Union (EU), for example, have agreed to introduce competition in the provision of basic telecommunications services and infrastructure by 1998. The EU considers these steps to be critical to advancing the goals of their action plan to create a European Information Society.

Increasingly, countries with national monopoly operators have begun to question whether they can compete effectively in the dynamic international telecommunications market. Difficulties in raising capital and in meeting users' demands for low cost, sophisticated network capabilities and services are forcing a reconsideration of the monopoly approach to telecommunications. A recent Organization for Economic Cooperation and Development (OECD) study comparing the relative cost of providing international service among OECD members found that the performance of countries with competitive international markets was superior to the average of all OECD members. Furthermore, the OECD study revealed that the quality of service had improved simultaneously with the implementation of competition.4

Competition within the communications satellite market has also burgeoned. The intergovernmental International Telecommunications Satellite (Intelsat) and International Mobile Satellite (Inmarsat) organizations now face competition from several separate satellite systems, including Astra, Columbia, AsiaSat, Orion, and PanAmSat. Due in part to competitive pressures from these separate satellite systems and from alternative technologies, serious consideration is being given to restructuring both Intelsat and Inmarsat. Each of these organizations is engaged in an internal effort to review a range of options for reorganization, from reform of the cooperative model, to corporatization, to full privatization.

As governments liberalize particular market segments, regulators, operators, and new market entrants must grapple with evolving definitions of the boundary between those networks and services reserved to the monopoly operator and those open to competition. During the transition from monopolistic to competitive telecommunications markets, incumbent operators still play a dominant role as network infrastructure providers. Incumbent operators not only control underlying facilities and services that new entrants

often need to deliver their services, but frequently compete directly with these new service providers in particular market segments. In these circumstances, effective competition cannot emerge and flourish unless incumbents are subject to competitive safeguards while they maintain market power over critical bottleneck facilities and services.

Competitive safeguards serve two main purposes. Some are intended to eliminate or reduce barriers to entry for new service providers that are seeking to challenge the incumbent operator. Other safeguards serve to ensure that incumbent firms with market power do not employ anticompetitive means to prevent or hinder the development of truly competitive markets. Market entry opportunities are effective only if the incumbent service provider is required to compete fairly. For this reason, some administrations have required incumbent carriers to permit resale of their networks and services. Resale provides an important source of competition in markets in which telecommunications infrastructure costs are high. Similarly, market entrants that choose to provide facilities-based services in competition with the incumbent service provider typically will need to interconnect their facilities with a dominant service provider's network. In a pro-competitive environment, the terms and condition of interconnection would be reflected in published rates that include nondiscriminatory cost-based access charges and technological "equal access" to bottleneck facilities.

Incumbent carriers may also be required to "unbundle" network facilities and services so that telecommunications and information service providers can order only those elements of the dominant provider's network they need to provide a service. Finally, establishment of a transparent regulatory scheme open to all interested parties, and administered by a regulatory authority independent of the incumbent service provider, helps ensure that rules governing competition are fair and that private investment is given a reasonable degree of security.

While the political challenges posed by attempting to restructure the telecommunications market are significant, the increased opportunities provided by introducing competition far outweigh the potential difficulties of pro-competitive market reform. Further, the interconnection of competitive national information infrastructures can increase the pace of development of the GII. The more competitive an information and telecommunications

market, the more productive will be its interaction with other markets participating in the development of the GII.

Recommended Action

The most effective means of promoting a GII that delivers advanced products and services to all countries is through increased competition at local, national, regional, and global levels. To that end, the United States will join with other governments to:

- Assess, through information exchanges and existing multilateral organizations, the positive experiences of different countries in introducing competition and progressively liberalizing their telecommunications, information technology, and information services markets;
- Work constructively to remove barriers to competition in telecommunications, information technology, and information services markets;
- Include timetables for increased competition in basic telecommunications infrastructure and services in national information infrastructure development plans, and, as an interim step, increase the pace of liberalization through the expansion of resale;
- Encourage new entrants by adopting competitive safeguards to protect against anticompetitive behavior by firms with market power, including measures designed to prevent discrimination and cross-subsidization;
- Implement specific regulations to facilitate competitive entry in the telecommunications sector, including the following essential elements: (1) Interconnection among competing network and service providers; (2) "unbundling" of bottleneck facilities of dominant network providers; (3) transparency of regulations and charges; and (4) nondiscrimination among network facilities operators and between facilities operators and potential users, including resellers;
- Ensure that government-sponsored technical training activities incorporate programs specifically related to the development of pro-competitive markets and regulations (including such issues as competitive safeguards and interconnection);
- Pursue a successful conclusion to the General Agreement on Trade in Services (GATS) discussions on basic telecommunications to obtain the opening of markets for basic telecommunications services through facilities-based competition and the resale of services on existing networks

⁴ "The Benefits of Telecommunications Infrastructure Competition," (DSTI/ICCP, TISP(93)/ Rev 1), p. 23, February, 1994.