues, particularly in setting rules for foreign firms. Second, there must be a clear identification of trade versus regulatory matters.

The challenge to regulators is to support service development demanded by multinational users while simultaneously preventing anticompetitive behavior in the provision of end-to-end services. Concerning industrywide issues, international resale of leased circuits as well as multiple carriers on both parts of a route necessitate a reexamination of the ISP. Such competition eliminates the possibility of whipsawing and thus the need for an ISP.

Further, resale will permit carriers to operate on both ends of a circuit and drive settlement rates toward domestic termination costs. Both of these factors eliminate the need for regulatory intervention, and in fact intervention such as an ISP can hinder market developments by either regulating intrafirm transfer prices or imposing prices and rate structures on competitive interfirm negotiations.

Similarly, trade policy has yet to come to terms with what entry criteria, if any, are legitimately required for alliances and new carriers. The glaring lack of success of the General Agreement on Tariffs and Trade (GATT) in dealing with basic services indicates that effort should be focused on bilateral arrangements that could serve both as an example to third countries and also release market forces that could achieve -- in and of themselves -- various policy objectives. The principal requirement is a definition of reciprocity that does not require "mirror image" terms but rather a reasonable model that relies on nondiscrimination and "equivalent" market opportunities. An opportunity for further progress may be provided through the ongoing Negotiating Group on Basic Telecommunications (NGBT), which has a mandate to engage in progressive liberalization of basic services and to achieve agreement on such issues by April 1996.

4. Global Networks and Traditional Services

Traditional services, for example, International Message Telephone Service (IMTS), are being affected by new network arrangements that are adding to the convenience available to most telecommunications users. These network changes often involve the refiling of traffic through hubbing arrangements by major carriers and will be enhanced by the availability of international simple resale among a number of major English-speaking countries.

Current voice refile practices involve the passing of traffic from an originating country through a carrier's home country to a third-country destination. In the last two years, a type of refile based upon standard Home Direct service has been initiated for travel-based services by AT&T, MCI, and Sprint in the United States, CTI and Uniglobe Telecom, Inc., in Canada, and a number of major foreign carriers. AT&T, through its World Connect service, refiles traffic among a closed set of countries that have agreed to accept refile traffic (and therefore U.S. settlement payments rather than those from the actual country of origination), while other carriers have introduced refile without the concurrence of many of the destination countries.

Such refile enhances user convenience since a travel card can access service from a foreign country rather than merely the home market of the consumer and can reach other countries -- in AT&T's case over 90, in MCI's over 160. Additionally, this refile is expanding beyond travel-based services insofar as carriers are now marketing their cards to *residents* of foreign countries (e.g., in the United Kingdom and Hong Kong) for the provision of all international calls.

A more recent type of refile has been developed by which a carrier utilizes -- in a foreign country -- dedicated access from a customer's premise to the carrier's node in that country. An international private line is connected to the public network in the carrier's home country and traffic is refiled to the ultimate destination. BT's Corporate Voice Service has such nodes in Germany, the Netherlands, France, Italy, Sweden, and Belgium. Sprint, France Telecom, Unisource, WorldCom, and Viatel offer comparable services.² The regulatory dimension of some refiles however, may be inconsistent with CCITT recommendations, which prohibit "unauthorized transit."³

As I noted earlier, another new network arrangement is international simple resale (ISR), which involves the use of an international private line, interconnected to the public network on both ends, to provide traditional switched services. ISR between the United States and Canada and between the United States and the United Kingdom has been formally authorized by the FCC. The U.K. Department of Trade and Industry has approved ISR connections between the United Kingdom, Canada, Australia, Sweden, and the United States.

With the possible exception of the United States, only the Canadian regulator prohibits refile (of Canadian-originated traffic) over an ISR link. This is significant for two reasons. First, ISR should expand the use of the card services described above (especially with associated refile) because it dramatically improves the economics of the service. As an example, a U.S. carrier providing originating service (travel or fixed) in the United Kingdom via an 800 service must pay to a U.K. carrier the inbound settlement payment (currently approximately 22 cents per minute). With ISR, that same U.S. carrier merely pays a half-circuit lease charge to the U.K. carrier, can connect to its own half circuit in the United States, and terminates the call to its ultimate destination.

Second, and particularly important from a trade policy perspective, ISR permits, in addition to card-based entry, entry into a foreign country (i.e., establishment of a light carrier) that allows dial-up and dedicated access to customers in that country, similar to that available from traditional carriers. ISR thus permits a carrier to "work to itself" in a foreign destination, bypassing standard correspondent arrangements and the associated settlement rates.

While ISR operators fall into the light carrier classification, the ultralight carriers described earlier are also likely to play an increasingly important role in international markets. In such arrangements, a customer in a foreign country actually receives a U.S. dial tone and then, utilizing either a dedicated port or an identification code, can terminate a call in the hub country or, in many instances, refile through the hub to another country. In this instance, no point of presence is actually required in the foreign country as the international PSTN is utilized to originate the call. A recent study by TelChoice estimates that "call-back" traffic will grow from 17 million minutes in 1992 to 372 million minutes by 1996.⁴

5. Global Networks and Global Services

Global services can now be technically offered via ISR and are in the process of further development. The network arrangement may be termed "quasiwhole circuit ownership" and can be described as a connection between a "light" and "heavy" carrier of the same operator. The light carrier mode is utilized in a foreign country, and the heavy carrier mode utilizes traditional facilities ownership in the home market. Hybrid arrangements could be set up so that carriers utilize the optimal network configuration permissible across a range of regulatory regimes and economic circumstances to provide global services.

The ability to "work to itself" allows the development of global (or multinational) products by a single carrier. Such products will make "one-stop shopping" a reality rather than merely a marketing slogan. Many "alliance" products such as international Virtual Private Networks are approximations of a carrier working to itself but in the context of traditional correspondent arrangements. Numerous regulatory and trade issues are currently circumvented by alliances.

6. Regulatory Considerations

Drawing upon FCC regulatory models, most global operators are affiliated with a "dominant" enterprise. None of the operators noted earlier fits the textbook example of "perfect competition," and, in one manner or another, all are affiliated with some source of market power, either in their domestic operations or through an arrangement with foreign operators.

Given this, it is possible for a policy maker to determine whether any operator has the ability to cause market distortions and, if so, what the necessary protections would be. The principal regulatory issues often heard in this regard can be sorted into three categories:

- whipsawing (manipulation of accounting rules on return traffic);
- cross-subsidization (utilizing supranormal profit from a monopoly to lower prices in a competitive market); and
- discriminatory access to bottleneck facilities (pricing or quality differences to favor an affiliate).

U.S. regulators have developed structural and accounting separation rules that meet the joint objectives of permitting service development while simultaneously preventing anticompetitive behavior. Even Judge Greene, relying on these separation principles, has permitted regional Bell operating companies to acquire foreign telecommunications companies.

Beginning in 1985, the FCC chose to regulate foreign-controlled carriers differently from other U.S. carriers by applying "dominant" status to their U.S. operations. Dominance entailed more stringent tariffing requirements and almost continual Section 214 authorization requirements for the provision of international service. Although International Competitive Carrier⁵ was nominally an effort to reflect the discrimination opportunities flowing from affiliation with a foreign monopoly provider, the regulatory scheme was overbroad in its application. This need for change was recognized and acted upon by the FCC in 1992, when it revamped the rules. Significantly and appropriately, dominant status has been retargeted to *all* U.S. carriers -- regardless of national parentage -- that enjoy a control relationship with a foreign service monopoly. The commission described its rationale in the following manner:

By redirecting regulation to those instances where a relationship between a U.S. international carrier and a foreign carrier may present some substantial risk of anticompetitive conduct, we promote competition in the U.S. international service market by reducing the costs of entry and operation, while continuing to protect unaffiliated U.S. carriers from discrimination by foreign carriers.⁶

This policy has been in effect since November 1992. The U.K. Department of Trade and Industry has also implemented a policy for similar concerns. In recent draft ISR licenses, it established a procedure of what might be called reserve powers, so that should there be evidence of anticompetitive behavior, the department has the power to enforce tariffing and information disclosure requirements on those routes where anticompetitive behavior has been identified. Clearly, from a carrier prospective, the department's policy is preferable because

no regulatory lag in implementation can affect business operations, yet the public interest is safeguarded through the ability to implement such reserve power.

7. Implications for Accounting Rate Structures

The combination of the factors discussed above has severe ramifications for existing settlement structures. In September 1992, the CCITT adopted Recommendation D.140, which supports movement toward cost-based accounting rates. The existence of refile, especially in conjunction with bypass of accounting rates, which are permitted on ISR routes, will drive rates toward cost (or at least toward tariffs for domestic termination) at a faster rate than the CCITT or pressure from national regulators is likely to achieve. Accordingly, a question exists as to the validity and necessity of maintaining policies that presently regulate accounting rate payments and traffic return policies on ISR routes. Policies of parallel accounting and proportionate return are unnecessary on "competitive" routes, and their existence may actually damage market development by precluding free commercial negotiation between carriers.

As an alternative -- or possibly a transition to -- such deregulation, the OECD Secretariat has developed a proposal that unbundles settlement payments into half-circuit charges (which can differ among countries, due to facilities, loading, etc.), and a nondiscriminatory domestic termination charge, which would not vary with the country of origination. There would seem to be great merit in such a proposal from an economic perspective insofar as it accommodates, rather than impedes, market developments. As refile of IMTS traffic is increasingly utilized by carriers -- particularly the hybrids -- settlement payments will be arbitrated to the lowest level available among ISR countries. In such a circumstance, parallel accounting and proportionate return become meaningless measurements. The OECD model would eliminate the need for heavy carriers to establish ISR affiliates to engage in global routing arrangements merely to reduce settlement payments.

8. Accounting Rates and Settlement Imbalances

The FCC has for some time now expressed concern about the growing imbalance of payments flowing from the international settlements process. This circumstance has been created by two principal factors. First, accounting rates have been generally recognized as set above costs, and second, a substantially larger number of U.S. outbound calls (relative to inbound calls) are typically made. Most intercontinental accounting rates are not cost-based, notwithstanding their ostensible purpose to reimburse carriers' cost (including both the international haul as well as the domestic origination/termination). Only within Europe and the Mediterranean Basin, under the aegis of the CCITT's TEUREM, have systematic multilateral cost studies been used to determine accounting rate levels.⁷ Significantly, the traditional convention of a fifty-fifty division of accounting rates is almost unknown in intra-European IMTSs. Outside of specific regional relationships, pragmatism and negotiating leverage, rather than cost concepts, have determined accounting rates.

The U.S. government and U.S. carriers have begun to make significant progress toward accounting rate reductions.⁸ There is also an increased awareness globally of the economic costs of accounting rates that are inefficiently high and theoretically create a floor for collection rates. The problem is not exclusive to the United States. For example, the United Kingdom suffers a trade imbalance of the sort that confronted the United States in the 1990s.

Additional factors, however, are involved. Along with the level of accounting rates, settlement imbalances reflect calling patterns. The generally lower collection rates available in the United States and some other developed countries due to procompetitive policies are partially responsible for this. Nevertheless, there is a variety of other factors that must also be considered, including exchange rates, income differentials, cultural differences in the use of the telephone, tourism levels, and demographics and shifts in those demographics (e.g., emigration to a developed country with calls placed back to the home country). Exchange rates are important not only because variations in the rates will vary the collection charge differentials but also because the international business community may actually vary the "origination" of calls in response to fluctuations. Any periodic weakness in, for example, the U.S. dollar against other currencies increases the collection differential and in turn may prompt the sophisticated business user to "use" the cheaper country to generate the majority of its international traffic. Reflecting an awareness of global networks, the National Telecommunications and Information Administration (NTIA) in the United States has specifically sought information on the growth and impact of nontraditional IMTS (ultralight) service arrangements on the U.S. net settlements deficit. These services, especially "country-direct" and "country-beyond" services, are playing an increasingly important role in determining the balance of telecommunications services payments between countries. Analysis of this data will contribute to NTIA's role in implementing an overall vision for an efficient, cost-effective Global Information Infrastructure (GII) guided by the five core principles of private investment, competition, flexible regulation, open access, and universal service.

9. Home Direct Services

Home direct services (such as AT&T's USA Direct), normally utilized to support travel cards, involve allowing a U.S. customer in a foreign country to call an international 800 number (or its equivalent) to access a U.S. carrier. Such calls have traditionally been provided via live operator, although increasingly an automated response is being utilized. Home (or country) direct service was introduced by AT&T in the mid-1980s as a convenient way for its customers to place calls to the United States via a U.S.-based operator. The benefits to the customers include the use of English language operators who have local knowledge, billing in U.S. dollars on return home, and the ability to avoid high hotel surcharges while abroad. For AT&T, the strategic benefits include control of fraudulent usage and branding of the service as an AT&T product. There are also significant and immediate financial benefits to AT&T.

As the popularity of the service has spread, MCI and Sprint also introduced similar services. Non-U.S. carriers have also introduced their versions of home direct. Teleglobe Canada, Telstra, and Hong Kong Telecom have actively developed similar services. What initially started as a service for American tourists has now become a significant staple among international telecommunications services. This dramatic growth in acceptance and popularity no doubt reflects the heavy promotional efforts of U.S. carriers in their advertising as well as the convenience to the customer in home direct services described earlier.

Home direct services involve an outpayment to the country in which the call originated in much the same manner as a U.S.-originated call is settled. Accordingly, a home direct call and a U.S. originated IDD call are equivalent in terms of settlement balances. There is, however, an obvious distinction in that none of the concerns traditionally expressed by the FCC

about the settlements imbalance are involved with a home direct call. Convenience, encouraged by substantial marketing, seems to be a major factor for home direct services. Price differentials often are secondary considerations as home direct rates can be more expensive than IDD rates.⁹ Moreover, to the extent home direct services exacerbate the imbalance that the FCC has worked to diminish, these services do so at the sheer election of U.S. carriers.

A review of only the settlement payments involved in the provision of home direct services would reveal a considerable contribution to the trade imbalance (see table 1). However, if the *revenue* to U.S. carriers from home direct calls -- in contrast to merely the "settlement" cost of these calls -- were reviewed, home direct actually reduces balance of payments considerations. This is due to the fact that the carrier obviously receives more for the call (including the surcharge) than the outpayment, or it (and other international carriers) would not engage in provision of the service.¹⁰

An appropriate examination and analysis of the U.S. settlement imbalance must take account of the increasing importance of home direct services. There has been a dramatic upward trend in the percentage of the U.S. settlement imbalance that is attributable to home direct services. Data regarding traffic to and from a large number of Cable & Wireless's foreign operations that provide home direct services with U.S. carriers show remarkable increases in the importance of home direct services, specifically AT&T's USA Direct service.¹¹ For example, minutes paid for USA Direct services from the Caribbean region accounted for 6.9 percent of the U.S. net outpayment in 1989 but by 1993 had grown to 20.6 percent of the outpayment. In the case of the Cayman Islands, 83 percent of the U.S. outpayment in 1993 was due to USA Direct minutes. For Hong Kong, the 1989 home direct as a percentage of total imbalance was 5.42 percent; by 1993 it grew to 19.3 percent. If the settlement imbalance is harmful to the national interest, then one must wonder why U.S. carriers continually encourage the development and indeed the expansion of such services.

10. Home Beyond Services

Between late 1993 and mid-1995, an expanded variant of home direct was developed by U.S. carriers, which is often termed "home beyond." It builds upon home direct, that is, a foreign-originated call is carried back to the chosen U.S. carrier in the United States, but it then adds the ability to hub through the U.S. (i.e., refile) for terminating the call into a third country.

For travel services, refile permits a carrier's travel card to access more than merely the home market of the customer. AT&T's refile service -- World Connect -- permits access to over ninety countries. MCI's comparable service -- World Reach -- gives access to over 160, that is, the vast majority of countries excluding only those that have actually protested the service. Sprint's Sprint Express can similarly be accessed through any country accepting its home direct service and is also terminated globally. These services have implications for the U.S. settlement imbalance beyond the instance of travel. Carriers are now marketing their cards to residents of foreign countries for the provision of all international calls. For example, MCI is now marketing its service and related cards to nationals in the United Kingdom and Hong Kong.

Home beyond services generate *two* settlement outpayments for a call that would not normally be routed at all through the United States. Clearly, however, as these services are

Table-1
Settlement Imbalance Trends with the United States
Percentage of Minutes Attributable to Home Direct Services

	<i>1989 Imbalance (%)</i>	<i>1990 Imbalance (%)</i>	<i>1991 Imbalance (%)</i>	<i>1992 Imbalance (%)</i>	<i>1993 Imbalance (%)</i>
Antigua	6.6	8.3	34.1	26.9	12.6
Barbados	1.1	1.2	1.7	1.5	1.5
Bermuda	15.7	17.3	12.5	11.0	6.8
Cayman Islands	144.1	128.2	106.0	87.1	83.0
Dominican Republic	4.3	3.1	2.5	5.4	5.7
Hong Kong	5.42	18.09	21.63	19.6	19.3
Jamaica	N/A	N/A	27.1	23.6	17.0
St. Kitts	1.8	1.5	2.0	15.9	18.4
St. Lucia	3.7	4.0	4.2	3.8	5.1
St. Vincent	0.0	0.0	0.0	0.0	0.0
Trinidad	0.9	0.8	0.9	0.9	0.9

Notes:

(1) The percentage for Antigua dropped for 1993 because 50 percent of USAD traffic has transferred back to Cable & Wireless operator collect

(2) Jamaica's reduction is due to fraud difficulties and hence some reduction to collect calling via USAD.

being voluntarily introduced by the U.S. carriers, there is a profit attached to them. But there is another important aspect of these services, again solely from a balance of payments perspective. As they were introduced by the U.S. carriers, they have clearly established a precedent for foreign traffic to be refile *into* the United States. In fact, a number of carriers that have agreed to participate in World Connect have begun offering such refile-of-hubbing services themselves. This is creating a completely unquantifiable balance of payments effect revolving around a combination of refile and, largely, travel services. It is unlikely that even AT&T can predict the overall balance of payments effect of this service, which it created. Such refile services are a market response to a demand from increasingly mobile populations, often involving the "export" of U.S. services. The U.S. government should not therefore tolerate efforts to portray these services as contributing to a "problem" with respect to the U.S. balance of payments.

11. The Special Case of Developing Countries

While there is clear consensus that accounting and settlement rates between and among the *developed* countries of the world should be "cost-oriented" in order to reduce settlement imbalances and promote economic efficiency, there also appears to be an equally recognized proposition that settlement rates between developed countries and developing countries may need to depart from this criterion. The essence of this proposition rests in the recognition of the network externalities of promoting universal service; that is, expansion into poor, rural, and other high-cost areas generates economic benefits for the totality of telecommunications users.¹² There is a substantial history in most developed countries, including the United States, of this type of support between local and long distance (including international) rates that can be traced back quite a few years to the present. In the United States, one of the FCC's principal stated goals has been the promotion and preservation of universal service, that is, ensuring the availability of affordable local telephone service to all U.S. households. Beyond the purely social aspect of universal service, the externality for subscribers who would not otherwise be on the network is also part of the rationale for universal service. If the price of basic telephone service is too high, subscribers may cancel service, thereby diminishing the value of telephone service for all network users. Consequently, over the years, mechanisms have been implemented to minimize the price of local service.

One mechanism for supporting universal service that has existed for decades is the funding provided to rural telephone companies through the Rural Electric Administration. The New Deal agency continues today to provide low-cost loans to rural telephone companies. Some years ago, to promote economic efficiency, the FCC adopted a subscriber line charge (SLC), a flat, monthly charge to be assessed to end users to recover nontraffic-sensitive plant costs. To minimize rate shock, the SLC for residential and single-line business users was phased in over a period of years at below-cost levels. Keeping in mind its universal service goals, the FCC implemented two programs to help mitigate the effects of the SLC's introduction. To assist low-income households, the FCC developed Lifeline Assistance, which effectively waives the SLC. Additionally, the FCC set up the Universal Service Fund (USF) to protect the needs of subscribers in maintaining local exchange rate levels in rural or high-cost areas. Both programs are funded by the IXC's that utilize the access services of the local telephone companies. The current value of the Lifeline fund is \$700 million and for the USF

\$3 billion. These amounts are generated from interstate traffic. USTA has estimated that three to four times this amount is generated from intrastate traffic. Plainly, extensive care has been taken in the United States to implement cost-oriented rules with specific funding mechanisms to account for the externalities of universal service. On the international front, this same rationale -- the externality associated with *global* universal service -- has been recognized in the recent CCITT Recommendation D.140 as well as in the *Maitland Report* of 1984. These documents, among others, recognize that universal service generates a network externality (whether on a national or international basis) for all telecommunications users, and, therefore, that funding to facilitate network expansion is warranted from a purely economic standpoint. It should be noted that during the time period for which universal service has been a focal point in the United States, the telephone penetration rate has been dramatically higher than that of many developing countries.

The policy of investment in the telecommunications infrastructure that has driven domestic policy in many developed countries is also often pursued throughout the developing world. This investment is made in national and international transmission and switching facilities and in extending line plant to increase the number of customers on the network. The *Maitland Report* specifically recognizes this point: a more comprehensive world system will mean an increase in international traffic from which all operators will benefit as expanded infrastructure and telecommunications networks facilitate the improved ability of callers in developed countries to access additional locations -- an "externality" generated by "universal telephone service." The telecommunications network is understood to be a critical infrastructure supporting the economic foundation of any country. A diversity of high-quality, ubiquitous national and international facilities is now considered a crucial limiting factor to economic development. Beyond the benefits to users of global universal service, there are benefits to industry in developed countries from the investment necessary for such infrastructure development. Settlement payments provide a significant source of hard currency for many developing countries. As these countries utilize the currency to expand their infrastructure, equipment is required so that these hard currency earnings flow back to industry in the countries that are the source of the hard currency payments. As the *Maitland Report* observed, developing countries do not have indigenous telecommunications manufacturing industries. They have to buy their exchanges, transmission equipment, and other technical plant abroad and pay in hard currency. According to World Bank figures, in many countries, 60 percent or more of the cost of a major telecommunications project has to be met in hard currency.¹³ Additionally, the expansion of the infrastructure provides the basis for related industrial growth that ultimately raises income levels and leads to additional outbound calls -- many of which are likely to terminate in developed countries.

Accordingly, accounting settlement revenue has been a major source of funds for continued efforts to achieve "universal telephone service" in developing countries and to generate benefits that flow back to users and industry in the developed world. Policy actions to achieve "cost-oriented" accounting rates should, therefore, be concentrated on the countries of the developed world with a recognition of the special issues involved with developing countries.

12. Trade Policy

Trade principles fall into one of two categories: regulators can either focus on market access (reciprocity) considerations, which concentrate on bilateral negotiations among like-minded countries, or upon the multilateral GATT concept of most-favored-nation (MFN) treatment, which applies to all signatories. While it can be argued that the U.S. marketplace is at present more comprehensively open than any other, it cannot be ignored that countries such as the United Kingdom, Canada, New Zealand, Australia, Sweden, and the Netherlands are rapidly moving to liberalize their environments and in a number of instances, such as the policy objectives contained in a U.K. white paper¹⁴ may actually exceed the current openness in the U.S. marketplace. It would be unfortunate if the United States narrowly constrained its policy to deal with the "lowest common denominator," that is, policies in recalcitrant countries, and, in doing so, forestalled the development of global services.

The recent GATT Telecommunications Annex covered enhanced and value-added services but not basic telecommunications services. A group of forty countries, however, comprised primarily of OECD nations, has agreed to participate in a Negotiating Group on Basic Telecommunications (NGBT). This group was called for in the December 6, 1993, *Ministerial Declaration on Negotiations on Basic Telecommunications attached to the GATT*. The NGBT has a mandate to engage in "progressive liberalization" of basic services and was to conclude voluntary negotiations and issue a final report by April 1996, two years after the implementation date of the Uruguay Round. Clause 7 of the *Ministerial Declaration* calls for "standstill" provisions on governmental policy but also encourages commercial and governmental arrangements to liberalize basic services.

Once a supportive trade policy has been developed, the regulatory framework merely needs to target the possible market distortions that can flow from domestic or foreign monopoly power. There is, however, an issue that will confront trade policy -- the manipulation of policy for the protection of vested interests. The highly competitive marketplace for global services creates, along with high profit margins on standard international service, a substantial incentive on the part of existing operators to prevent competition from new entrants. Accordingly, regulators -- in the light of the nature of the global operators reviewed earlier -- should be somewhat skeptical of arguments for protection that have the effect of freezing the status quo. George Schultz, former secretary of state, identified the concept of "procedural protectionism" as a practice to be avoided by trade and regulatory agencies.¹⁵

In line with clause 7 of the *Ministerial Declaration*, U.S. policy action might efficiently be determined on a bilateral basis, that is, by reference to the trade position of the home country of the foreign-owned U.S. carrier. Such an approach is consistent with the thinking of senior officials in the Clinton Administration. As stated by the current chair of the National Economic Council, "despite its many pitfalls ... selective reciprocity is the most sensible starting point for sectoral trade negotiations." However, in such an approach, regulators need to be wary of protectionist, self-serving contentions. Arguments to preclude or limit entry, based on the absence of "mirror" reciprocity between the United States and the home country of the applicant (i.e., identical regulatory regimes), should be rejected summarily as cynical and disingenuous. A standard of "rough equivalence" or "selective reciprocity" is at most all that is needed and certainly all that is appropriate in the legally and technically complex environment of telecommunications. Rather than a line-by-line policy comparison, this

standard would be based on actual market performance rather than hypothetical "considerations." Rough equivalence of markets should be based upon effective -- if not necessarily optimal -- entry and could be identified by two very measurable characteristics, namely, national treatment of U.S. carriers and of existing competitors *already* in place.

Surprisingly, rather than pursuing a formalized bilateral negotiation model along these lines, the FCC has proposed in a recent Notice of Proposed Rulemaking (NPRM)¹⁶ to increase the test standard for reciprocity that foreign carriers must meet. The most significant issue in the NPRM is that reciprocity would no longer be measured in the foreign carrier's home market but on all primary markets in which the carrier operates. A primary market is defined as any "key" markets in which the carrier's affiliate holds a "dominant" position and there is "significant" traffic with the United States. This is a concept that does not exist in international trade agreements. It is inherently nebulous and, further, holds the carrier responsible for the regulatory regime *outside* of its home market.

The effect of the concept of primary markets on bilateral negotiations would be deleterious if the commission pursued its "primary" market proposal. In such cases, a foreign government would have no incentive to liberalize if its nationals still were denied access to the U.S. market because of investments in third countries. The inevitable result of such a broad "primary market" inquiry would be needlessly protracted and contentious proceedings that create disincentives to beneficial investment and postpone or preclude additional competition in the U.S. international marketplace. The home government may be motivated to liberalize because doing so benefits its own nationals. In contrast, if the entity seeking market access simply has an interest -- even though large -- in a carrier outside its home country, the government in the third country likely will have little motivation to encourage competition since doing so would not directly benefit its nationals.

Increasingly, U.S. companies -- including AT&T and several regional Bell operating companies -- are investing in telecommunications providers in nations that are not open to competition. Accordingly, a foreign regulatory body might well deny entry to U.S. carriers by looking beyond the openness of the U.S. "home" market to other "primary markets" in which they operate.

In contrast to the NPRM, as shown by its ISR decisions, the FCC has recognized and successfully applied the concept of selective reciprocity. In this regard, the regulatory environment in the United Kingdom has provided a perfect example of "equivalence." The opportunity for entry into the United Kingdom for U.S. operators is, on balance, at least as good as those available to U.K. operators in the United States. Without providing an exhaustive list of all relevant characteristics of the U.K. regulatory environment, even a cursory review reveals the openness of the U.K. market.

One could argue that no country has deregulated its telecommunications equipment and services markets at the same pace as the United Kingdom. In August 1990, NTIA recognized this fact in its "competitiveness report" and described the United Kingdom as "one of the most open and liberalized telecommunications markets in the world."

A brief overview of the U.K. telecommunications environment easily supports these conclusions. (It should be noted that in every circumstance telecommunications policy is made *without* regard to the ultimate national parentage of the service provider):

- no counterpart to Section 310(b) of the Communications Act of 1934 exists in the United Kingdom;
- U.S. operators have been licensed to provide cellular, paging, and personal communications services (PCS), and additional applications are pending;
- U.S. cable television and regional Bell operating company, which dominate the U.K. cable television industry, are also permitted to offer local exchange services;
- additional domestic facilities-based competition to Mercury and BT is feasible due to the licensing of Ionica, WorldCom, National Network, Energis, Millicom, U.S. Sprint, Telstra, and AT&T;
- internationally, the United Kingdom permits the provision of switched services over international private lines on a resale basis -- both inbound and outbound to the United Kingdom -- so long as one end of the connection is provided on a dedicated basis;
- international simple resale exists on significant routes: Canada, Australia, Sweden, and the United States; and
- both British Aerospace and PanAmSat have authorization to provide separate satellite services with full interconnection to the public switched network.

13. Conclusion

The acceleration of market and network developments in recent years requires a change in the modus operandi of regulators, from the traditional reactive approach on solely national matters to a proactive attitude involving international decision making. Especially in the developed world, such a regulatory model can generate substantial benefits to users of both traditional and global telecommunications services. The principal hindrance to such an approach is the protectionism generated by vested interests. Regulators in the major economies should, however, focus on ways to promote network and service development by means of liberalizing agreements among like-minded governments.

A proactive -- possibly bilateral -- approach could generate the benefits to *users* (a term often not incorporated in trade negotiations) and demonstrate the value of such liberalization to users worldwide, which would bring about subsequent political pressure and foster the development of global networks. Appendix 2 outlines key principles underlying an evolving and progressive U.S.-U.K. bilateral approach.

References

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Appendix 1: Sample of Foreign Affiliations by Carrier

Note: This list is only a sampling and is not intended to be all-inclusive.

1. Ameritech (United States)

- partner in New Zealand Telecom, and
- partner in Polska Telephonica (Polish PTT).

2. AT&T (United States)

I. Existing or planned service affiliations:

- AT&T wholly owns AT&T Istel Ltd. (United Kingdom, information services) and Istel Group Limited (United Kingdom, software);
- AT&T owns 80 percent of AT&T Jens Corporation, a joint venture with twenty-two major Japanese corporations that provide VANS;
- AT&T owns 19.5 percent of Utel, a Ukrainian joint venture company with PTT Telecom and the Ukrainian State Committee of Communications, which provides services and products to Ukraine;
- partner in Hutchison AT&T Network Services Ltd. (Hong Kong);
- owns 20 percent of Unitel Communications Inc. (Canada);
- AT&T Easylink Services Ltd. (Australia);
- Goldnet (Israel);
- Atesia SpA (Italy);
- Jamaica Digiport International Ltd. (Jamaica);
- Telmos (Russian Federation, pending);
- World Partners: KDD, Singapore Telecom, Telstra, Unisource, Hongkong Telecom, among others;

- owns 5 percent of VenWorld Telecom CA, a Venezuelan joint venture company with GTE Corporation and three Venezuelan corporations, which owns 40 percent of the Venezuelan PTT, CANTV; and
- Pacific Partners: alliance with International Telecommunications Administration (ITA, Taiwan), Korea Telecom, Philippine Long Distance Telephone Company, Telecom New Zealand International, and Telekom Malaysia to provide leased-line backup service to member countries

II. Existing or planned manufacturer affiliations:

- AT&T International Inc. is principal shareholder in AT&T Network Systems International BV, a joint venture with STET (20 percent, Italy, government-owned) and Telefonica (6 percent, Spain, national telephone company), which has established businesses and joint ventures in the Netherlands, Belgium, the People's Republic of China, the Czech Republic, France, Germany, Ireland, Italy, Poland, the Russian Federation, and Kazakhstan, among others;
- AT&T owns 20 percent of Italtel (Italy, STET subsidiary, which manufactures and sells equipment); AT&T and Italtel have agreement to codevelop and market equipment in Europe and the United States;
- AT&T owns 60 percent of AT&T Taiwan Telecommunications Company Ltd., a joint venture with the Taiwanese government and others in Taiwan, which manufactures switching and transmission equipment;
- AT&T owns semiconductor assembly and test facilities and telephone manufacturing facilities in Singapore and Thailand; AT&T also owns a cellular telephone manufacturing plant in Indonesia;
- AT&T owns four manufacturing companies in Mexico;
- AT&T owns 80 percent of AT&T Software Japan Ltd., a joint venture with Industrial Bank of Japan, and Software Research Associates;
- AT&T owns 44 percent of a joint venture with the Goldstar group of Korea, which manufactures and markets switching products;
- AT&T holds ordinary shares of Riunite SpA, which holds a controlling interest in Olivetti of Italy;
- AT&T owns a manufacturing company in Spain and through joint ventures operates manufacturing facilities in Denmark, Ireland, Korea, the People's Republic of China, Taiwan, and Thailand; and
- AT&T announced a broad strategic alliance with the mainland Chinese government in March 1993 for joint R&D and manufacturing for export to the Asian market.

3. Bell Atlantic (United States)

- agreement with STENTOR to license its Advanced Intelligent Network software and do joint marketing;
- joint software development venture with STET; and
- equity partner in New Zealand Telecom (shares majority stake with Ameritech).

4. Bell Canada Enterprises (Canada)

- formed agreement with Infonet in December 1992 to create new company Worldlinx Telecommunications, which will perform systems integration for linking local users to Infonet Services Corporation's (United States) global network; and

- owns 20 percent of Mercury Communications Ltd. (United Kingdom), the remainder of which is owned by Cable & Wireless (United Kingdom).
5. BellSouth (United States)
 - partner in cellular ventures in Argentina, Chile, Denmark, France, Germany, Mexico, New Zealand, Uruguay, and Venezuela;
 - 24.5 percent owner of Optus (Australia).
 6. British Telecom (BT) (United Kingdom)
 - 20 percent owner of MCI; 75.1 percent owner of the joint venture Concert (with MCI).
 7. Cable & Wireless (United Kingdom)
 - operates in fifty countries;
 - 80 percent owner of Mercury Communications (Bell Canada owns 20 percent); majority owner of Hong Kong Telecom;
 - 100 percent owner of Cable & Wireless Holdings, Inc., which holds 100 percent of Cable & Wireless, Inc. (U.S. operating subsidiary);
 - owns 17.17 percent of IDC (Japan);
 - owns 24.5 percent of Optus (Australia);
 - owns 40 percent of Tele2 (Sweden);
 - partial or total owner of several carriers in the Philippines and Macao as well as Pacific and Caribbean nations;
 - participating in privatization and modernization of Latvian telephone company Lattelekom; and
 - owns interests in carriers operating in St. Petersburg (Russia) area.
 7. Concert (United Kingdom, United States)
 - alliance between BT and MCI;
 - global services are planned, including virtual private networks, frame-relay service, private lines, outsourcing, international calling cards, multimedia network services, and eventually public telephony;
 - target customers will include multinationals and individuals with calling cards;
 - eventually MCI will become BT's preferred carrier for public telephone traffic across the Atlantic in addition to private network services; and
 - BT and MCI may also take on a possible Asian partner.
 8. Deutsche Telekom (Germany)
 - proposed global partner with France Telecom in Project Atlas (acquiring up to 10 percent of Sprint), and
 - 18 percent owner of Infonet.
 9. Financial Network Association (FNA) (various)
 - consortium comprising Telstra, Belgacom (Belgium), Deutsche Telekom, France Telecom, Hong Kong Telecom, Italcable (Italy), KDD, MCI, Mercury Communications, Singapore Telecom, STENTOR, and Telefonica;

- formed to provide “uniform, common and consistent services” in each of the world’s top financial centers; marketed under the name Teleconnect; and
 - lead operator for each contract will be the affiliate member of the country in which the client company is headquartered and will be responsible for liaising with the other FNA members to put together the service required by the customer.
10. France Telecom (France)
- proposed global partner with Deutsche Telekom in Project Atlas (acquiring up to 10 percent of Sprint);
 - 16 percent owner of Infonet;
 - partner in FNA;
 - part owner of Telmex and Telcom Argentina;
 - has 39 percent shareholding in top European software house Sema;
 - has stakes in Info AG, the German service provider, and Olinet (51 percent since 1991), the Italian subsidiary of Infonet;
 - Transpac (data communications subsidiary) has set up operations in Italy, Sweden, and the United Kingdom; last year increased its stake in Germany VANS provider Info AG, a DBP Telekom competitor; and
 - launched Eucom with DBP Telekom in October 1991 to provide VANS in Western Europe.
11. Global European Network (GEN) (various)
- alliance between Telecom Portugal, Belgacom, BT, DBP Telekom, France Telecom, STET, and Telefonica; joint services wholesale company; services sold to member carriers since opening in March 1993; network connecting five founding members has gone all-digital, and
 - enables each member-carrier to manage its own virtual European network.
12. Global Networking Project (GNP) (various)
- agreement between AT&T, BT, France Telecom, DBP Telekom, KDD, and Telstra;
 - new network will be created using some of each carrier’s existing undersea fiber-optic capacity;
 - intended to provide companies and other international carriers with switched and private circuits by managing the use of two-megabit circuits carried on fiber-optic cables; by end of decade, GNP expected to form platform for new high-capacity data services such as digital TV or high definition television (HDTV); and
 - shared fiber-optic capacity and the transmission switches located in the United States, the United Kingdom, France, Germany, Japan, and Australia will be coordinated by a network management team.
13. Global Virtual Private Network (GVPN) partnership (various)
- Sprint, Unitel, PTT Telecom Netherlands, IDC (Japan), Telstra, Teleglobe (Canada), Hong Kong Telecom, Mercury Communications, and Telia.

14. GTE (United States)
 - partner with AT&T in CANTV (Venezuelan PTT);
 - partner in Codetel (Dominican Republic PTT); and
 - partner in British Columbia Telephone Company (Canada).

15. Infonet Services Corporation (United States)
 - established in 1988;
 - headquartered in El Segundo, California;
 - joint ownership by MCI, Belgacom, France Telecom, DBP Telekom, KDD, PTT Telecom Netherlands, Singapore Telecom, Telia, Swiss PTT, Telefonica, and Telstra;
 - Infonet has begun forming partnerships for domestic service in such countries as Germany and Canada; these types of partnerships are expected to multiply as forty-seven-nation network is expanded;
 - provides network access from 137 countries;
 - used by approximately 17 percent of the Business Week Global 1000, 18 percent of the Forbes 500, and 24 percent of the Fortune 500;
 - formed new company Worldlinx Telecommunications in December 1992 with Bell Canada to handle systems integration necessary to link local users to Infonet's global network;
 - also has strategic relationships with Anderson Consulting, Digital Equipment, and Siemens Communications Systems; and
 - target market is world's largest companies.

16. Infonet Services Deutschland (Germany)
 - joint venture between Infonet (20 percent) and DBP Telekom (80 percent) to market and sell Infonet's global communications services to the German market.

17. Infonet and MCI (United States)
 - formed alliance to market Infonet's Enterprise-Defined Network Services (EDNS) voice and data services as part of its Global Communications Services in the United States.

18. KDD (Japan)
 - 5 percent owner of Infonet;
 - partner in FNA;
 - equity partner in AT&T's World Partners; putting together a VPN service through bilateral agreements with other countries; and
 - has joint ventures with Telehouse in London and New York to provide and manage computing and communications facilities in a secure environment.

19. Managed European Transport Network (various)
 - more than twenty-five European carriers (not sold directly to users).

20. MCI Communications Corporation (United States)
 - accepted BT as a 20 percent equity investor; formed Concert joint venture with BT;

- owns 25 percent (controlling share) of Infonet, purchased in 1990; established agreement in 1992 with Infonet to market Infonet's EDNS and EDMS service offerings to MCI's U.S. corporate customer base as part of its Global Communications Service; and
- agreement with STENTOR (Canada) to license its Intelligent Network software and comarket integrated intelligent network services between the United States and Canada.

21. NYNEX (United States)

- lead investor in "flag" European fiber-optic cable project;
- one of the largest cable TV companies in the United Kingdom (with nineteen 100 percent-owned franchises and also offering telephone services);
- 50 percent partner (with Gibraltar government) in Gibraltar-NYNEX Communications (Gibraltar PTT);
- 20 percent partner with STET in STET-Hellas cellular provider in Greece; partner in Telecom Asia Corporation (joint venture to upgrade Thailand network); and
- involved in joint venture to expand network in Indonesia.

22. Pacific Partners (various)

- alliance between AT&T, International Telecommunications Administration (Taiwan), Korea Telecom, Philippine Long Distance Telephone Company, Telecom New Zealand International, and Telekom Malaysia, and
- will provide leased-line backup service to member countries.

23. Pacific Telesis (United States)

- 51 percent equity partner in NorkicTel Holdings (Sweden): other partners include Vodafone Group plc (United Kingdom) and three Swedish companies;
- 26 percent equity partner in Mannesmann Mobilfunk (Germany);
- 20 percent equity partner in Dansk Mobiltelefon AS; and
- 23 percent equity partner in Telecel Comunicaciones SA (Portugal).

24. PTT Telecom Netherlands (Netherlands)

- equal (33 percent) owner of Unisource (with PTT Telecom Netherlands and Telia [Sweden]), which has agreement to resell services over Sprint's international data network, and
- 5 percent owner of Infonet.

25. Singapore Telecom (Singapore)

- 5 percent owner of Infonet;
- partner in FNA; and
- equity partner in AT&T World Partners.

26. Southwestern Bell (United States)

- 10 percent equity partner in Telmex (with Mexican government and France Telecom), and
- involved in cable TV ventures in the United Kingdom and Israel.

27. Swiss PTT (Switzerland)
 - equal one-third owner of Unisource (with PTT Telecom Netherlands and Telia [Sweden]); Unisource has agreement to use Sprint's international data network, and
 - 5 percent owner of Infonet.

28. Telefonica de Espana SA (Spain)
 - 79 percent owner of Telefonica Large Distancia de Puerto Rico, Inc. (TLD) through its Netherlands-based holding subsidiary, Telefonica International Holding BV (TI Holding); the Puerto Rico Telephone Authority (PRTA) owns 19 percent and employees own 2 percent.

29. Telia (formerly Televerket) (Sweden)
 - equal one-third owner of Unisource with PTT Telecom Netherlands and Swiss PTT; Unisource has agreement to use Sprint's international data network, and
 - 5 percent owner of Infonet.

30. Telstra (formerly OTC) (Australia)
 - founding member of PACT (Pacific Area Co-operative Telecommunications);
 - member of FNA with eleven other carriers;
 - Global Networking Project with five other carriers; and
 - associate member in AT&T World Partners.

31. Teamet A/S (Denmark)
 - Telecom Denmark and Maersk Data, and
 - offering private line services.

32. Unisource NV (Netherlands)
 - headquartered in the Netherlands;
 - PTT Netherlands, Telia, Swiss PTT; contractual relationship with Sprint for SprintNet resale; and
 - virtual network services, private lines, packet-switched services, messaging services, calling card services, outsourcing in development.

33. U.S. Sprint (United States)
 - operates in thirty-six countries; has wholly owned subsidiaries in twenty-two countries;
 - proposed global partner with Deutsche Telecom (Germany) and France Telecom (selling up to 10 percent Sprint stake to each); has applied for a license to offer international telecommunications services in the United Kingdom in competition with BT and Mercury Communications;
 - has agreement with Unisource (Swiss PTT, Telia, and PTT Telecom Netherlands) to interconnect to its international data network; and
 - member of the Hermes/HIT project to build a high-speed, trans-European network based on the telecommunications networks of eleven European railway operators.

34. U.S. West (United States)

- partner in TeleWest joint cable TV venture in the United Kingdom with Telecommunications Inc., operating sixteen franchises (also offering local telephone service);
- TeleWest Europe Group owns cable TV systems in Hungary, Sweden, and Norway;
- partnered with Cable & Wireless for United Kingdom PCN venture Mercury One-2-One;
- partner in Westel Radiotelefon, a joint venture with the Hungarian Telecommunications Company, to operate the first cellular system in central Europe;
- partner with Bell Atlantic and the Czech and Slovak PTTs in Eurotel to operate cellular and public switched-packet data networks in the Czech Republic and Slovakia;
- partnership in Russia to build and operate a new digital cellular system;
- partnered with DDI and Nissan to provide digital cellular service in Japan;
- partnered with the Russian Ministry of Telecommunications to operate three new international gateway telephone switching systems in Russia; and
- partnered with Lithuania Telecom to operate an international gateway switch in Lithuania.

35. Worldlinx Telecommunications (United States, Canada)

- joint venture between Infonet and Bell Canada established in December 1992 to provide systems integration services to Infonet's global network customers.

36. World Partners (various)

- World Partners is a joint services wholesale company owned by AT&T, Singapore Telecom, and KDD; associate members include Telstra, Unisource, and Hongkong Telecom, among others; and
- will provide virtual private networks, frame-relay service, private lines, outsourcing; markets "WorldSource" services.

Appendix 2 A U.S./U.K. Bilateral Agreement

The United States and the United Kingdom provide ideal examples of the way that existing policies can be implemented, and new policies proactively developed, to fully support the development of global networks. The totality of these policies address the following issues:

- accounting rate considerations among developed countries;
- licensing for ISR;
- other resale methods of operation and facilities ownership;
- interconnection policy;
- regulatory status of foreign carriers;
- restrictions on use of technology by foreign carriers; and
- market entry criteria for foreign carriers.

Regulators need to change the mindset utilized in quasitrade negotiations. There is a need to substitute the current "horse-trading" approach -- which normally brings about agreement only

on the least common denominator of liberalization -- to a proactive, bilateral model based upon the *most* liberal regulation among countries. In practice, such an approach has recently yielded the following results.

On ISR, the use of the U.K. approach to "equivalence," that is, national treatment, is becoming the benchmark without any notion of a line-by-line type of market comparison between countries. The opening of ISR meets liberalized regulation objectives by providing a vehicle for entry into a foreign market as well as a factor that drives down accounting rates. This factor uses a market mechanism rather than the current governmental/industry negotiation approach, which keeps the power for such negotiation in the hands of the dominant operators. The use of ISR to influence accounting rates can also be enhanced by giving permission for unrestricted refile among developed countries, namely, those most able to move rapidly to economically efficient conditions for the provision of international service.

The United Kingdom, in turn, is adopting a U.S.-style interconnection policy, that is, tariffed offerings. A fixed schedule for equal access should be crafted but with recognition that current three-digit "easy access" is substantially better than Feature Group A or B.

As to "dominance" regulation, the U.K. reserve power model is clearly a more liberal approach than U.S. safeguards due to the absence of inherent lag and the absence of an ability for opponents to utilize regulatory procedures for preventing the development of competition.

With full implementation of this approach, Section 310 foreign ownership limitations on radio licenses in the United States would be waived for U.K. firms, reflecting the lack of such discrimination by U.K. regulators in the awarding of radio licenses.

Finally, for international facilities-based entry, the United States has approved some participation by foreign firms (although inconsistencies exist in application of this policy). The Department of Trade and Industry has, to date, deferred action on licensing of an international operator beyond the current duopoly. A bilateral way forward should be possible, even recognizing the more expansive nature of U.K. PTO licenses versus the FCC's 214 process.

Endnotes

1. FT Telecom Markets (December 21, 1993).
2. International Telecommunications Regulations, Final Acts of WATTC-88, appendix 1.
3. The TelChoice Report on International Callback Service (1993).
4. International Competitive Carrier, 102 FCC 2d 812 (1985).
5. FCC Docket 91-360 (1992).
6. In addition, the very low (by world standards) intra-TEUREM accounting rates reflect the fact that refile is a common practice among TEUREM countries.
7. Stanley (1995). An important issue identified by the FCC is that U.S. collection rates have not decreased in line with accounting rates. This has resulted in U.S. carrier retained revenue per minute actually *increasing* since 1990.
8. In fact, in the first month of operation of a U.S. carrier's home beyond service in the United Kingdom, approximately one half of the total traffic originating in the United Kingdom was terminated *within* the United

Kingdom rather than third countries. Thus, for every call made, two accounting rate outpayments were made (adding to the U.S. traffic imbalance) but yielding the U.S. carrier a profit margin of nearly \$2 per minute. The unfortunate customer paid ten to twenty times the normal domestic rate.

9. If the same call originated as a foreign IDD call to the United States, the U.S. carriers would receive only the settlement payment. Similarly, with a home direct call the foreign carrier collects merely the settlement payment rather than its full collection rate.

10. Also, due to the relatively large volume of U.S. tourism and business travelers, as well as marketing by U.S. carriers and their continual expansion of the number of countries from which they provide home direct services, U.S. carriers' home direct services very likely count for a greater percentage of customer traffic than those home direct services offered by foreign service providers.

11. Kahn and Shew (1987).

12. *Maitland Report*, (1984).

13. Her Majesty's Stationery Office (1991).

14. Schultz (1993), p. 195.

15. FCC Docket 95-53 (1995).