

commercial entities, academic institutions, and private, voluntary, and multilateral organizations. International applications have the unique potential to permit countries not only to bring diverse global resources to bear upon local problems and needs, but also to find solutions to needs that transcend national boundaries, such as environmental monitoring and global trade and commerce.

These applications can transform the possibilities of the GII into realities for citizens around the world. What follows is an illustrative, but not exhaustive, list of examples that demonstrate the value of expanding collaborative efforts in the development of international applications:

- Distance learning projects can make available a wealth of educational resources to improve local educational and training capabilities, offering cost-saving, effective alternatives to overseas studies;

- Computer networks linking medical school libraries and remote sites can improve the delivery of health care services, particularly to rural communities, by expanding access to demographic, epidemiological, and medical reference materials. In Zambia, district hospitals are being linked for clinical consultation, distance learning, health literature dissemination, and epidemiological data exchange. African medical libraries are linking up with libraries overseas for research and document delivery services;

- Satellite and radio-based systems that collect and disseminate health statistics can be used to identify underserved segments of the population and to target those areas for expanded delivery of family health services;

- Remote sensing can be used to identify and protect important ecological systems. The Administration is promoting an international partnership, known as Global Learning and Observation to Benefit the Environment (GLOBE), that will allow children all over the world to collect and share environmental data. Students will work with teachers and environmental scientists to expand knowledge about weather, air and water chemistry and quality, biodiversity, and other "vital signs" of the Earth. The combined data will be transformed into striking "pictures" of the entire planet, allowing each student to see how their school's observation is an important part of the global environment;

- Computer and satellite networks can provide monitoring and, in some cases, early warning of natural disasters, allowing for better coordination of humanitarian assistance efforts between

host and donor countries, speeding the delivery of aid and assistance. In the South Pacific, the PEACESAT satellite network has been used to coordinate emergency assistance after typhoons and earthquakes, and to summon medical teams during outbreaks of cholera and dengue fever;

- Computerized market price data for agricultural and horticultural products can provide new agribusiness opportunities and can facilitate direct links between exporters and clients;

- Access to international markets, particularly for small and medium sized businesses, can be created by providing electronic access to information such as transportation schedules and costs, insurance and customs data. The United Nations Conference on Trade and Development (UNCTAD) trade points system uses electronic data interchange and other technologies to establish a network of trade points around the globe. In Algeria, for example, the introduction of a computer-mediated trade point has stimulated an increase in the number of companies involved in international trade from twenty to 2,500;

- Electronic data interchange technologies, which can reduce the administrative cost of international trade transactions by as much as twenty per cent, can help companies increase productivity by streamlining manufacturing and service delivery. Through industry-led consortia such as CommerceNet, companies can explore collaborative engineering, on-line catalogs of products and services, and mechanisms for electronic payments;

- Scientists can continue to explore the use of "collaboratories," tools and virtual environments that allow scientists to work together without regard to space or time. Scientists need the ability to share data and the tools for data analysis, visualization, and modeling, to control remote instruments, and to communicate with their colleagues;

- Using the World Wide Web, individuals and institutions all over the globe have begun to create distributed "virtual libraries" on specific subjects.

As these opportunities continue to grow, tools for information discovery and retrieval and protection of intellectual property rights will become increasingly important.

In our view, public-private sponsorship of GII pilot projects and testbeds is worthwhile. It will help identify and address a number of technical, policy, and regulatory barriers to the realization of the GII. These include issues of privacy, security, interoperability, and intellectual property protection, as well as

artificially high prices for telecommunications services and outdated rules and regulations designed for paper-based transactions. A strategy that concentrates on "learning by doing" is far more likely to resolve these barriers.

The roles played by governments, the private sector, academic institutions, and non-profit organizations will vary depending on the nature of the application. In some cases, such as global electronic commerce and entertainment services, the private sector should take the lead, while in other areas, such as international public health, cooperation between public health agencies, hospitals, clinics, and universities would be appropriate. Whatever the application, governments must recognize that while they can play an important catalytic role in fostering international collaboration, they should not attempt "top-down" management of this process. The Administration hopes and expects that many of the best ideas for global cooperation will bubble up from the grassroots with little or no government involvement.

Successful applications will set in motion a continuous cycle of demand that will encourage future development of the GII. Demonstrating the power of the GII to successfully address pressing problems will stimulate consumer demand for a variety of products and services at affordable prices. This demand will provide the necessary incentive for the private sector to broaden the reach and expand the capabilities of the GII, enhancing its ability to deliver benefits to people and again increasing demand. As a "network of networks" linking people and information, the GII can leverage the collaborative potential of existing efforts and provide real solutions to existing and emerging global issues.

Recommended Action

International applications are the best way to demonstrate the potential power of the GII to affect lives all over the world. The United States will join with other countries to:

- Support, along with the private sector, the initiation of pilot projects and testbeds that demonstrate the benefits of the GII, in areas such as electronic commerce, health care, digital libraries, environmental monitoring, and life-long learning, with opportunities for participation by both developed and developing countries;

- Cooperate in the facilitation of electronic information exchanges in support of global trade and commerce;

- Facilitate the sharing of information in the public domain with other